APPENDIX C

Biological Technical Report

BIOLOGICAL TECHNICAL REPORT

JD Ranch Residential Project

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1.0 INTRODUCTION

On behalf of TACRD Investments, VCS Environmental (VCS) prepared this Biological Technical Report, which incorporates the findings from a series of biological surveys conducted on January 18, March 14, March 21, April 4, and April 11, 2022. VCS prepared this report to support California Environmental Quality Act (CEQA) documentation for the JD Ranch Residential Project [herein after referred to as the "Project site"] with the City of Norco (City) as the lead agency.

1.1 Purpose and Approach

This report provides a summary of the conditions present during the 2022 biological surveys, which included an assessment of the potential presence of sensitive biological resources, and an analysis of the potential impacts to those resources with implementation of the Project. This report identifies the current biological resources present within the Project Footprint including habitat communities, and the potential for occurrence of special status plant and wildlife species. The potential biological impacts in view of federal, state, and local laws and regulations are also identified in this report. While general biological resources are discussed, the focus of this assessment is on those resources considered to be sensitive. The report also recommends, as appropriate, Best Management Practices (BMPs), avoidance, minimization, and mitigation measures to reduce or avoid potential impacts. This report was prepared based upon results of a literature review and field survey.

1.2 Terms

The following terms will be used throughout this document and are defined as follows:

- Project site: The Project site is approximately 37.84 acres comprised of portions of Assessor Parcel Numbers (APNs) 121-110-003 and 121-110-001.
- Project Footprint: The Project Footprint is the approximately 27.57-acre area subject to potential impacts. The Project Footprint includes portions of Assessor Parcel Numbers (APNs) 121-110-003 and 121-110-001 and the immediately adjacent offsite improvement areas needed for street, stormwater, and utility infrastructure.
- Burrowing Owl Study Area: This area includes the Project Footprint plus a 500-foot buffer around the Project Footprint.

1.3 Project Site Location

The approximately 38-acre Project site is in the City of Norco, Riverside County, California at River Road and Bluff Street. The Project site is regionally accessible from Interstate 15 (I-15), located east of the Project site and California State Route (SR-91) located south of the site. The closest access from I-15 is from the Second Street exit to River Road, approximately 2.3 miles. Access from SR-91 would be from approximately 0.5 miles north on North Main Street and approximately 2.6 miles northwest on River Road (refer to Figures 1 and 2, *Regional Location and Aerial Vicinity Maps*). The site is bordered by residential development to the north and east and River Road to the southwest. The northwestern boundary abuts Bluff Street. Northwest of Bluff Street is disturbed/developed land which is directly adjacent to the Santa Ana River area. The Project site is located within Township 3 South and Range 7 West of the United States Geological Survey (USGS) Corona North 7.5-minute quadrangle map (Figure 3, *USGS Topographic Map*). The site consists of portions of Assessor Parcel Numbers (APNs) 121-110-001 and 121-110-003.

1.4 Regional Environmental Setting

The Project site is located south of the San Gabriel Mountains within the broad alluvial plain of the Santa Ana River Basin, within the Peninsular Ranges Geomorphic Province in the City of Norco. The Santa Ana River is located approximately 1,700 feet north/northwest of the Project site. This area of Riverside County is characterized by residential and commercial development, and open space/agricultural uses.

2.0 PROJECT DESCRIPTION

The proposed Project requests approval of a General Plan Amendment, a Zone Change, and Tentative Parcel Map, to allow for the development of a 68-unit single-family detached housing project on a minimum of 10,000 square foot lots in accordance with the City's R-1 Zoning regulations. The proposed project would also retain the existing single-family detached home "in place" (Lot 69) and the City's Water Quality Infiltration Basin and Storm Detention Basin. The remaining 3.49 acres of APN 121-110-001 shown on Figure 4 is depicted as "Not A Part" of the proposed project but is part of the Tentative Tract Map Entitlement that would be maintained by the City of Norco. In addition, the proposed project would demolish the existing dairy facilities and remove three power poles along River Road, one pole within Lot 69, two poles within APN 121-110-001 and yet to be determined if five poles along Bluff Street would be undergrounded.

2.1 Current Conditions and Past Site Use

The Project site is surrounded by suburban development. The Santa Ana River corridor is located northwest of the site, adjacent to Bluff Street, Stonebridge Christian Academy and three single-family homes. To the north, east, and south of the Project site, are existing single-family residential neighborhoods. The homes consist of a combination of one-story and two-story structures. An existing park, Sundance Park, is in the residential neighborhood. An existing concrete block wall is located between the existing single-family land uses and the Project site.

The property consists of APN 121-110-001 and portions of two other parcels: 121-110-002 and 121-110-003. The total gross acreage shown on Tentative Tract Map (TTM) No. 38330 is 37.84 acres. The remaining 3.49 acres of APN 121-110-001 (City-owned reservoir site) is part of the Tentative Tract Map No. 38330 Entitlement; however, there would be no improvements to this area and is depicted on Figure 4, *Tentative Tract Map*, as "Not A Part". The 6.78 acres deeded to the City would have very limited grading to be completed in the future for drainage mitigation. Therefore, this report will analyze impacts for development improvements to 27.57 acres which will be referred to as the proposed project.

In addition, there would be a 6-foot trail and access easement along the frontage of APNs 121-110-001 and 121-110-002 (which is the City-owned right-of-way).

APN 121-110-001 is owned by the City of Norco and contains existing City water-well facilities, including existing groundwater wells and related piping and utilities and two above-groundwater storage reservoirs. Additionally, portions of the site have been used by the City as a spoils/staging yard. APN 121-110-003, owned by TACRD Investment, is the site of the Dallape Dairy Property located at 2877 River Road. The site has been used as agricultural land up until the last few years. Currently located on the site are a ranch house, a former milking barn, barns/sheds, and dairy-related features including pastures, impoundment, pole barns, and fencing. TACRD proposes to deed 6.78 acres of their property to the City of Norco as open space. In exchange, the City of Norco would deed 8.20 acres of the City of Norco owned parcel to TACRD Investment to be incorporated into the proposed Project (Figure 4).

The Project Footprint area supports three vegetation communities/land cover types including herbaceous non-native grasses and forbs, disturbed/developed, and ornamental as shown in Figure 5, *Vegetation Map*. Site photographs are attached as Appendix A.

The topography throughout the Project Footprint is generally flat. Elevations on the Project Footprint range from 560– 570 feet (~170– 173 meters) above mean sea level (MSL) (Google Earth 2022).

3.0 REGULATORY CONTEXT

Table 1 lists relevant federal, state, and local laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from impacts within the Project Footprint.

Table 1. Jurisdictional Regulations for Biological Resources

Agency/ Organization	Laws/Regulations	Notes
Federal	Clean Water Act (CWA) Section 401	Jurisdictional Waters of the U.S. are absent from the Project Footprint; therefore, a Section 401 permit from the Regional Water Quality Control Board (RWQCB) will not be required.
	CWA Section 404	Jurisdictional Waters of the U.S. are absent from the Project Footprint; therefore, a Section 404 permit from the United States Army Corps of Engineers (USACE) will not be required.
	CWA Section 408	No facilities subject to Section 408 occur within the Project.
	Migratory Bird Treaty Act (MBTA)	Compliance with the MBTA will be achieved with pre-construction surveys for nesting birds within three days prior to initiation of work.
	Endangered Species Act (ESA)	No federally listed species were observed on the Project Footprint during the 2022 survey and are not considered to have moderate or high potential to occur on the Project Footprint.
State	Fish and Game Code (FGC) Section 1600	Jurisdictional Waters of the State are absent from the Project Footprint; therefore, a Section 1600 permit from the California Department of Fish and Wildlife (CDFW) will not be required.
	FGC Sections 3503, 3503.5, and 3513	These FGC sections offer protection of nesting birds, birds-of-prey, and migratory birds. Compliance will be maintained with a pre-construction survey for nesting birds (including birds-of-prey and migratory birds) within three days prior to initiation of work.
	FGC Section 4150	Prohibits incidental or deliberate "take" of non-game mammals, including bats. Compliance will be maintained through pre-construction surveys for bats during the identified maternity season.
	California Endangered Species Act (CESA)	No state listed species were observed on the Project during the 2022 survey.
	Porter-Cologne Water Quality Control Act and Waste Discharge Requirements (WDR)	Jurisdictional Waters of the State are absent from the Project Footprint; therefore, authorization from the RWQCB will not be required.
County of Riverside	Western Riverside Multiple Species Habitat Conservation Plan (MSHCP)	The Project is located within the MSHCP and will therefore need to comply with provisions and regulations set forth by the MSHCP. Section 7.0 of this Biological Technical Report includes an MSHCP Consistency Analysis.

Agency/ Organization	Laws/Regulations	Notes
City of Norco	MSHCP Mitigation Fee	The Project proponent shall be required to pay City of Norco local development mitigation fee prior to issuance of a building permit.
	City Tree Ordinance	City Ordinance No. 1024 requires a written permit from the Public Works Department if any trees within the public right-of-way need to be trimmed or removed. The Project Footprint contains trees that may be within the public right-of-way, therefore a permit will be needed if these trees need to be trimmed or removed.

3.1 Impacts Terminology

Potential impacts to biological resources that could result from implementation of the proposed Project are discussed in each of the Vegetation, Wildlife, and Jurisdictional Waters sections presented in this report.

Biological resources may be either directly or indirectly impacted by a project. Furthermore, direct and indirect impacts may be either permanent or temporary in nature. These impact categories are defined below. These terms will be used throughout the document.

- Direct Impact: Any loss, alteration, disturbance, or destruction of biological resources that would result from project-related activities is a direct impact. Examples include vegetation clearing, encroaching into wetlands, diverting natural surface water flows, and the loss of individual species and/or their habitats. Direct impacts are long-term.
- Indirect Impact: As a result of project-related activities, biological resources may also be affected in a manner that is not direct. Examples of indirect impacts include elevated noise, light, and dust levels, increased human activity, decreased water quality, erosion created by the removal of vegetation, and the introduction of invasive plants and unnatural predators (e.g., domestic cats and dogs). These indirect impacts may be both short-term and long-term in their extent.
- Permanent Impacts: All impacts that result in the long-term or irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources.
- Temporary Impacts: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include the generation of fugitive dust during construction, removing vegetation, and either allowing the natural vegetation to recolonize or actively revegetating the Project Footprint.

Under each section, potential impacts are discussed.

4.0 METHODS

4.1 Literature Review

4.1.1 Sensitive Plant Communities

Sensitive plant communities (sensitive habitats) as defined below, are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered as valuable biological resources. Plant communities are considered "sensitive" by the California Native Plant Society (CNPS) and the California Department of Fish and Wildlife (CDFW) if they meet any of the following criteria listed:

- The habitat is recognized and considered sensitive by CDFW, United States Fish and Wildlife Service (USFWS), and/or special interest groups such as CNPS.
- The habitat is under the jurisdiction of the USACE pursuant to Section 404 of the CWA.
- The habitat is under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the FGC.
- The habitat is known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDB).
- The habitat is considered regionally rare.
- The habitat has undergone a large-scale reduction due to increased encroachment and development.
- The habitat supports special status plant and/or wildlife species (defined below).
- The habitat functions as an important corridor for wildlife movement.

The most current version of CDFW's List of California Sensitive Natural Communities indicates which natural communities are sensitive given the current state of the California classification (CDFW 2022a).

4.1.2 Special Status Species

Species of plants and wildlife are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations (e.g., USFWS, CDFW, CNPS, and United States Forest Service [USFS]) because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively as "special status" species. Plant and wildlife species are considered "special status" species if they meet any of the following criteria:

- Taxa with official status under ESA, CESA, and/or the Native Plant Protection Act (NPPA).
- Taxa proposed for listing under ESA and/or CESA.
- Taxa designated a species of special concern or a state fully protected species by CDFW.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, USFS, and/or the Bureau of Land Management (BLM).

- Plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
  - Species considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2; CNPS 2022). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.
  - Species that may warrant consideration on the basis of local significance or recent biological information.
  - Some species included on the CNDDB Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2022c).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances. Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Available literature and databases were reviewed regarding sensitive habitats and special status species. Special status species that have the potential to occur within the immediate region of the Project Footprint were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Project Footprint and included the following sources listed:

- The CNDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and special status species that may exist within a two-mile radius of the Project Footprint (CDFW 2024). These locations are depicted in Figure 6, *CNDDB Occurrences Map*.
- Online CNPS Inventory of Rare and Endangered Plants of California (CNPS 2022). A search for the USGS 7.5-Minute Corona North Quadrangle provided information regarding the distribution and habitats of special status vascular plants in the vicinity of the Project.
- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (USFWS 2024a).
- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the Project Footprint, as well as the surrounding area. Although the inventory list of special status wildlife species was not exhaustive of all species that might be of concern for the property, it provided a wide range of species that are representative of the wildland habitats in the area. Species occurrence and distribution information is often based on documented occurrences where opportunistic surveys have taken place; therefore, a lack of records does not necessarily indicate that a given species is absent from the Project Footprint.

4.1.3 Jurisdictional Waters

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, lakes, and their location within the watersheds associated with the Project Footprint, and other features that might contribute to federal or state jurisdictional authority located within watersheds associated with the Project Footprint:

- National Wetlands Inventory (NWI) maps (USFWS 2024b). The NWI database indicates potential wetland areas based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats because the satellite data is not precise;
- USGS National Hydrography Dataset (NHD). Provides the locations of "blue-line" streams as mapped on 7.5-Minute Topographic Map coverage;
- Aerial Imagery;
- USGS 7.5-Minute Topographic Maps; and
- Natural Resource Conservation Service (NRCS) Soil Survey.

4.2 Field Methodology

4.2.1 Vegetation Communities and Plants

A general biological survey was conducted within the Project Footprint on January 18, 2022 by VCS biologists Sierra Valladares and Nathalie Munoz. The vegetation communities and habitat conditions were inspected to confirm the presence and habitat quality of the vegetation found onsite. Where appropriate, descriptions of vegetation communities from the Manual of California Vegetation (MCV) second edition (Sawyer et al. 2008) were also utilized. Any deviations from standard vegetation classifications were made on best professional judgment when areas did not fit into a specific habitat description provided by the MCV. Vegetation communities were mapped using field observations and utilizing aerial imagery.

A botanical habitat assessment was conducted within the Project Footprint on January 18, 2022, by botanist CJ Fotheringham. An additional focused rare plant survey was conducted on April 27, 2022. During the botanical surveys, the botanist walked the entirety of the Project Footprint, paying special attention to those areas that could host sensitive vegetation communities or had the potential to provide suitable habitat for special status plant species. Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). All plant species encountered during the field survey were identified and recorded in field notes.

4.2.2 Wildlife

During the 2022 biological surveys, biologists analyzed the Project Footprint for habitat areas that could be suitable for special status wildlife species. All wildlife species encountered visually or audibly during the field surveys were identified and recorded in field notes. Signs of wildlife species including wildlife tracks, burrows, nests, scat and remains, were also recorded. Binoculars were used to aid in the identification of observed wildlife and in areas not accessible on foot. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field survey, as necessary. Assessments of presence/absence and potential for occurrence were made based on presence of suitable habitat to support the species, diagnostic signs (burrows, scat, tracks, vocalizations, and nests), known records or

occurrence within the area, known distribution and elevation range, and habitat utilization from the relevant literature.

Projects within the MSHCP Burrowing Owl Survey Area are subject to the MSHCP burrowing owl (*Athene cunicularia*) survey requirements. The Project is within the MSHCP Burrowing Owl Survey Area; therefore, a burrowing owl habitat assessment was performed for the Project Footprint. The burrowing owl assessment followed the guidelines identified in *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (RCA, 2006). The survey instructions note the following steps to the MSHCP burrowing owl assessment:

- Step 1: Habitat Assessment
- Step 2: Locating Burrows and Burrowing Owls
  - Part A: Focused Burrow Survey
  - Part B: Focused Burrowing Owl Surveys (4 separate surveys)

The habitat assessment was performed on January 18, 2022, by VCS biologists. The burrowing owl habitat assessment involved walking the Burrowing Owl Study Area (inclusive of the Project Footprint and a 500-foot buffer) to determine if any areas hosted suitable habitat for burrowing owls. Soil conditions, topography, vegetative communities, and habitat quality were documented. Most of the 500-foot buffer area surrounding the Project Footprint was inaccessible due to legal access limitations; these areas were viewed through binoculars. During the habitat assessment, it was immediately determined that the Study Area hosted suitable habitat for burrowing owls. Therefore Step 2, locating Burrows and Burrowing Owl, was performed. The first of the four focused burrowing owl surveys was conducted on March 14, 2022. The following three focused surveys were performed on March 21, April 4, and April 11, 2022. The methodology for these surveys is further detailed in the MSHCP Burrowing Owl Survey Report dated June 17, 2022, attached as Appendix D. Results are shown in Table 2 below.

Table 2
Burrowing Owl Surveys

Survey	Date	Start	End	Temperature/Weather Conditions	BUOW Observed?
1	1/18/2022	07:00	10:00	50-59˚F; partly cloudy; no winds	No
2	3/14/2022	06:45	9:30	44-56˚F; clear sunny skies; 1-2 mph winds	No
3	3/21/2022	07:00	9:30	46-62˚F; clear and sunny, no winds	No
4	4/4/2022	06:45	9:30	53-59˚F; cloudy; 0-2 mph winds	No
5	4/11/2022	06:45	09:45	57-60˚F; cloudy skies; 1-3 mph winds	No

4.2.3 Jurisdictional Waters

During the January 18, 2022 biological survey, VCS biologists assessed the presence or absence of potential jurisdictional streams/drainages and assessed the site to determine whether jurisdictional waters were present within the Project Footprint. During the field surveys, the Project Footprint was assessed for jurisdictional wetland and non-wetland Waters of the United States (WOUS). To determine the presence of a wetland, three indicators are required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The RWQCB has exceptions to this methodology in situations where a site has soils and hydrology, but no vegetation is present; these areas may be considered wetlands by the RWQCB. The

methodology published in the *United States Army Corps of Engineers 1987 Wetland Delineation Manual* and the *Arid West Supplement* sets the standards for meeting each of the three indicators, which normally require that 50 percent or more dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present. Jurisdictional non-wetland Waters of the United States are typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Projects with impacts to Waters of the United States are regulated under Sections 401 and 404 of the Clean Water Act.

On June 22, 2020, a revised Navigable Waters Protection Rule regarding jurisdictional Waters of the United States went into effect. The revised rule stated that Waters of the United States do not include ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools. Consistent with the U.S. District Court for the District of Arizona's August 30, 2021, order vacating and remanding the Navigable Waters Protection Rule, the regulatory agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting Waters of the United States consistent with the pre-2015 regulatory regime until further notice.

The following guidance documents were utilized in making this determination:

- Field Guide to OHWM Determinations in the Arid West (August 2008);
- Updated OHWM Datasheet for the Field Guide to OHWM Determinations in the Arid West (July 2010); and
- Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region (2011).

The CDFW and the RWQCB take jurisdiction over Waters of the State (WOS) and Riparian/Riverine resources (California Fish and Game Code §§1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the California Fish and Game Code (FGC) applies to natural rivers, streams, and lakes:

> "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake."

The Project Footprint was assessed for jurisdictional WOS during the field survey using guidance from Section 1600 of the FGC and Brady and Vyverberg (2013), which defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators." CDFW regulates wetland areas only to the extent that those wetlands are part of a stream, river, or lake as defined by the CDFW.

5.0 RESULTS

5.1 Vegetation

5.1.1 Vegetation Communities/Land Cover

Vegetation/land cover mapping and acreages for each vegetation community and land type within the Project Footprint can be found in Table 3 and are depicted on Figure 4, *Vegetation Map*. A vegetation community/land cover is 0.10 acre or larger in size. The majority of the vegetation within the Project Footprint is characterized by open fields comprised of herbaceous non-native forbs and grasses vegetated with a variety of non-native and early successional weedy plant species.

Common non-native plant species observed during the surveys included barley (*Hordeum* sp.), brome grasses (*Bromus* sp. and *Avena* sp.), mustard species (*Hirschfeldia* sp., *Brassica* sp., *Sisymbrium* sp.). Common native species observed included common fiddleneck (*Amsinckia menziesii*). Other scattered shrubs observed within the Project Footprint include mule fat (*Baccharis salicifolia*), coyote bush (*Baccharis pilularis*), and Menzies' goldenbush (*Isocoma menziesii*). However, these were not vegetation communities large enough to call out separately.

Representative photographs of the Project Footprint are included as Appendix A.

Table 3. Vegetation Communities/Land Cover Observed

Vegetation Community/Land Cover Type	Project Footprint (acres)
Herbaceous Non-Native Forbs and Grasses	17.8
Ornamental	0.5
Disturbed/Developed	9.3
Total	**27.6**

5.1.1.1 Herbaceous Non-Native Forbs and Grasses

Herbaceous non-native forbs and grasses were mapped within a majority of the Project Footprint. Common non-native plant species observed include mustard species, mostly London rocket (*Sisymbrium irio*), stinknet (*Oncosiphon piluliferum*), Russian thistle (*Salsola tragus*), and Australian saltbush (*Atriplex semibaccata).* A full list of plant species observed is included as Appendix B.

5.1.1.2 Ornamental

Ornamental vegetation was mapped within the southwestern corner of the Project Footprint. This community includes approximately 20 Mexican fan palms (*Washingtonia robusta*) and other ornamental trees and shrubs near the existing residence and along the western boundary.

5.1.1.3 Disturbed/Developed

Disturbed/developed area was mapped within the southwestern and northwestern portion of the Project Footprint. This land cover includes residential development, paved driveways, old agriculture shade

structures, and highly disturbed areas with little to no vegetation. Native species observed scattered and in low cover in this area include mule fat, Menzies' goldenbush, and non-native grasses.

5.1.1.4 Special Status Vegetation Communities

The Project Footprint does not support any sensitive vegetation communities. Southern Cottonwood Willow Riparian Forest habitat was reported in the CNDDB approximately 1 mile north-northwest of the Project site within the Santa Ana River corridor but is not present within the Project Footprint.

5.1.2 Plants

A total of 39 plant species were observed within the Project Footprint during the 2022 biological surveys and are listed in Appendix B.

5.1.2.1 Sensitive Plant Species with Potential to Occur

Sensitive plant species include federally, or state listed threatened or endangered species and those species listed on CNPS's rare and endangered plant inventory. Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions, and are listed in Appendix C.

No sensitive plant species were observed within the Project Footprint during the 2022 surveys including the rare plant survey conducted on April 27, 2022. Based on the lack of suitable habitat onsite and the negative findings during the April 27, 2022 rare plant survey, sensitive plant species are not expected to occur.

5.1.3 Soils

The U.S. Department of Agriculture Natural Resources Conservation service (NRCS 2024) identifies three (3) soil types present within the Project Footprint as shown in Figure 7, *Soils Map*.

Soil types in the Project Footprint generally consist of Buchenau loam, Ramona sandy loam and very fine sandy loam, and Placentia fine sandy loam. See below for a complete list of soil types identified within the site.

- Buchenau Series: This series consists of moderately well drained soils that occur on small alluvial fans formed from metasedimentary rocks. Buchenau soils are slightly saline to moderately saline. Runoff is medium to very slow and permeability is moderately slow to the hardpan, then very slow.
  - BhA – Buchenau loam, slightly saline alkali, 0 to 2 percent slopes
  - BhC – Buchenau loam, slightly saline-alkali, 2 to 8 percent slopes
- Ramona Series: The Ramona series is a member of the fine-loamy, mixed, thermic family of Typic Haploxeralfs. This series consist of very deep well drained soils that formed in alluvium from granitic rock and related sources. Runoff is slow to rapid and permeability is moderately slow.
  - RaB3 – Ramona sandy loam, 0 to 5 percent slopes, severely eroded
  - ReC2 – Ramona very fine sandy loam, 0 to 8 percent slopes eroded
- Placentia Series: The Placentia series is a member of the fine, montmorillonitic, thermic family of Typic Natrixeralfs. This series is well or moderately well drained, slow to rapid runoff, and very slow permeability. The alluvium is from granitic and other rocks of similar composition and texture.

- PIB – Placentia fine sandy loam, 0 to 5 percent slopes

5.2 Wildlife

A total of 15 wildlife species or signs thereof were observed during the 2022 surveys.

Common birds observed include American crow (*Corvus brachyrhynchos*), Say's phoebe (*Sayornis saya*), mourning dove (*Zenaida macroura*), and white-crowned sparrow (*Zonotrichia leucophyrs*). Raptors observed in the Project Footprint include red-tailed hawk (*Buteo jamaicensis*). Mammals observed include Audubon's cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Ostospermophilus beecheyi*).

The wildlife species or signs thereof observed during the general biological survey are listed in Appendix B.

5.2.1 Sensitive Wildlife Species with Potential to Occur

Sensitive wildlife species with low to moderate or moderate potential to occur, but not observed during the biological surveys include:

- Riverside fairy shrimp (*Streptocephalus woottoni*), a federally endangered species and MSHCP Group 3 species.
- Vernal pool fairy shrimp (*Branchinecta lynchi*), a federally threatened species and MSHCP Group 3 species.
- Burrowing owl, a CDFW Species of Special Concern and USFWS Bird of Conservation Concern.
- Grasshopper sparrow (*Ammodramus savannarum*), a CDFW Species of Special Concern.
- Swainson's hawk (*Buteo swainsoni*), a State Threatened species, BLM sensitive species and USFWS Bird of Conservation Concern.
- Western yellow bat (*Lasiurus xanthinus*), a CDFW Species of Special Concern and Western Bat Working Group (WBWG) High Priority species.

A complete list of sensitive wildlife species analyzed with potential to occur within the Project Footprint is included in Appendix C. The six sensitive species noted above are described in further detail below.

BURROWING OWL

The burrowing owl is a small, tan, ground-dwelling owl that occupies and nests in underground burrows. The species is associated with grasslands and other arid open terrain throughout much of the western United States. Burrowing owls are opportunistic in their selection of burrows, typically utilizing the burrows of small mammals, drainpipes, culverts, and other suitable cavities at or below ground level. In California, the species often occurs in association with colonies of the California ground squirrel, where it makes use of the squirrel's burrows. A burrow can be up to 10 feet in length with an enlarged terminal nesting chamber. The entrance of the burrow is often adorned with animal dung, feathers, debris, and other small objects. The species is active both in the day and at night and may be seen perching conspicuously on fence posts or standing at the entrance of their burrows.

Due to the characteristic fossorial habits of burrowing owls, burrows are a critical component of their habitat. In southern California, burrowing owls are not only found in undisturbed natural areas, but also fallow agricultural fields, margins of active agricultural areas, berms to flood control and creek channels, livestock farms, airports, and vacant lots. Declines in burrowing owl populations are attributed to loss and

degradation of habitat, to ongoing residential and commercial development, and to rodent control programs.

No burrowing owls or signs of burrowing owl were observed during the March/April 2022 focused surveys. There have been no previous burrowing owl observations recorded onsite. The site provides suitable habitat for the species, including suitably-sized burrows (>4 inches in diameter) and grassland habitat for foraging, although the site generally lacks suitable perches for owls. Overall, suitable habitat for burrowing owl is present onsite and multiple recorded observations of the species occur within 2 miles of the Project Footprint.

SWAINSON'S HAWK

Swainson's hawks are open-country birds that are commonly found in open habitats for foraging such as grassland, prairie lands, grazing and agricultural land. Their breeding habitat includes scattered stands of trees near agricultural fields and grasslands for nesting. Swainson's hawks are only present in the west during the summer breeding season and migrate to South American in autumn. They mainly eat insects and mammals such as ground squirrels, gophers, mice, and rabbits. This species was not observed during the 2022 biological surveys. This species has a moderate potential to occur within the Project Footprint for foraging during the breeding season, however, the site lacks suitable nesting habitat for the species.

GRASSHOPPER SPARROW

The grasshopper sparrow is a stubby-tailed and bull-necked songbird found in grasslands, prairies, hayfields, and open pastures with little to no scrub cover and often with some bare ground. When not singing its quiet, insect-like song from atop a stalk in a weedy pasture, it disappears into the grasses where it usually runs along the ground rather than flies. This species was not observed during the 2022 biological surveys. The grasshopper sparrow has a moderate potential to occur within the Project Footprint for foraging, however the site lacks suitable nesting habitat for the species.

WESTERN YELLOW BAT

The western yellow bat is a year-round resident of southern California, found below 2000 feet in or near foothill or desert riparian habitats. The species roosts in trees, including palm trees, in and near palm oases and riparian habitats. Bat roosts were not incidentally observed during the 2022 biological surveys. The Project Footprint contains palm trees that could be potential roosting and foraging habitat, and the species has a low to moderate potential to occur.

RIVERSIDE FAIRY SHRIMP

The Riverside fairy shrimp is listed as federally endangered. This species lives in warm-water, long-lived pools generally with depths greater than 12 inches. Riverside fairy shrimp may be found in seasonal vernal pools, vernal pool-like ephemeral ponds, stock ponds, and other human modified depressions. The Project site contains a rainwater catch basin and a few shallow depressions throughout the site all of which show evidence of ponding water. These areas within the Project site have low to moderate potential to provide habitat for this species. This species was not found during the 2022-2023 dry season and wet season fairy shrimp focused surveys (Appendix E) and is assumed to be absent.

VERNAL POOL FAIRY SHRIMP

The vernal pool fairy shrimp is listed as a federally threatened species. This species lives in short-lived cool-water pools that may exist for only three weeks in the spring. Generally, they are associated with vernal pools (79%) but can also be found in association with other ephemeral habitats including alkali pools, seasonal drainages, and stock ponds. The rainwater catch basin and shallow depressions within the Project site have low to moderate potential to provide habitat for this species. This species was not found during the 2022-2023 dry season and wet season fairy shrimp focused surveys (Appendix E) and is assumed to be absent.

5.2.2 Critical Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Project Footprint occurs within any species designated Critical Habitat. Critical Habitat for Least Bell's vireo (*Vireo bellii pullisus*), Santa Ana sucker (*Catostomus santaanae*), and Southwestern willow flycatcher (*Empidonax traillii extimus*) occurs within 500 feet north/northwest of the Project site (Figure 8, *Critical Habitat Map*). No critical habitat occurs within the Project Footprint.

5.2.3 Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Corridors effectively act as links between different populations of a species. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing wildlife to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and
- Serving as travel routes for individual wildlife species as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions);
- Seasonal migration; and
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

The Project Footprint is surrounded by residential development and the Santa Ana River is within 500 feet of the Project Footprint. The site itself is comprised of fields dominated by non-native grasses and forbs. Because the site has open fields, the Project Footprint plays a minor role in local wildlife dispersal and foraging. Common wildlife species including coyotes, skunks, opossums, and raccoons may travel through the site and neighboring developed or open areas, but the site does not provide connectivity between large

areas of open space on a local or regional scale. The site is not within a significant regional wildlife movement corridor and is not considered to play a significant role in regional wildlife movement.

5.2.4 Avian Nesting and Bat Roosts

There is potential for avian nesting within the Project Footprint. The open fields provide suitable habitat for ground-nesting avian species. The few trees onsite provide suitable habitat for tree nesting avian species. The palm trees are potentially suitable bat roosting habitat within the Project Footprint. There are a few solitary trees adjacent to the residential section of the site that can also be used for tree nesting species. The biologists did not observe signs of nests, nesting activity or bat roosting within the Project Footprint during the March/April 2022 biological surveys.

5.3 Jurisdictional Waters

5.3.1 National Wetland Inventory

No aquatic features are mapped within the Project Footprint boundary on the USFWS's National Wetland Inventory (USFWS [2024b]) as shown in Figure 9, *NWI Map*.

5.3.2 Hydrology

The Project lies within the Santa Ana Watershed within Temescal Hydrologic Subarea (801.25), of the Middle Santa Ana River Hydrologic Area (801.20) of the Santa Ana River Hydrologic Subarea (801.00). The closest significant aquatic features to the site include the Santa Ana River, located approximately 1,700 feet to the north-northwest.

5.3.3 Jurisdictional Waters

There are no streambed or drainage features containing waters of the United States or waters of the State on the Project Footprint. A rainwater catch basin was constructed by the owner as requested by the City about 20 years ago. This basin does not connect to any drainages or waterways offsite, it is only meant to collect rainwater onsite. There is no historic drainage course that connects to this basin, and the only source of water is rainfall.

6.0 PROJECT IMPACTS

6.1 Vegetation

6.1.1 Potential Impacts to Vegetation Communities

Potential impacts to vegetation communities/land cover types due to implementation of the Project includes the entire Project Footprint, totaling approximately 27.6 acres, as shown in Table 4.

Table 4. Potential Impacts to Vegetation Communities / Land Cover within the Project Footprint

Vegetation Community/Land Cover Type	Project Footprint (acres)
Herbaceous Non-Native Forbs and Grasses	17.8
Ornamental	0.5
Disturbed/Developed	9.3
Total	**27.6**

Direct impacts to Herbaceous Non-native Forbs and Grasses, Ornamental, Disturbed Agricultural Land, and Disturbed/Developed areas are considered less than significant because these habitats/land covers are comprised mostly of non-native vegetation or no vegetation, are common in the surrounding vicinity, and do not represent CNDDB or CDFW sensitive plant communities.

6.1.2 Potential Impacts to Special Status Plants

The Project Footprint does not support any sensitive vegetation communities. Based on lack of suitable habitat onsite and negative findings during the April 27, 2022 rare plant survey, special status plants are not anticipated to occur within the Project Footprint. No impacts to special status plants are anticipated as a result of Project implementation.

6.2 Wildlife

6.2.1 Potential Impacts to Special Status Wildlife

While not observed during the biological surveys, Swainson's hawk, grasshopper sparrow, and western yellow bat have a moderate potential to occur on the Project Footprint for foraging; however, the site exhibits limited nesting or roosting habitat for these species. The loss of approximately 27.6 acres of foraging habitat for these species would not decrease populations below self-sustaining levels given the availability of habitat remaining in the region. Therefore, impacts would be less than significant per CEQA. Individuals are expected to move to adjacent habitat during construction activities; therefore, there would be no direct mortality for these species. To avoid impacts to avian and bat species during the nesting/maternity season, construction activities on the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 10.0, *Significance Determination and Proposed Mitigation*.

Burrowing owl are known to use both fallow and active agricultural fields for foraging and nesting. The species has moderate potential to occur as suitable burrows are present and multiple occurrences of this species have been documented within two miles of the site. No burrowing owl or sign of burrowing owl

was observed during the focused surveys. Construction activities at the Project Footprint would be implemented in accordance with mitigation requirements outlined in Section 10.0, *Significance Determination and Proposed Mitigation*.

The remaining species listed in Appendix C are not expected to occur on the Project Footprint due to the lack of suitable habitat or the Project Footprint is outside the known elevation range for the species. Therefore, there would be no impact on these species and no mitigation would be required.

With the inclusion of mitigation recommendations in Section 10.0, *Significance Determination and Proposed Mitigation,* and standard BMPs as noted in Section 11.0, *Best Management Practices*, potential impacts to these special status wildlife species would be considered less than significant.

6.2.2 Potential Impacts to Critical Habitat

The Project Footprint does not fall within any USFWS-designated Critical Habitat.

6.2.3 Potential Impacts to Wildlife Movement/Nesting/Bat Roosts

6.2.3.1 Wildlife Movement

As described earlier, the Project Footprint may serve a function in local wildlife dispersal and foraging; however, due to the disturbed nature of the site and the degraded habitats, the loss of foraging habitat and/or effect on local wildlife movement would be less than significant. No long-term or significant effects to wildlife movement are anticipated due to Project implementation.

6.2.3.2 Nesting Birds/Raptor Foraging Habitat

Due to the potential for onsite bird nesting and foraging habitat for raptors, Project construction could result in impacts to nesting birds. Recommended measures include a pre-construction nesting bird survey and biological monitoring as needed to avoid impacts and are outlined in Section 10.0 *Significance Determination and Proposed Mitigation*, and 11.0, *Best Management Practices,* of this report. These measures would ensure potential impacts to nesting birds are less than significant.

6.2.3.3 Bat Foraging and Roosting Habitat

The potential for bat roosting is moderate within the Project Footprint and the existing vegetation onsite represents marginally suitable foraging habitat. Permanent impacts on foraging and roosting habitat would be less than significant given the habitat onsite is marginal and given the availability of other locations with suitable roosting and foraging habitat remaining in the Project vicinity and region. Therefore, no mitigation would be required for permanent impacts within the Project Footprint. To ensure no impacts to roosting bats occur during temporary construction activities, MM BIO-3 detailed in Section 10.0, *Significance Determination and Proposed Mitigation*, will be implemented.

6.3 Jurisdictional Waters

6.3.1 Potential Impacts to Jurisdictional Waters

No streambed or drainage features containing waters of the United States or waters of the State are present on the Project Footprint. Therefore, Project implementation would not impact these resources and no mitigation is required.

7.0 MSHCP CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the proposed Project with respect to compliance with biological aspects of the Western Riverside County MSHCP. The following information is provided relating the Project Footprint to geographic areas of the MHSCP that are relevant to reserve assembly and planning. This information will form the basis of a consistency determination for the Project.

Section 6 of the MSHCP states that all Projects must be reviewed for compliance with plan policies pertaining to Riparian/Riverine resources, Criteria resources, Narrow Endemic Plant Species, urban/wildlands interface, and additional survey needs as applicable.

Land cover types present within the Project Footprint and permanent impacts to land cover types were previously described in Sections 5.1 and 6.1, respectively, of this Biological Technical Report.

7.1 Reserve Assembly Analysis

The Project is located within the San Jacinto Valley Area Plan of the MSHCP within the San Jacinto Habitat Management Unit. The Project Footprint is not located within an MSHCP Criteria Cell or Cell Group. As such, the Project is not subject to the Joint Project Review (JPR) or Habitat Acquisition and Negotiation (HANS) processes.

7.2 Project Area in Relation to MSHCP

7.2.1 Public Quasi-Public Lands

The Project is not located on Public Quasi-Public (PQP) lands. The nearest PQP lands are within the Santa Ana River approximately 200 feet north of the Project Footprint. The Project will not directly impact PQP lands, however potential indirect impacts to these lands exist. To ensure the Project does not cause adverse effects to PQP lands, such as noise, dust, and runoff, appropriate BMP's will be implemented during Project construction, as described in Section 11.0, *Best Management Practices*.

7.2.2 Covered Roads

River Road, which occurs directly southwest of the Project Footprint, and Bluff Street, which occurs directly northwest of the Project Footprint are identified as a Covered Roads on the Western Riverside County Regional Conservation Authority's MSHCP Information Map (MSHCP 2024). River Road is considered a major covered road while Bluff Street is considered a secondary covered road. The Project will include roadway improvements, the total impacts which does not exceed the covered road width or acreage for this road.

7.2.3 Urban/Wildlands Interface (MSHCP Section 6.1.4)

The MSHCP recognizes that future development in proximity to existing or proposed MSHCP Conservation Areas might result in indirect edge effect conditions that will adversely affect biological resources within the MSHCP Conservation Area. For the purpose of this analysis, proximity to an MSHCP Conservation Area is generally considered to be within 1,000 feet unless other circumstances exist that would warrant considering distances further than 1,000 feet as proximate, such as a local connection via a drainage course. The MSHCP provides guidelines to address the indirect effects of urban/wildlands interfaces, as outlined in Section 6.1.4, including conditions relating to drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development.

The proposed Project is not located within an MSHCP Conservation Area; however, the Project Footprint is located within 1,000 feet of the Santa Ana River which is a Public/Quasi-Public (PQP) Conserved Land which is considered a part of the MSHCP Conservation Area. Due to the proximity of the site to PQP Lands, the Project must comply with the guidelines pertaining to the urban/wildlands interface as discussed further in Section 7.7, *Guidelines Pertaining to the Urban/Wildlands Interface*, of this report.

7.3 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (MSHCP Section 6.1.2)

The proposed Project Footprint was assessed for MSHCP Section 6.1.2 resources, including riparian/riverine resources, vernal pools, fairy shrimp, and riparian birds.

7.3.1 Riparian/Riverine

7.3.1.1 Methods

Section 6.1.2 of the MSHCP states that "riparian/riverine resources are lands which contain habitat dominated by trees, shrubs, persistent emergent [wetland plant species], or emergent mosses and lichens, which occur close to, or which depend upon moisture from a nearby freshwater source; or areas with freshwater after flow during all or a portion of the year." To determine the areas where "Riparian/Riverine Areas" are present, the delineators conducted site visits to walk the entire Project Footprint and reviewed historical aerial imagery.

VCS performed a jurisdictional assessment and vegetation mapping onsite in January 2022. All areas of the Project Footprint were evaluated for the presence of riparian/riverine areas, including wetlands. All features encountered were also examined for connectivity or lack of connectivity to other hydrologic features. Dominant vegetation within the features or adjacent to the features were identified and recorded.

7.3.1.2 Existing Conditions and Results

The Project Footprint does not contain any MSHCP riverine/riparian resources. A rainwater catch basin was constructed by the owner as requested by the City about 20 years ago. This basin does not connect to any drainages or waterways offsite, it is only meant to collect rainwater. There is no historic drainage course that connects to this basin, and the only source of water is rainfall.

7.3.1.3 Impacts

The Project does not contain MSHCP riverine/riparian resources, therefore no impacts will occur.

7.3.1.4 Mitigation

The Project does not contain MSHCP riverine/riparian resources, therefore no mitigation is proposed.

7.3.2 Vernal Pools and Fairy Shrimp

7.3.2.1 Methods

Section 6.1.2 of the MSHCP states that "Vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation and hydrology) during the wetter

portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season".

The entire Project Footprint was assessed for potential vernal pool habitat during the January 18, 2022 biological survey. In addition, the following sources were reviewed to aid in the site assessment for vernal pool habitat: National Wetlands Inventory (NWI), current and historic aerial imagery, and NRCS Soil Survey.

7.3.2.2 Existing Conditions and Results

During the site visit, evidence of ponding water, such as visible surface water, cracked soils, or hydric soils was observed in a constructed earthen catch basin and road ruts. However, no vegetation typical of vernal pools was observed. Additionally, no sensitive fairy shrimp were observed during the 2022-2023 dry season and wet season fairy shrimp focused surveys. As the site was confirmed not to be occupied by sensitive fairy shrimp species, no future mitigation for these species is required.

7.3.2.3 Impacts

The Project does not contain MSHCP riverine/riparian resources, therefore no impacts will occur.

7.3.2.4 Mitigation

The Project does not contain MSHCP riverine/riparian resources, therefore no mitigation is proposed.

7.3.3 Riparian Birds

The MSHCP lists five bird species for protection based off association with riparian/riverine and vernal pool habitats. These species include bald eagle (*Haliaeetus leucocephalus*), least Bell's vireo peregrine falcon (*Falco peregrinus*), southwestern willow flycatcher and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). No riparian, riverine, or vernal pool resources occur onsite; therefore, an assessment of riparian bird habitat is not required, and no impacts to these species are anticipated to occur.

7.3.3.1 Methods

The Project does not contain MSHCP riverine/riparian resources, therefore no impacts will occur.

7.3.3.2 Existing Conditions and Results

The Project does not contain MSHCP riverine/riparian resources, therefore no impacts will occur.

7.3.3.3 Impacts

The Project does not contain MSHCP riverine/riparian resources, therefore no impacts will occur.

7.3.3.4 Mitigation

The Project does not contain MSHCP riverine/riparian resources, therefore no impacts will occur.

7.4 Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3)

A portion of the Project Footprint occurs within a Narrow Endemic Plant Survey Area for the following species:

- Brand's phacelia (*Phacelia stellaris*)
- San Diego ambrosia (*Ambrosia pumila*)
- San Miguel savory (*Clinopodium chandleri*)

7.4.1 Methods

A botanical habitat assessment was conducted within the Project Footprint on January 18, 2022 and a rare plant survey was conducted on April 27, 2022 by botanist CJ Fotheringham. During the surveys, the botanist walked the entirety of the Project Footprint, paying special attention to those areas that could host sensitive vegetation communities or had the potential to provide suitable habitat for special status plant species. Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). All plant species encountered during the field survey were identified and recorded in field notes.

7.4.2 Existing Conditions and Results

No Narrow Endemic Plant species were observed within the Project Footprint during the 2022 botanical surveys. Based on the lack of suitable habitat, Narrow Endemic Plant species are not expected to occur within the Project Footprint. Appendix C details the analysis of habitat onsite for these species.

7.4.3 Impacts

No impacts are expected to occur to Narrow Endemic Plant species.

7.4.4 Mitigation

Impacts to Narrow Endemic Plant species are not anticipated; therefore, no mitigation is proposed.

7.5 Additional Survey Needs and Procedures (MSHCP Section 6.3.2)

7.5.1 Criteria Area Plant Species

The Project does not fall within the mapped survey area for Criteria Area Plant Species.

7.5.2 Amphibians

The Project does not fall within the mapped survey area for amphibian species.

7.5.3 Burrowing Owl

Projects within the MSHCP Burrowing Owl Survey Area are subject to the MSHCP burrowing owl survey requirements. Most of the Project is within the MSHCP Burrowing Owl Survey Area (Figure 10, *BUOW Study Area Map*).

7.5.3.1 Methods

The burrowing owl assessment followed the guidelines identified in *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (RCA, 2006). The methods employed are described in further detail in Section 4.2.2 of this Biological Technical Report and in the burrowing owl survey report, provided as Appendix D.

7.5.3.2 Existing Conditions and Results

As described in Section 5.2.1 and Appendix D, no burrowing owl or active signs thereof (e.g., active burrows, whitewash, pellets, etc.) were observed during the four focused surveys within the Burrowing Owl Study Area. Suitable burrows were observed within the Study Area during the surveys. The burrows depicted on Figure 10 are considered potentially suitable (>4 inches in diameter) for burrowing owls.

7.5.3.3 Impacts

No burrowing owl, nor signs thereof were observed within the Burrowing Owl Study Area; therefore, impacts to burrowing owl are not anticipated. However, focused surveys will be conducted during the breeding season to confirm absence, which will include a 30-day preconstruction survey.

7.5.3.4 Mitigation

Although burrowing owls were not observed within the Study Area during the 2022 surveys, the Project Footprint contains habitat suitable for burrowing owl. A pre-construction survey will be conducted within 30 days prior to ground disturbance of the property including vegetation clearing, clearing and grubbing, tree removal, or site watering. If burrowing owl have colonized the Project Footprint prior to initiation of construction, the Project proponent will immediately inform the City and Wildlife Agencies and will need to prepare a Burrowing Owl Protection and Relocation Plan a well as a Determination of Biologically Equivalent or Superior Preservation (DBESP) for approval by the City and the Wildlife Agencies prior to initiating ground disturbance. Additionally, if ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure burrowing owl have not colonized the site since it was last disturbed. If burrowing owl are found, the same coordination described above will be necessary.

7.5.4 Mammals

The proposed Project does not fall within a mapped survey area for mammals.

7.6 Information on Other Species

7.6.1 Delhi Sands Flower Loving Fly

Delhi soil types are not mapped within the proposed Project Footprint, and therefore, no surveys are required for the Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*).

7.6.2 Species Not Adequately Conserved

Species listed in Table 9-3 (*REQUIREMENTS TO BE MET FOR 28 SPECIES PRIOR TO INCLUDING THOSE SPECIES ON THE LIST OF COVERED SPECIES ADEQUATELY CONSERVED*) of the MSHCP were evaluated for potential to occur within the Project Footprint and are included in Appendix C.

Of the species listed in Table 9-3, only one species exhibited at least a moderate potential to occur within the Project Footprint. Grasshopper sparrow has a moderate potential to occur due to the presence of suitable foraging habitat, however, the Project Footprint is regularly disturbed and consists mostly of non-native grass species. The loss of 27.6 acres of foraging habitat for grasshopper sparrow would not decrease populations below self-sustaining levels given the availability of habitat remaining in the region; therefore, no mitigation is proposed. Individuals are expected to move to adjacent habitat during construction activities; therefore, there would be no direct mortality on the species.

The remaining species listed in Table 9-3 are not expected to occur on the Project Footprint due to the lack of suitable habitat or the site is outside the known elevation range for the species.

7.7 Guidelines Pertaining to the Urban/Wildlands Interface (MSHCP Section 6.1.4)

Guidelines for the Urban/Wildlands Interface (MSHCP Section 6.1.4) are discussed in this section to address indirect effects associated with Project activities in proximity to MSHCP Conservation Areas. PQP lands, which are considered MSHCP Conservation Areas, exist north of the Project Footprint. The guidelines present detailed recommendations for the following issues: drainage, toxics, barriers, lighting, noise, manufactured slopes, and invasives. Each of these issues is addressed below.

7.7.1 Drainage

During construction, the implementation of standard BMPs such as the use of sandbags/straw wattles/gravel bags, silt fencing, and staging outside of drainages will minimize discharge of sediment, debris, and hazardous materials to onsite and downstream aquatic resources. Further information regarding these BMPs can be found in Section 11.0, *Best Management Practices*.

In accordance with the City of Norco Municipal Code, the Project would implement a Water Quality Management Plan that would retain and infiltrate stormwater runoff. A series of storm drain lines and curbs and gutters would convey stormwater flows to a 0.52-acre water quality detention basin. The proposed Project would be graded to allow all lots to drain to the public street.

Through the implementation/installation of BMPs, the Project will not contribute significantly to deposition, siltation, or erosion of downstream features.

7.7.2 Toxins

Measures addressed in 7.7.1 above will be employed to prevent toxins from entering into the nearby unnamed drainages and the downstream MSHCP Conservation Area.

The Project will be converting from agricultural operations to residential use and would be expected to improve water quality. Any chemicals used on site would be those commonly used in residential areas, such as fertilizers and herbicides used on Project landscaping, all of which would be used in accordance with applicable laws and regulations to prevent discharge to the MSHCP Conservation Area. Water quality basin will be constructed as part of the Project, which will filter contaminants and debris from all stormwater runoff, such as trash, sediment, metals, and nutrients.

7.7.3 Lighting

Night lighting used during construction, and any lighting installed for post-construction purposes, shall be shielded and directed away from the MSHCP Conservation Area.

7.7.4 Noise

The Project proposes to develop a residential development. These uses are not expected to exceed typical residential noise standards. The Project will not expose wildlife in the Santa Ana River to noise that would exceed residential noise standards because the Project proposes residential use and must comply with the City's noise standards for residential use.

7.7.5 Invasives

As stated in BMP #12 in Section 11.0, *Best Management Practices*, of this document, exotic species that displace target species of concern shall be permanently removed from the site to the extent feasible. In addition, the Project will not incorporate into the landscaping any species listed in Table 6-2 *Plants that should be avoided adjacent to the MSHCP Conservation Area* of the MSHCP.

7.7.6 Grading/Land Development

Manufactured slopes are not proposed within existing or planned MSHCP Conservation Areas.

7.7.7 Barriers

Barriers shall be used to minimize unauthorized access, domestic animal travel, trespass, and dumping within the adjacent unnamed drainages. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms.

7.8 MSHCP Consistency Determination

The Project would be consistent with the MSHCP based on the analysis and determinations made in this Section 7.0. The Project Footprint is not located within or near an MSHCP Criteria Cell, Cell Group, or PQP land (Figure 11, *MSHCP Designation Map*). The Project Footprint also lacks MSHCP Section 6.1.2 riparian/riverine resources, vernal pools, and presence of sensitive vegetation communities. None of the three Narrow Endemic Plant species are expected to occur within the Project Footprint based on the lack of suitable habitat. The Project is not located within an MSHCP Amphibian, Mammal, or Criteria Area Plant Species Survey Area; therefore, no surveys were required. Most of the Project is within the MSHCP Burrowing Owl Survey Area, therefore, a Habitat Assessment and focused surveys for burrowing owl will be conducted. Focused surveys will be conducted during the breeding season and will include a 30-day preconstruction survey. No burrowing owl or active signs thereof were detected within or near the Project Footprint. A 30-day preconstruction survey for burrowing owl will be conducted prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. Potential suitable habitat for sensitive fairy shrimp species was observed onsite. However, no fairy shrimp were found during the 2022-2023 dry season and wet season fairy shrimp focused surveys. The site was confirmed not to be occupied by sensitive fairy shrimp species; therefore, no mitigation measures will be required for this species.

8.0 CUMULATIVE IMPACTS

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. “Related projects” refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed Project. CEQA deems a cumulative impact analysis to be adequate if a list of “related projects” is included in the EIR or the proposed Project is consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(b)(1)(B)]. CEQA also states that no further cumulative impact analysis is necessary for impacts of a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(d)].

Although the Project would result in the loss of approximately 27.6 acres of land comprised mostly of herbaceous non-native grasses and forbs, ornamental plants, pastureland, and disturbed/developed land, the MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the County of Riverside. The proposed Project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

9.0 THRESHOLD OF SIGNIFICANCE

Appendix G of the CEQA Guidelines is used by public agencies in determining whether a project may have a significant impact on biological resources. Under Appendix G, a project may have a significant impact on biological resources if it would:

Threshold BIO-A	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
Threshold BIO-B	Have a substantial adverse effect on any riparian habitat or other sensitive plant community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.
Threshold BIO-C	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
Threshold BIO-D	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery areas.
Threshold BIO-E	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
Threshold BIO-F	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

For the purposes of this impact analysis the following definitions apply:

> "Substantial adverse effect" means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive plant community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems. In the case of this analysis, the prescribed geographical area is considered to be the region that includes the USGS topographic quadrangle for the Project site, namely Indio. For some species, the geographic area may extend to the vicinity of the Project site based on known distributions of the species. The vicinity of the Project site also included Valerie USGS topographic quadrangle.

"Conflict" means contradiction of a magnitude, which based on foreseeable circumstances, would preclude or prevent substantial compliance.

"Rare" means: (1) that the species exists in such small numbers throughout all, or a significant portion of, its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the ESA.

10.0 SIGNIFICANCE DETERMINATION AND PROPOSED MITIGATION

10.1 Regulatory Setting

As mentioned above in Sections 4 and 5 of this report, sensitive species are provided protection by either Federal or State resource management agencies, or both, under provisions of the ESA and CESA.

There are several performance criteria and standard conditions that must be met as part of any review and approval of the proposed Project. These include compliance with all of the terms, provisions, and requirements with applicable laws that relate to Federal, State, and local regulating agencies related to potential impacts to sensitive plant and wildlife species, wetlands, riparian habitats, and blue lined stream courses. Impacts are sometimes locally important but not significant because, although they would result in an adverse alteration of existing local conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

10.2 Threshold BIO-A

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

Less Than Significant With Mitigation Incorporated.

10.2.1 Sensitive Plant Species

Development of the Project site would result in the direct removal of non-native trees, herbaceous forbs, and common ruderal plant species. Common plant species present within the Project site occur in large numbers throughout the region and their removal does not meet the significance threshold. Based on the high levels of disturbance, low habitat quality and the lack of detection of any special-status plants during the biological and focus plant surveys, the Project is not expected to impact any special-status plant species. Based on the habitat found onsite and no sensitive species observed during the April 27, 2022 survey no direct impacts are expected to occur as a result of Project.

10.2.2 Sensitive Wildlife Species

Development of the Project site would result in the disruption and removal of non-native habitat. Due to the lack of native habitat and the level of existing disturbance from previous agricultural activity onsite, these impacts would not be expected to reduce the general wildlife populations below self-sustaining levels within the region and impacts to non-sensitive wildlife species do not meet the significance thresholds. Due to the disturbed nature of the site, surrounding development, and through compliance with the MSHCP, impacts from the Project are anticipated to have a less than significant effect on these wildlife species.

Although no sensitive wildlife species were observed within the Burrowing Owl Study Area during the field survey, four wildlife species have moderate potential to occur including the Swainson's hawk, grasshopper sparrow, burrowing owl, and western yellow bat. In order to avoid potential impacts to these species, mitigation measures are recommended to reduce impacts to less than significant.

No direct impacts are expected to occur to sensitive wildlife species, however there are nearby occurrences and critical habitat within the Santa Ana River which is within 1,700 feet of the Project Footprint that could result in indirect impacts to the following species: least Bell's vireo, southwestern willow flycatcher, yellow

warbler, and western yellow-billed cuckoo. To avoid potential indirect impacts to these species, MM BIO-1 detailed below, shall be implemented to reduce indirect impacts to less than significant.

10.2.2.1 Nesting Birds and Other Raptor Species

The Project site has the potential to support various avian species and raptor nests due to the presence of a few shrubs, ground cover, palm trees and other ornamental plants onsite. Since removal of vegetation and existing structures could result in impacts to raptor species and nesting birds, the following mitigation measure (MM BIO-1) shall be implemented to reduce impacts to less than significant. Disturbing or destroying active nests is a violation of the MBTA (16 U.S.C. 703 et seq.). In addition, nests and eggs are protected under Fish and Game Code 3503.

MM BIO-1: Vegetation removal activities shall be conducted outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to avoid potential impacts to nesting birds.

Any construction activities that occur during the nesting season (February 15 to August 31 for songbirds; January 15 to August 31 for raptors) will require that all suitable habitats within 500 feet of the Project Footprint be thoroughly surveyed for the presence of nesting birds by a qualified biologist within three days before commencement of vegetation clearing/ground disturbance activities. If any active nests are detected a buffer of 500 feet of an active listed species or raptor nest, 300 feet of other sensitive bird nests (non-listed), and 100 feet of most common songbird nests will be delineated, flagged, and avoided until the nesting cycle is complete. The buffer may be modified and/or other recommendations proposed as determined appropriate by the biological monitor to minimize impacts.

10.2.2.2 Swainson's Hawk

Swainson's hawks are open-country birds that are commonly found in open habitats for foraging such as grassland, prairie lands, grazing and agricultural land. This species has a moderate potential to occur within the Project Footprint for foraging during the breeding season, however, the site lacks suitable nesting habitat for the species. Since removal of vegetation could result in impacts to foraging for this species, MM BIO-1 shall be implemented.

10.2.2.3 Grasshopper Sparrow

The Project site supports marginally suitable habitat for the species. The site is highly disturbed as a result of the agricultural activities in the past, however, the potential for the species to occur on the Project site is moderate due to suitable foraging habitat. With implementation of MM BIO-1, impacts to foraging for the grasshopper sparrow from the Proposed Project are considered less than significant.

10.2.2.4 Burrowing Owl

Burrowing owl has moderate potential to occur within the Project Footprint. Although no owls or sign of owls were observed within the Burrowing Owl Study Area during the 2022 surveys, suitable sized burrows do occur within the Project site, therefore, a 30-day pre-construction survey to determine presence/absence of the species is recommended.

Burrowing owl is covered by special survey requirements of the MSHCP. In order to avoid potential impacts to this species, mitigation measures are proposed which include conducting a burrowing owl survey and implementation of avoidance measures, if present. It should be noted that the burrowing owl, although a

"covered" species under the MSHCP, also receives protection under FGC and MBTA, therefore, surveys and mitigation would be required regardless of the species location within the Plan Area. Implementation of MM BIO-2 would ensure that potential impacts to burrowing owls would be less than significant.

MM BIO-2: A pre-construction/clearance burrowing owl survey shall be performed not more than 30 days prior to initial ground disturbance activity to formally determine presence/absence of the species. A qualified biologist will survey the Project site and a buffer zone, 500-feet outside the Project limits for burrows that could be used by burrowing owls. If the burrow is determined to be occupied, the burrow will be flagged, and a 160-foot diameter buffer will be established during non-breeding season or a 250-foot diameter buffer during the breeding season. If burrows onsite are unoccupied, construction may proceed.

If the site survey determines the presence of burrowing owl, mitigation in accordance with the CDFW and the MSHCP shall be implemented as follows:

- If burrowing owls are identified as being resident onsite outside the breeding season (September 1 to February 14) they may be relocated to other sites by a permitted biologist (permitted by CDFW), as allowed in the CDFW *Staff Report on Burrowing Owl Mitigation* (March 2012).
- If an active burrow is found during the breeding season, the burrow shall be treated as a nest site and temporary fencing shall be installed at a distance from the active burrow, to be determined by the biologist, to prevent disturbance during grading or construction. Installation and removal of the fencing shall be done with a biological monitor present.
- Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the Wildlife Agencies.

10.2.2.5 Mammals

Development activities will involve mass grading and clearing, resulting in the removal of vegetation and any wildlife species that may be occupying the site.

The direct and indirect impacts of continued development affect smaller mammals, including a variety of common and sensitive species. Grading and site preparation could crush burrows of some common mammal species; however, no sensitive mammal species were observed onsite. Therefore, development associated with the proposed Project will have no impact on candidate, sensitive or special-status mammal species.

WESTERN YELLOW BAT

There is a moderate potential for western yellow bat to occur within the Project site. Western yellow bat may roost in untrimmed palm trees; therefore, bat surveys should be conducted prior to vegetation removal/site disturbance to confirm presence/absence of bat species within the Project site. To reduce any potential indirect and direct impacts to bats to less than significant, avoidance and minimization measures described in MM BIO-3 shall be implemented.

MM BIO-3: Trees and large shrubs shall be surveyed for the presence of special status bat species by a qualified bat biologist no more than two weeks prior to the initiation of vegetation

removal or ground disturbing activities if work will begin within the maternity season (March 1 to August 31). Surveys may entail direct inspection of the trees and large shrubs or nighttime surveys as determined by the Qualified Biologist. If active bat roosts are present, a qualified bat biologist shall determine the species of bats present and the type of roost (i.e., day roost, night roost, maternity roost). If special-status bat species are present, a qualified bat biologist shall determine appropriate avoidance measures, which may include implementation of a construction-free buffer around the active roost.

10.2.2.6 Fairy Shrimp

The Project site includes a catch basin for rainfall that was constructed by the property owner about 20 years ago. This basin and other small depressions throughout the site have low-moderate potential to contain sensitive fairy shrimp species. Since there is potential suitable habitat onsite for sensitive fairy shrimp species, the MSHCP requires fairy shrimp surveys to be conducted to confirm presence/absence of sensitive species. Focused surveys in the 2022-2023 dry season and wet season found that no sensitive fairy shrimp were present on the Project site. Therefore, no future mitigation for this species is necessary.

10.3 Threshold BIO – B

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

No Impact.

Potential impacts to vegetation communities/land cover types due to implementation of the Project includes the entire Project Footprint, approximately 27.6 acres of herbaceous non-native grasses and forbs, ornamental, and disturbed/developed areas as shown in Table 2. The proposed Project will not impact any native habitats or any special-status habitats.

Additionally, direct impacts to herbaceous non-native grasses and forbs, disturbed agricultural land and ornamental land cover types are considered less than significant because this habitat/land cover is common in the surrounding vicinity and does not represent CNDDB or CDFW sensitive plant communities.

10.3.1 Sensitive Plant Communities

No plant communities considered sensitive by resource agencies were mapped within the Project site; therefore, no impacts would occur.

10.3.2 Riparian Habitat

The Project site does not support any riparian habitats identified or otherwise regulated under any local or regional plans, policies, regulations, or by the CDFW or USFWS; therefore, no impacts would occur.

10.4 Threshold BIO – C

Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact.

No jurisdictional waters or wetlands regulated under the CWA occur on the Project site; therefore, no impacts are expected.

10.5 Threshold BIO – D

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

No Impact.

10.5.1 Wildlife Movement

The Project site may serve a function in local wildlife dispersal and foraging; however, due to the disturbed nature of the site and the degraded habitats, the loss of foraging habitat and/or effect on local wildlife movement would be less than significant. No long-term or significant effects to wildlife movement are anticipated due to Project implementation. Because the Project site does not lie within a MSHCP-designated wildlife corridor and is adjacent to residential development, the proposed Project is not anticipated to have significant impacts related to habitat fragmentation and regional wildlife movement. As such, impacts would be less than significant, and no mitigation measures would be required.

10.6 Threshold BIO – E

Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant.

The City has no local policies or ordinances that would pertain to the protection of biological resources other than the implementation of the MSHCP. Additionally, the City has no ordinances regarding the preservation of trees on private property, however City Ordinance No. 1024 states removal or trimming of any trees within public right-of-way requires a written permit from the Public Works Department. If any trees within the Project Footprint fall within public right-of-way, a written permit will be needed to remove them. With coordination with the Public Works Department, the Project would not conflict with any local policies or ordinances protecting biological resources.

10.7 Threshold BIO – F

Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact.

10.7.1 Habitat Protection MSHCP

The Project falls within the MSHCP planning area. The MSHCP designates 21 Conservation areas within its Planning area which have increased protections for covered species. The Project does not fall within any areas designated as conservation areas in the MSHCP. Additionally, the Project site consists of disturbed land which is unlikely to support suitable habitat for species protected under the MSHCP. Because the proposed Project falls within the MSHCP planning area, it will be required to pay a mitigation fee which will be used to ensure that future funds are available to meet the conservation goals of the MSHCP. Payment

of mitigation fees as shown in MM BIO-4 would ensure compliance with the MSHCP and therefore impacts to covered species would be less than significant.

MM BIO-4: MSHCP Mitigation Fee. The Project proponent shall be required to pay City of Norco local development mitigation fee prior to issuance of a building permit. The most current rates are as follows (future developments may be subject to updated fees).

Category	Current Fee as of 1 July 2023
Commercial/Industrial	$19,066/acre
Residential	
>8.0 Units per acre	$4,236/unit
8.0-14 Units per acre	$1,766/unit
14.1+ Units per acre	$781/unit

11.0 BEST MANAGEMENT PRACTICES

The Western Riverside MSHCP Volume 1, Appendix C, outlines standard BMPs which are intended in part to reduce impacts to plant communities, special status plant and wildlife species, and jurisdictional waters. As the Project Footprint is located within the MSHCP boundary, the Project will be required to comply with applicable standard BMPs found in Appendix C of the MSHCP. The Project will comply with the following, as appropriate, which are based on the standard MSHCP BMPs:

1. "A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for Project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the Project, and the access routes to and Project Footprint boundaries within which the Project activities must be accomplished.

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

3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.

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

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

6. Project that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.

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

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

9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The qualified Project biologist shall monitor vegetation clearing to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the Project Footprint.
11. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
12. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
13. To avoid attracting predators of the species of concern, the Project Footprint shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed Project Footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the Project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
15. The Permittee shall have the right to access and inspect any sites of the approved Project including any restoration/enhancement area for compliance with project approval conditions including these BMPs."

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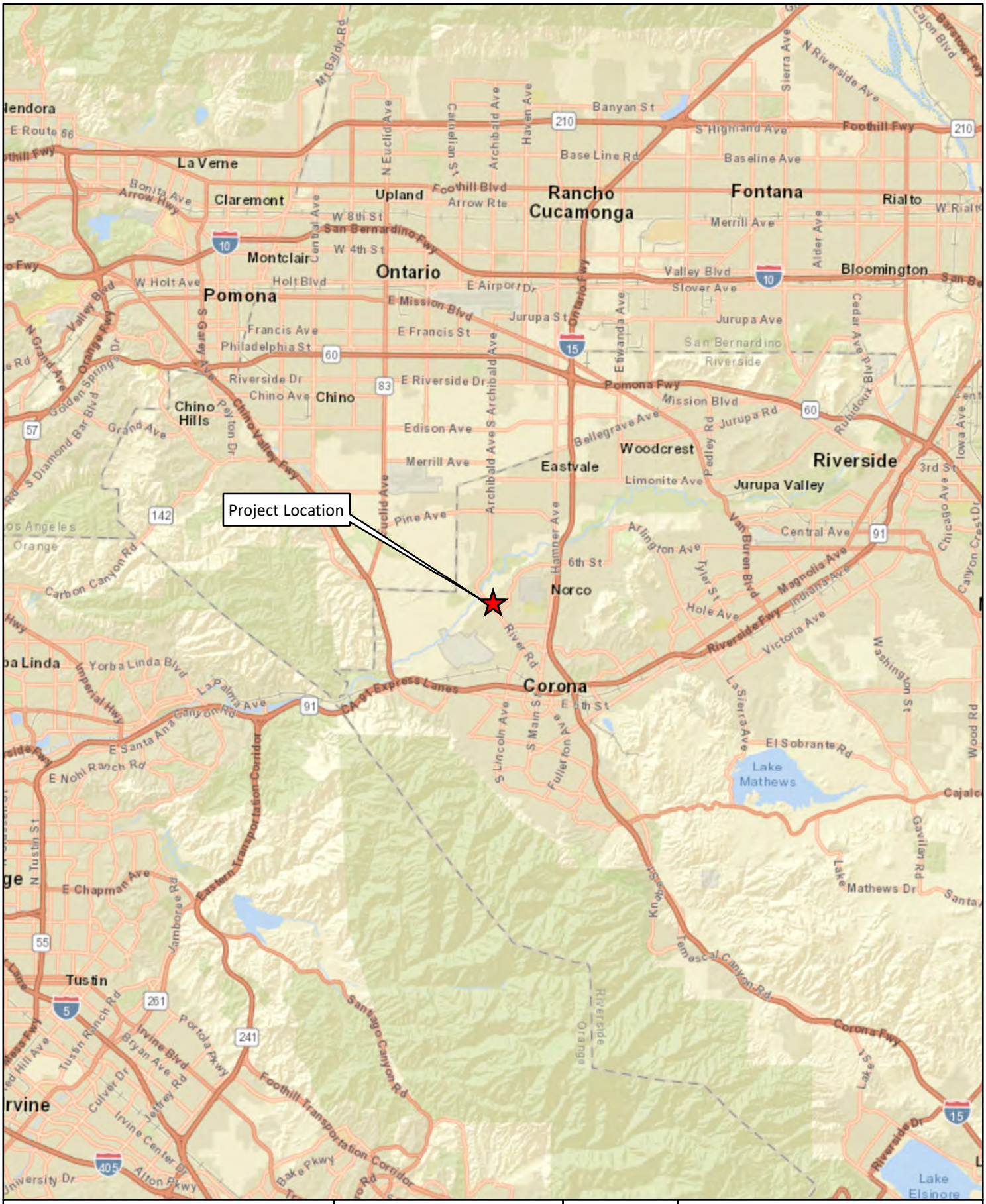
FIGURES



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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TACRD Investments
Norco Residential Project

Figure 1 Regional Location Map

Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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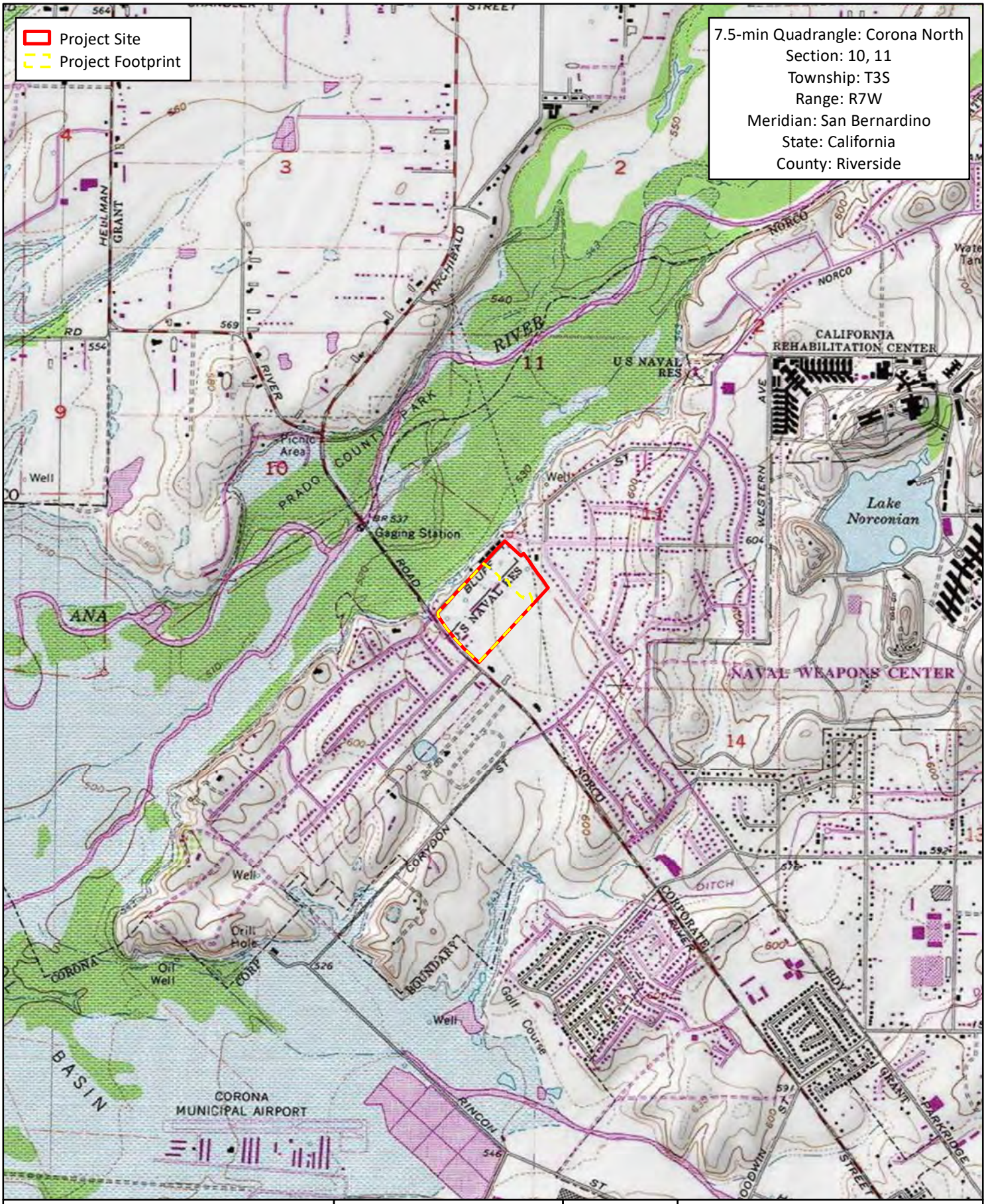
TACRD Investments
Norco Residential Project

Figure 2

Aerial Vicinity Map



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VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, USGS

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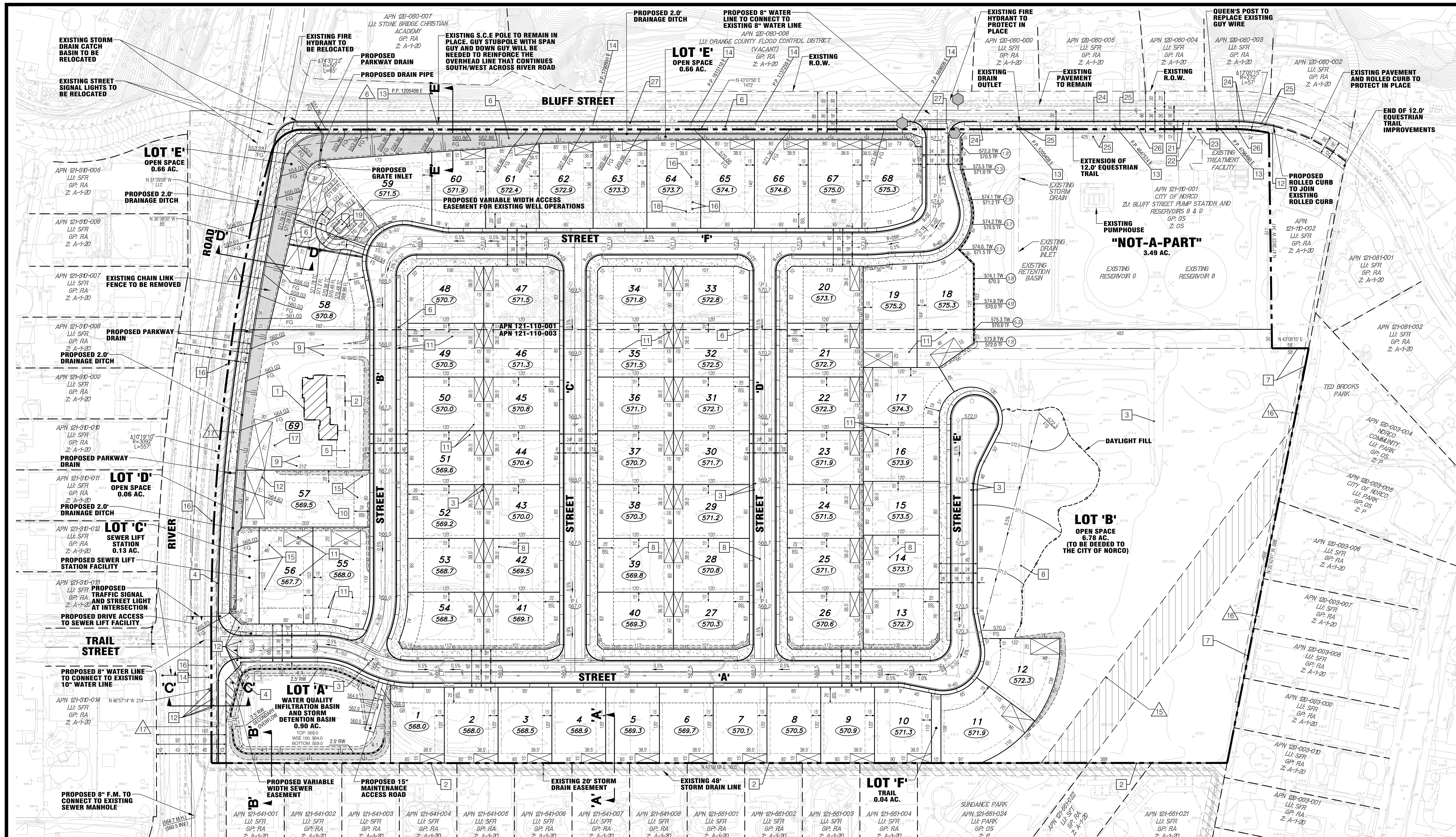
TACRD Investments
Norco Residential Project

Figure 3 USGS Topographic Map



LEGEND

EXISTING STORM DRAIN	
EXISTING GAS LINE	
EXISTING WATER LINE	
EXISTING RECLAIM WATER LINE	
EXISTING SEWER FORCEMAIN	
EXISTING UTILITY EASEMENT	
PROPOSED STORM DRAIN	
PROPOSED SEWER LINE	
PROPOSED WATER LINE	
PROPOSED SEWER MANHOLE	
PROPOSED FORCE MAIN	
PROPOSED UTILITY EASEMENT	
PROPOSED STREET CENTERLINE	
PROPOSED CENTERLINE RADIUS	R=150'
PROPOSED TENTATIVE TRACT BOUNDARY	
PROPOSED BUILDING SETBACK LINE	BSL
LIMITS OF GRADING (DAYLIGHT LINE)	
PROPOSED LOT NUMBER	67
PROPOSED HIGHEST LOT NUMBER	69
PROPOSED PAD ELEVATION	757.0
PROPOSED STREET ELEVATION	750.5
PROPOSED 2:1 SLOPE	
PROPOSED 4:1 SLOPE	4:1
PROPOSED RETAINING WALL / PROPOSED RETAINING WALL HEIGHT	775.0 TRW / 772.0 TF (3.0')
PROPOSED STREET LIGHT	
PROPOSED FIRE HYDRANT	
PROPOSED LIMITED USE AREA	
PROPOSED P.A.K.A. (BASED ON LOT AREA)	
PROPOSED DG EQUESTRIAN TRAIL	
PROPOSED STOP SIGN	
PROPOSED TRAFFIC SIGNAL	

EXISTING CONDITIONS

1. EXISTING RESIDENCE TO REMAIN.
2. EXISTING 6.0' HIGH BLOCK WALL TO REMAIN.
3. EXISTING 5.0 HIGH WROUGHT IRON FENCE TO BE REMOVED.
4. EXISTING 5.0' HIGH WOOD FENCE TO BE REMOVED.
5. EXISTING OVERHANG TO REMAIN.
6. EXISTING 6.0' HIGH CHAIN LINK FENCE W/ BARBED WIRE TO BE REMOVED.
7. EXISTING 6.0' HIGH CHAIN LINK FENCE TO REMAIN.
8. EXISTING 5.0' HIGH BARBED WIRE FENCE TO BE REMOVED.
9. EXISTING PCC DRIVEWAY TO BE PROTECTED IN PLACE.
10. EXISTING TANK TO BE REMOVED.
11. EXISTING BUILDING/CANOPY TO BE REMOVED.
12. EXISTING TREE/PALM TO BE REMOVED.
13. EXISTING SCE OVERHEAD/WIRE POWER POLE TO REMAIN IN PLACE.
14. EXISTING SCE OVERHEAD/WIRE POWER POLE TO BE UNDERGROUND UNDER SEPARATE PERMIT.
15. EXISTING A.C. PAVEMENT TO BE REMOVED.
16. EXISTING IDLE OVERHEAD POLES/WIRES TO BE REMOVED.
17. EXISTING SCE IDLE OVERHEAD POLE/WIRES TO BE REMOVED.
18. EXISTING 8.0' HIGH CHAIN LINK FENCE TO BE REMOVED
19. EXISTING CITY WELL FACILITY TO REMAIN IN PLACE.
20. EXISTING CATCH BASIN TO REMAIN.
21. EXISTING A.C. PAVEMENT TO BE PROTECTED IN PLACE.
22. EXISTING LIGHT TO BE PROTECTED IN PLACE.
23. EXISTING WATER VALVE TO BE RELOCATED.
24. EXISTING STREET SIGNAGE TO BE RELOCATED.
25. EXISTING ELECTRICAL EQUIPMENT TO BE RELOCATED.
26. EXISTING 6.0' CHAIN LINK FENCE WITH BARBED WIRE TO BE RELOCATED.
27. EXISTING ELECTRICAL FACILITY TO BE RELOCATED.

CONSTRUCTION NOTES

1. CONSTRUCT STANDARD ROLLED CURB PER CITY STANDARD PLAN 205.
2. CONSTRUCT 4" AC OVER 6" CAB OR AS APPROVED BY CITY ENGINEER PER CITY STANDARD PLAN 830.
3. CONSTRUCT TYPE 'C' INTEGRAL CURB AND GUTTER PER CITY STANDARD PLAN 200.
4. CONSTRUCT 12.0' EQUESTRIAN TRAIL PER CITY STANDARD PLAN 700.
5. CONSTRUCT 3'-6" PVC EQUESTRIAN TRAIL FENCING PER CITY STANDARD PLAN 705.
6. CONSTRUCT TYPE 'A' CURB ONLY, PER CITY STANDARD PLAN 200.

UTILITIES

ELECTRIC:
SOUTHERN CALIFORNIA EDISON
1351 EAST FRANCIS STREET
ONTARIO, CA. 91761
(909) 930-8431

WATER & SEWER:
CITY OF NORCO
2870 CLARK AVE
NORCO, CA. 92860
(951) 270-5678

SOLID WASTE:
WASTE MANAGEMENT
800 SOUTH TEMESCAL STREET
JURUPA VALLEY, CA. 92509
(951) 786-0639

GAS:
SOUTHERN CALIFORNIA GAS COMPANY
1981 WEST LUGONIA AVENUE
RANCHO CUCAMONGA, CA. 91730
(909) 335-7715

CABLE:
CHARTER COMMUNICATIONS
7337 CENTRAL AVE
RIVERSIDE, CA. 92504
(951) 343-4100 EXT. 4156

TELEPHONE:
A.T.&T.
1265 NORTH VAN BUREN STREET
RM. 180
ANAHEIM, CA. 92807
(714) 666-5503

BASIS OF BEARING

CENTERLINE OF SUNDANCE LANE
N 43° 09' 18" E AS SHOWN ON TRACT 28765
BK 274, PG 95-98

LEGAL DESCRIPTION

PARCEL 1: (APN: 121-110-001)
BLOCKS 67,68,69 AND LOTS 2 TO 23, INCLUSIVE OF BLOCK 70, TOGETHER WITH THOSE PORTIONS OF PINE STREET, 60 FEET WIDE, SPRUCE STREET, 60 FEET WIDE, SYCAMORE STREET, 60 FEET WIDE AND ALL ALLEYS AND PUBLIC WAYS APPURTENANT THERETO BETWEEN BLUFF STREET AND GILBERT STREET AS SHOWN ON THE MAP OF AUBURNDALE COLONY AND TOWNSITE ON BOOK 6 PAGES 20 AND 21 OF MAPS, SAN BERNARDINO COUNTY, CALIFORNIA.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO TOMMY DALLAPE, ET UX., BY DEED RECORDED APRIL 6, 1964 AS INSTRUMENT NO. 42079 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ANY OIL, GAS, OTHER HYDROCARBON SUBSTANCES AND ALL OTHER MINERALS IN, ON OR UNDER THE ABOVE-IDENTIFIED LAND, TOGETHER WITH THE RIGHTS TO TAKE AND RECOVER POSSESSION OF SAID MINERALS AND TO ENTER UPON SAID LAND FOR THE PURPOSE OF EXPLORING FOR, MINING, DRILLING FOR, EXTRACTING, PRODUCING, TRANSPORTING OR MARKETING THE SAME OF ANY PORTION THEREOF IN ANY MANNER NOT INCONSISTENT WITH THE PUBLIC HEALTH USE FOR WHICH SAID PROPERTY IS HEREBY CONVEYED, AS RESERVED IN DOCUMENT RECORDED OCTOBER 8, 2009 AS INSTRUMENT NO 2009-0523643 OF OFFICIAL RECORDS OF SAID COUNTY.

PARCEL 2: (APN: 121-110-003)
BLOCKS 47, 48, 49 AND 50, THOSE PORTIONS OF BLOCKS 43, 44, 45 AND 46, THOSE PORTIONS OF ALL STREETS AND ALLEYS, AND THAT PORTION OF THAT CERTAIN PARCEL OF LAND MARKED "PROPOSED POMONA AND ELSINORE RAILROAD DEPOT GROUNDS", AS SHOWN ON THE MAP OF AUBURNDALE COLONY AND TOWNSITE ON FILE IN BOOK 6 PAGES 20 AND 21 OF MAPS, SAN BERNARDINO COUNTY RECORDS, LYING WITHIN THE BOUNDARIES OF THE PARCEL OF LAND DESCRIBED.

LAND EXCHANGE SUMMARY

LOT	ACREAGE	ACREAGE
B	6.78 AC	J.D. RANCH
18 - 20, 33 - 34, 47 - 48, 58 - 68 (121-110-01 PORTION)	8.20 AC	CITY OF NORCO

LAND USE SUMMARY

LOTS	LAND USE	ACREAGE	PERCENT (%)
1 - 68	SINGLE-FAMILY RESIDENTIAL	17.61 AC	46.5%
69	EXISTING SINGLE-FAMILY RES.	1.02 AC	2.7%
'A'	WATER QUALITY INFILTRATION BASIN AND STORM DETENTION BASIN	0.90 AC	2.4%
'B'	OPEN SPACE	6.78 AC	18.0%
'C'	SEWER LIFT STATION	0.13 AC	0.3%
'D' - 'E'	LANDSCAPE OPEN SPACE	0.72 AC	1.9%
'F'	TRAIL	0.04 AC	0.1%
	BLUFF STREET	0.16 AC	0.4%
	RIVER ROAD	0.68 AC	1.8%
	STREETS 'A' - 'F'	6.31 AC	16.7%
	"NOT-A-PART"	3.49 AC	9.2%
	GROSS ACREAGE	37.84 AC	100%

TENTATIVE TRACT NO. 38330

NUMBER OF LOTS: TOTAL	76
SINGLE-FAMILY RESIDENTIAL	69
WATER QUALITY INFILTRATION BASIN AND STORM DETENTION BASIN	1
SEWER LIFT STATION	1
OPEN SPACE	1
TRAIL	1
LANDSCAPE OPEN SPACE	2
N.A.P.	1

GROSS ACREAGE: 37.84 AC
CONTOUR INTERVAL: 1 FOOT
SCALE: 1"=60'
DATE: APRIL 26, 2022
REVISED: AUGUST 18, 2022
REVISED: MARCH 13, 2023
REVISED: JUNE 28, 2023
REVISED: JANUARY 25, 2024

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

GENERAL INFORMATION

1. EXISTING LAND USE: UNDEVELOPED, PREVIOUS DAIRY FACILITIES, SINGLE FAMILY RESIDENCE.
2. EXISTING ZONING: 0S (OPEN SPACE)
   A-1-20 (AGRICULTURAL - LOW DENSITY (20,000 SF)
3. EXISTING GENERAL PLAN: RA (RESIDENTIAL AGRICULTURAL)
   PL (PUBLIC LAND)
4. PROPOSED LAND USE: SINGLE-FAMILY RESIDENTIAL, WATER QUALITY BASIN, SEWER LIFT
5. PROPOSED ZONING: R-1-10 (RESIDENTIAL - SINGLE FAMILY 10,000 SF)
6. PROPOSED GENERAL PLAN: RL
7. ADJACENT LAND USES:
   NORTH: CITY RESERVOIR FACILITY, VACANT
   EAST: SINGLE-FAMILY RESIDENTIAL, PARK
   SOUTH: SINGLE-FAMILY RESIDENTIAL, PARK
   WEST: SINGLE-FAMILY RESIDENTIAL
8. PARK REQUIREMENTS TO BE MET BY IN LIEU FEES PER CITY OF NORCO MUNICIPAL CODE SECTION 17.14.08.
9. SCHOOL DISTRICTS: (CORONA-NORCO UNIFIED SCHOOL DIST.)
   ELEMENTARY: WASHINGTON ELEMENTARY
   MIDDLE SCHOOL: AUBURNDALE INTERMEDIATE
   HIGH SCHOOL: NORCO HIGH SCHOOL
10. PAD ELEVATIONS SHOWN ON THE TENTATIVE TRACT MAP MAY BE ADJUSTED PLUS OR MINUS 3.0 FEET.
11. MULTIPLE FINAL MAPS MAY BE FILED PURSUANT TO SECTION 66456.1 OF THE CALIFORNIA GOVERNMENT CODE.
12. PROPOSED TENTATIVE TRACT 38330 IS NOT WITHIN AN APPROVED SPECIFIC PLAN BOUNDARY.
13. ALL PROPOSED MANUFACTURED SLOPES SHALL BE CONSTRUCTED AT A MAXIMUM OF 2:1, UNLESS OTHERWISE NOTED ON THE PLAN.
14. ESTIMATED EARTHWORK QUANTITIES:
   ADJUSTED CUT: 157,920 C.Y. — APPROXIMATE QUANTITY OF ORGANICS EXPORTED
   ADJUSTED FILL: 206,320 C.Y. — CUT: 10,300 C.Y.
   IMPORT: 48,400 C.Y.
15. THE PRELIMINARY GEOTECHNICAL/SOILS REPORT WAS PREPARED BY LGC GEOTECHNICAL, INC., JANUARY 21, 2022.
16. THERE IS ONE EXISTING HABITABLE STRUCTURE THAT IS WITHIN THE BOUNDARIES OF THE PROPOSED TENTATIVE TRACT MAP THAT SHALL REMAIN IN PLACE.
17. ALL PROPOSED STREETS WITHIN TENTATIVE TRACT 38330 SHALL BE PUBLIC AND SHALL BE OWNED AND MAINTAINED BY THE CITY OF NORCO.
18. THE PROPOSED LANDSCAPE PARKWAYS AND EQUESTRIAN TRAILS WITHIN THE PROPOSED PUBLIC STREETS 'A'-'F' SHALL BE OWNED BY THE CITY OF NORCO AND MAINTAINED BY AN APPROVED H.O.A. EACH INDIVIDUAL HOMEOWNER SHALL MAINTAIN THEIR TRAIL FRONTAGE AS IT RELATES TO GENERAL WEED AND MANURE ABATEMENT.
19. THE DEVELOPER RESERVES THE RIGHT TO MERGE LOTS ON THE FINAL MAP.
20. THERE IS ONE ACTIVE WELL, OWNED AND MAINTAINED BY THE CITY OF NORCO, WITHIN THE BOUNDARIES OF THE TENTATIVE TRACT MAP THAT WILL REMAIN IN PLACE.
21. PROPOSED TENTATIVE TRACT MAP 38330 IS WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOODING) PER F.I.R.M. MAP NO 06065C0687G, DATED AUGUST 28, 2008
22. PROPOSED TENTATIVE TRACT MAP 38330 CONTAINS PARCELS OWNED BY THE CITY OF NORCO AND BY THOMAS Q. DALLAPE AND DIANE L. DALLAPE, TRUSTEES OF THE DALLAPE FAMILY TRUST AND TACRD INSTRUMENTS. PROPOSED TENTATIVE TRACT MAP 38330 DOES NOT CONTAIN A CONTIGUOUS OWNERSHIP OF LAND BEING SUBDIVIDED.
23. THOMAS BROTHERS MAP PAGE 38, GRIDS B-4, C-4, B-5 AND B-6, RIVERSIDE COUNTY.
24. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT WITHIN A COMMUNITY SERVICE DISTRICT.
25. PROPOSED TENTATIVE TRACT MAP 38330 IS WITHIN THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT (RCFCD)
26. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT SUBJECT TO LIQUEFACTION OR OTHER GEOLOGICAL HAZARD AND IS NOT WITHIN A SPECIAL STUDIES ZONE.
27. TOPOGRAPHIC SURVEY WAS FLOWN AND COMPILED BY DON READ AERIAL CORPORATION ON JUNE 16, 2021.
28. THERE ARE NO PROPOSED OPEN STORM DRAIN CHANNEL WITHIN THE BOUNDARIES OF THE TENTATIVE TRACT MAP.
29. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT A GATED COMMUNITY.
30. PROPOSED VEHICULAR ACCESS SHALL BE RESTRICTED ON RIVER ROAD AND BLUFF STREET.
31. FINAL DESIGN OF THE TENTATIVE TRACT MAP 38330 SHALL COMPLY WITH N.P.D.E.S. REQUIREMENTS AS OUTLINED BY N.P.D.E.S., SUPPLEMENT NO. 'A'.
32. PROPOSED LANDSCAPE OPEN SPACE LOTS 'D'-'E' ARE PRIVATE AND SHALL BE OWNED BY AN APPROVED H.O.A. IF AVAILABLE, OPEN SPACE LOTS 'D'-'E' TO BE IRRIGATED BY RECLAIMED WATER PROVIDED BY THE CITY OF NORCO.
33. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT WITHIN A HIGH FIRE HAZARD AREA.
34. ALL PROPOSED RESIDENTIAL LOTS SHALL MAINTAIN A 2.0% MINIMUM GRADE FROM THE REAR YARD TO THE FRONTING PUBLIC STREET.
35. THE PROPOSED TENTATIVE TRACT MAP 38330 IS WITHIN THE COUNTY'S 2ND SUPERVISORY DISTRICT.
36. THE CURRENT PROPERTY ADDRESS IS 2877 RIVER ROAD, NORCO, CA.
37. THERE ARE NO EXISTING SEWER SYSTEM PIPES WITHIN THE TENTATIVE TRACT MAP BOUNDARIES. THE EXISTING SINGLE FAMILY RESIDENCE IS CURRENTLY SEWERED BY A SEPTIC SYSTEM BUT WILL BE CONNECTED TO THE PROPOSED SEWER LINE.
38. ALL EXISTING ON-SITE CONCRETE PADS SHALL BE REMOVED, AND WHERE POSSIBLE, CRUSHED AND PLACED IN PROPOSED FILL AREAS AND APPROVED BY THE SOILS ENGINEER.
39. PROPOSED LOT 'A' WATER QUALITY INFILTRATION AND DETENTION BASIN, WILL BE AND MAINTAIN BY AN APPROVED H.O.A.
40. THE EXISTING 60.0' WIDE CALIFORNIA ELECTRIC POWER COMPANY EASEMENT SHALL BE PROTECTED IN PLACE.
41. PROPOSED KNUCKLES (PUBLIC) SHALL BE DESIGNED PER CITY STANDARD PLAN NO. 145A.
42. PROPOSED CUL-DE-SACS (PUBLIC) SHALL BE DESIGNED PER CITY STANDARD PLAN NO. 140C.
43. PROPOSED STREETS 'A'-'F' WITHIN TENTATIVE TRACT MAP 38330 SHALL BE DESIGNED PER CITY STANDARD PLAN NO. 100.
44. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT SUBJECT TO FLOOD WATERS, OVERFLOW OR INUNDATION. ALL PROPOSED RESIDENTIAL PAD AREAS ARE A MINIMUM OF 2.0' FEET ABOVE THE 566 SANTA ANA FLOOD ELEVATION.
45. THERE ARE NO REGULATED TREES OR PLANTS IDENTIFIED WITHIN THE TENTATIVE TRACT MAP BOUNDARIES.
46. PROPOSED STREET TREES SHALL BE PROVIDED ALONG ALL PROPOSED PUBLIC STREETS WITHIN THE TENTATIVE TRACT MAP BOUNDARIES (SEE CONCEPTUAL LANDSCAPE PLANS) AND MAINTAINED BY LANDSCAPE MAINTENANCE DISTRICT.
47. PROPOSED OPEN SPACE LOT 'B' SHALL BE DEEDED IN FEE TO THE CITY OF NORCO FOR OWNERSHIP AND MAINTENANCE.
48. PROPOSED LOT 'C', SEWAGE LIFT STATION, SHALL BE DEEDED IN FEE TO THE CITY FOR OWNERSHIP AND MAINTENANCE.
49. PROPOSED LOT 69, EXISTING SINGLE FAMILY RESIDENCE, SHALL REMAIN IN PLACE.
50. PROPOSED STANDARD ROLLED CURB FOR LOCAL PUBLIC STREETS 'A'-'F' SHALL BE CONSTRUCTED PER CITY STANDARD PLAN NO. 205.
51. PROPOSED CROSS GUTTERS FOR PUBLIC LOCAL STREET 'A' SHALL BE CONSTRUCTED PER CITY STANDARD PLAN NO. 225.
52. PROPOSED HANDICAP RAMP AT THE INTERSECTION OF PROPOSED STREET 'A' AT RIVER ROAD SHALL BE CONSTRUCTED PER CITY STANDARD NO. 235.
53. RIVER ROAD IMPROVEMENTS PER A MODIFIED CITY STANDARD PLAN NO. 120A.
54. BLUFF STREET IMPROVEMENTS PER CITY STANDARD NO. 100.
55. LANDSCAPE PARKWAYS FOR LOCAL PUBLIC STREETS 'A'-'F' SHALL BE OWNED BY THE CITY AND MAINTAINED BY AN H.O.A.
56. LANDSCAPE PARKWAYS FOR RIVER ROAD AND BLUFF STREET SHALL BE OWNED BY THE CITY AND MAINTAIN BY A L.M.D.
57. PROPOSED ROLLED CURB AT THE INTERSECTION OF STREET 'A' AT RIVER ROAD AND STREET 'F' AT BLUFF STREET SHALL TRANSITION TO A STANDARD CURB PER CITY STANDARD 215.
58. PROPOSED PARKWAY DRAIN FROM PROPOSED 2-0' DRAINAGE DITCHES ALONG "TOE-OF-SLOPE" OF OPEN SPACE LOTS 'D' AND 'E' ALONG RIVER ROAD AND BLUFF STREET PER CITY STANDARD 300B.
59. PROPOSED PRIVATE PARKWAY DRAINS THROUGH CURB OUTLET FOR RESIDENTIAL ROLLED CURB SHALL BE CONSTRUCTED PER CITY STANDARD 301.
60. EXISTING WATERLINE FROM THE EXISTING CITY OWNED WELL FACILITY, CURRENTLY LOCATED WITHIN LOTS 59-68, TO BE RELOCATED WITHIN PROPOSED STREET 'F' TO RECONNECT TO THE CITY RESERVOIR LOT.
61. PROPOSED STREET LIGHTS FOR LOCAL STREETS 'A'-'F' SHALL BE OWNED BY THE CITY AND MAINTAINED BY AN APPROVED L.M.D.
62. PROPOSED EQUESTRIAN TRAIL FOR RIVER ROAD AND BLUFF STREET SHALL BE OWNED BY THE CITY AND MAINTAINED BY AN APPROVED L.M.D.
63. PROPOSED LOT 'F' TO BE OWNED AND MAINTAINED BY AN APPROVED H.O.A. AND IS NON-GATED.
64. "NOT-A-PART" TO REMAIN AS CITY OWNED AND MAINTAINED PUMP STATION AND RESERVOIRS 8 AND 9.

EASEMENTS

5. A RIGHT OF WAY RESERVED TO THE SOUTH RIVERSIDE LAND AND WATER COMPANY AND ITS ASSIGNS FOR CONSTRUCTION AND MAINTENANCE OF ALL NECESSARY WATER PIPES AND DITCHES, FLUMES AND CONDUITS, FOR ALL PURPOSES OF IRRIGATION AND DOMESTIC USE, BY DEED RECORDED AUGUST 12, 1985 IN BOOK 17, PAGE 223, OF DEEDS. EASEMENT CANNOT BE PLOTTED BASED ON RECORD INFORMATION. EASEMENT IS AN INDENTURE, CONVEYING LANDS TO INDIVIDUALS BUT RETAINING WATER RIGHTS, INCLUDING DITCHES, IRRIGATION PIPES, ETC.. THERE IS NO DESCRIPTION OTHER THAN THE LANDS BEING SOLD AND IS A BLANKET EASEMENT.
6. AN EASEMENT FOR ROAD AND INCIDENTAL PURPOSES, RECORDED OCTOBER 14, 1963 AS INSTRUMENT NO. 108259 OF OFFICIAL RECORDS. EASEMENT TO BE ABANDONED.
9. AN UNITED STATES OF AMERICA EASEMENT FOR ACCESS AND INCIDENTAL PURPOSES, RECORDED OCTOBER 8, 2009 AS INSTRUMENT NO. 2009-0523643 OF OFFICIAL RECORDS, EASEMENT CANNOT BE PLOTTED BASED ON RECORDED INFORMATION. EASEMENT TO BE PROTECTED IN PLACE.
14. A SOUTH RIVERSIDE LAND AND WATER COMPANY EASEMENT FOR WATER PIPES AND DITCHES, FLUMES AND CONDUITS FOR PURPOSE OF IRRIGATION AND DOMESTIC USE AND INCIDENTAL PURPOSE, RECORDED AUGUST 08, 1895 IN BOOK 17 OF DEEDS, PAGE 223 AND RECORDED DECEMBER 31, 1906 IN BOOK 173, PAGE 336 OF DEEDS. EASEMENT CANNOT BE PLOTTED BASED ON RECORD INFORMATION. EASEMENT IS AN INDENTURE, CONVEYING LANDS TO INDIVIDUALS BUT RETAINING WATER RIGHTS, INCLUDING DITCHES, IRRIGATION PIPES, ETC.. THERE IS NO DESCRIPTION OTHER THAN THE LANDS BEING SOLD AND IS A BLANKET EASEMENT.
15. A CALIFORNIA ELECTRIC POWER COMPANY EASEMENT FOR UTILITIES, 60 FEET WIDE, OVER THAT PORTION OF THE POMONA AND ELSINORE RAILROAD RIGHT OF WAY LYING EAST OF BLOCKS 47 AD 45, ALL OF BLOCK 24, AND THE NORTHWESTERLY HALF OF BLOCK 22 OF THE HEREIN DESCRIBED PROPERTY AND INCIDENTAL PURPOSES, RECORDED JANUARY 28, 1954 AS INSTRUMENT NO. 4649 OF OFFICIAL RECORDS. EASEMENT TO BE PROTECTED IN PLACE.
16. A SOUTHERN CALIFORNIA EDISON EASEMENT FOR UTILITIES AND INCIDENTAL PURPOSES, RECORDED APRIL 23, 1959 AS INSTRUMENT NO. 34510 OF OFFICIAL RECORDS. EASEMENT TO BE PROTECTED IN PLACE.
17. A COUNTY OF RIVERSIDE EASEMENT FOR EXCAVATION SLOPES AND INCIDENTAL PURPOSES, RECORDED SEPTEMBER 23, 1963 AS INSTRUMENT NO. 99907 OF OFFICIAL RECORDS. EASEMENT TO BE ABANDONED.

BENCHMARK

(CITY OF CORONA BENCHMARKER C-102)
A 2 ½" BRASS DISK STAMPED "C-102" SET IN THE TOP OF THE CURB LOCATED 5 FOOT NORTH OF THE E.C.R. OF THE NORTHEASTERLY CURB RETURN OF THE INTERSECTION OF CORYDON STREET AND KINGFORD DRIVE.
ELEVATION: 569.419' (DATED 4/88)

ENGINEER

MDS CONSULTING
5 PETERS CANYON DRIVE
SUITE 305
IRVINE, CA. 92606
PHONE: (949) 251-8821
ATTN: BOB ZOLLER

APPLICANT/DEVELOPER

TACRD INVESTMENT L.P.
THE HOFFMAN COMPANY
18881 VON KARMAN AVENUE
SUITE 150
IRVINE, CA. 92612
(949) 553-2020
ATTN: TOM DALLAPE

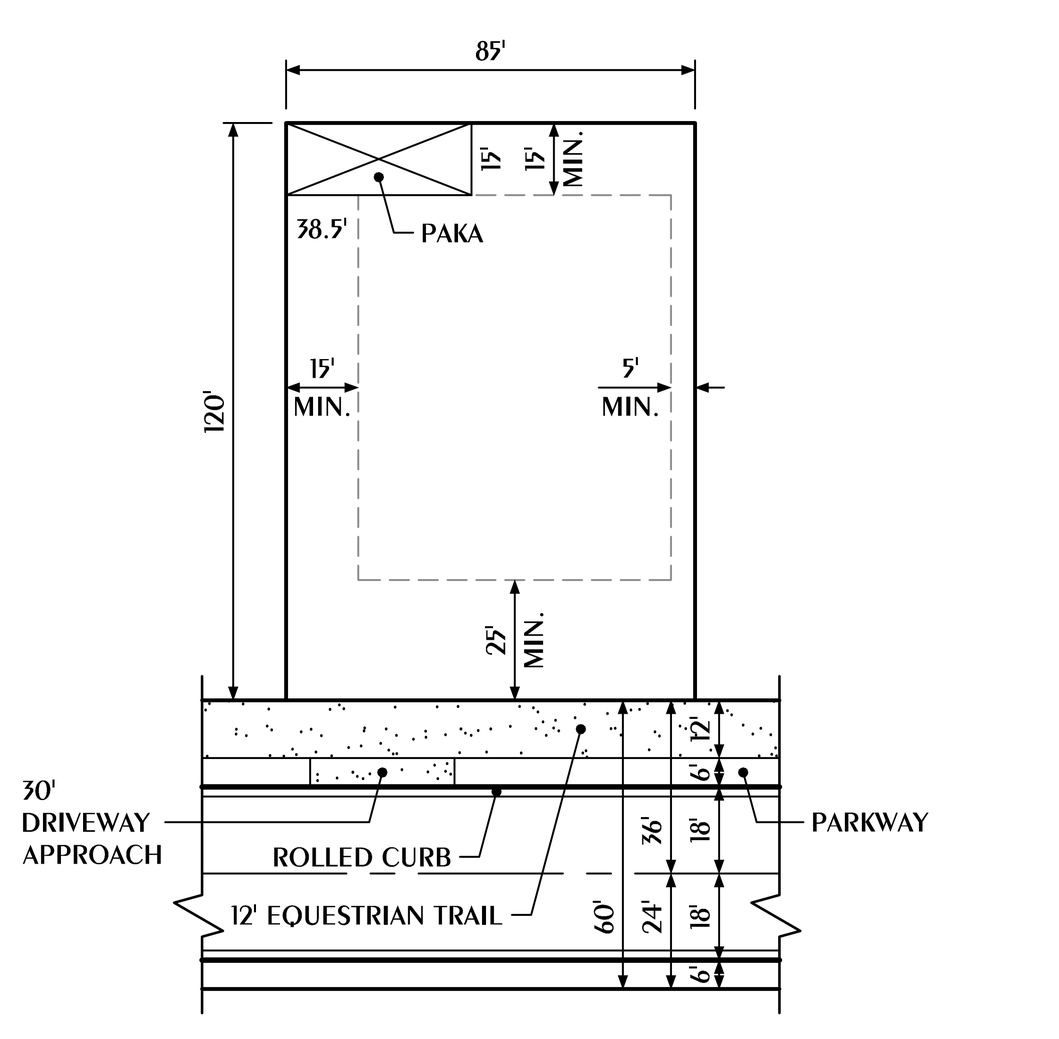
OWNER

THOMAS G. DALLAPE & DIANE L. DALLAPE, TRUSTEES OF THE DALLAPE FAMILY TRUST, DATED NOVEMBER 18,1993
TACRD INVESTMENT, L.P.

C/O. TOM DALLAPE
18881 VON KARMAN AVENUE
SUITE 150
IRVINE, CA. 92612
(949) 553-2020

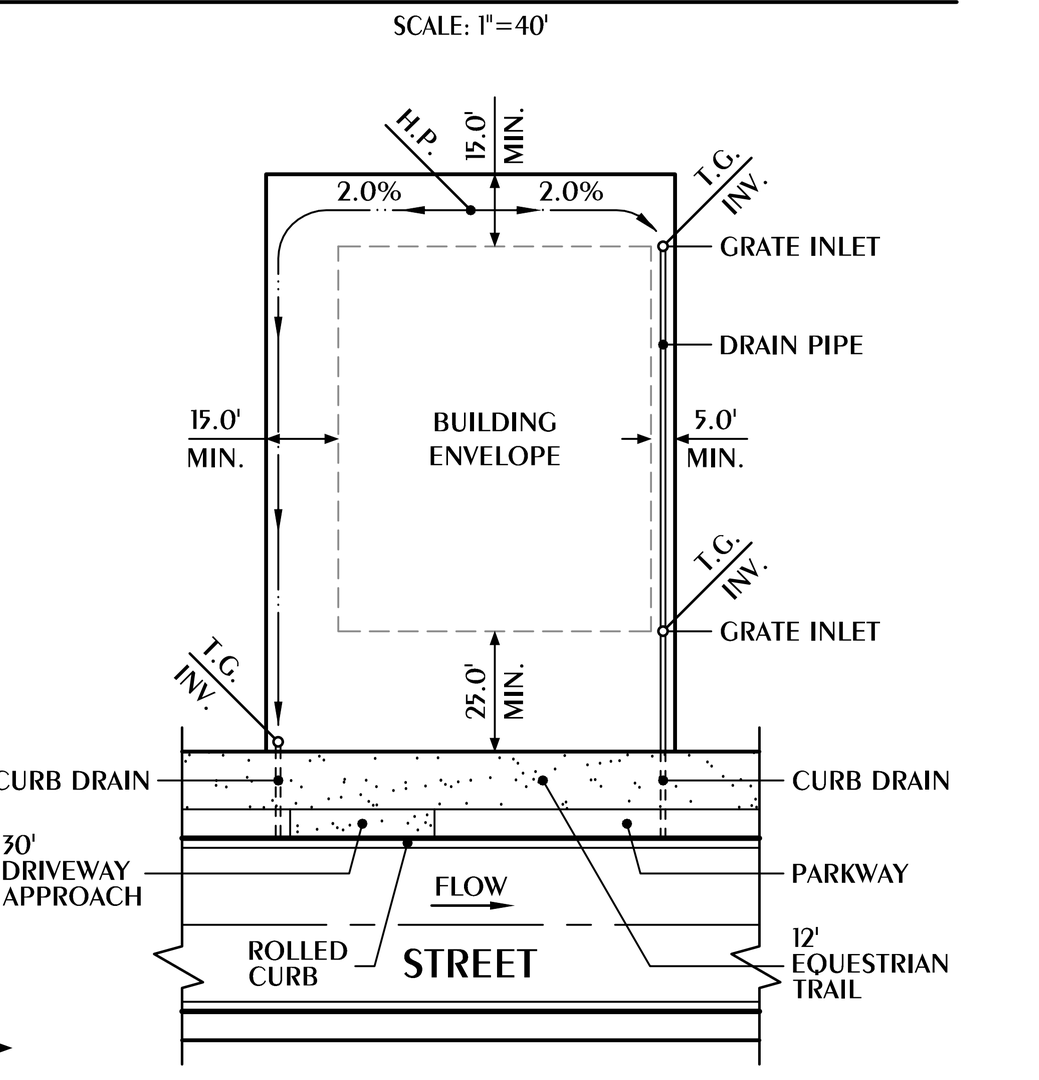
ASSESSORS PARCEL NUMBERS

121-110-003, 121-110-001 (PORTION)



TYPICAL BUILDING SETBACKS

SCALE: 1"=40'



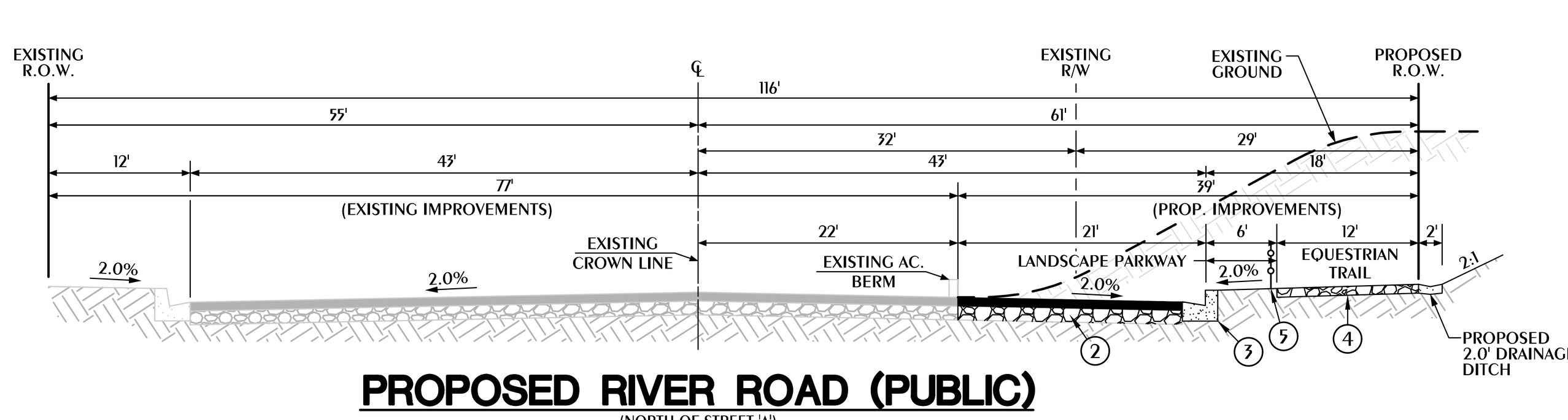
TYPICAL LOT DRAINAGE

SCALE: 1"=40'

LOT SUMMARY

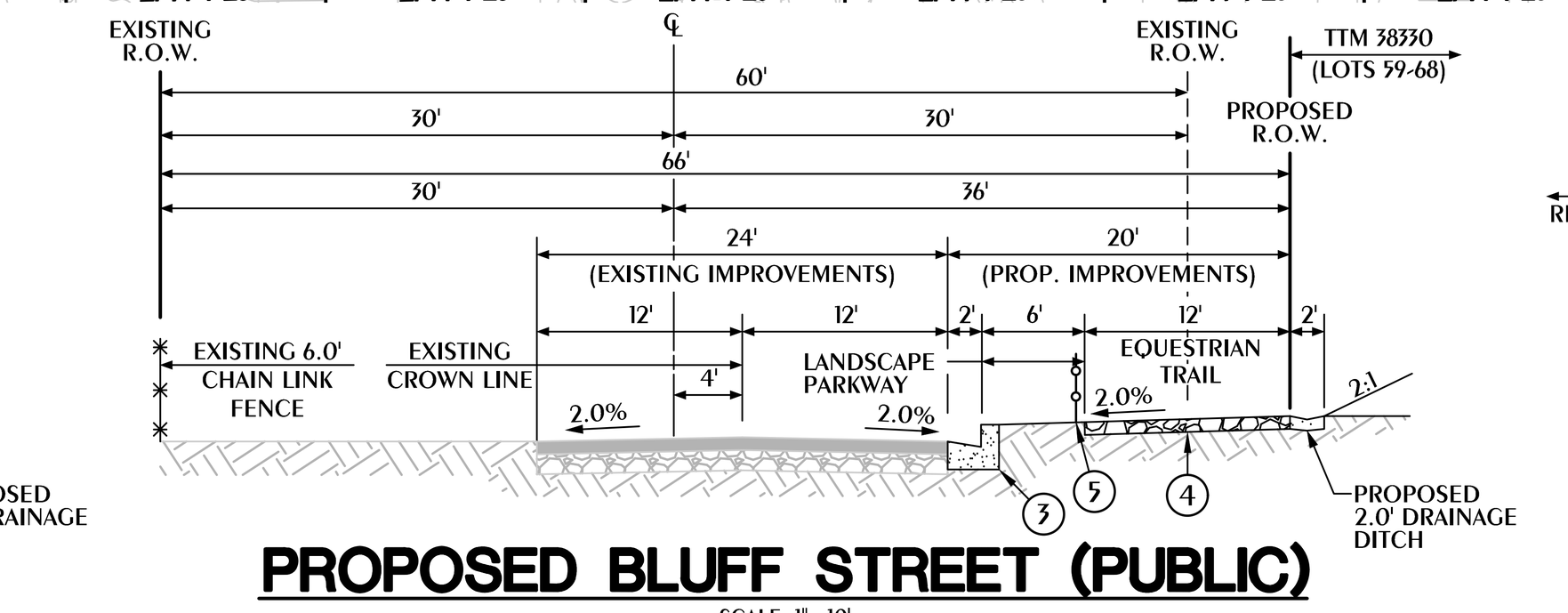
SINGLE-FAMILY RESIDENTIAL	69
MINIMUM LOT WIDTH:	85 FT *
MINIMUM LOT DEPTH:	100 FT
MINIMUM LOT AREA:	10,200 SF
MAXIMUM LOT AREA:	44,261 SF
AVERAGE LOT AREA:	11,758 SF
MINIMUM PAD AREA:	9,477 SF
AVERAGE PAD AREA:	11,468 SF
GROSS ACREAGE:	34.38 AC
NET ACREAGE	33.54 AC
GROSS DENSITY:	2.0 DU/AC
NET DENSITY:	2.06 DU/AC

* EXCEPT ON A KNUCKLE OR CUL-DE-SAC NOT LESS THAN 50'



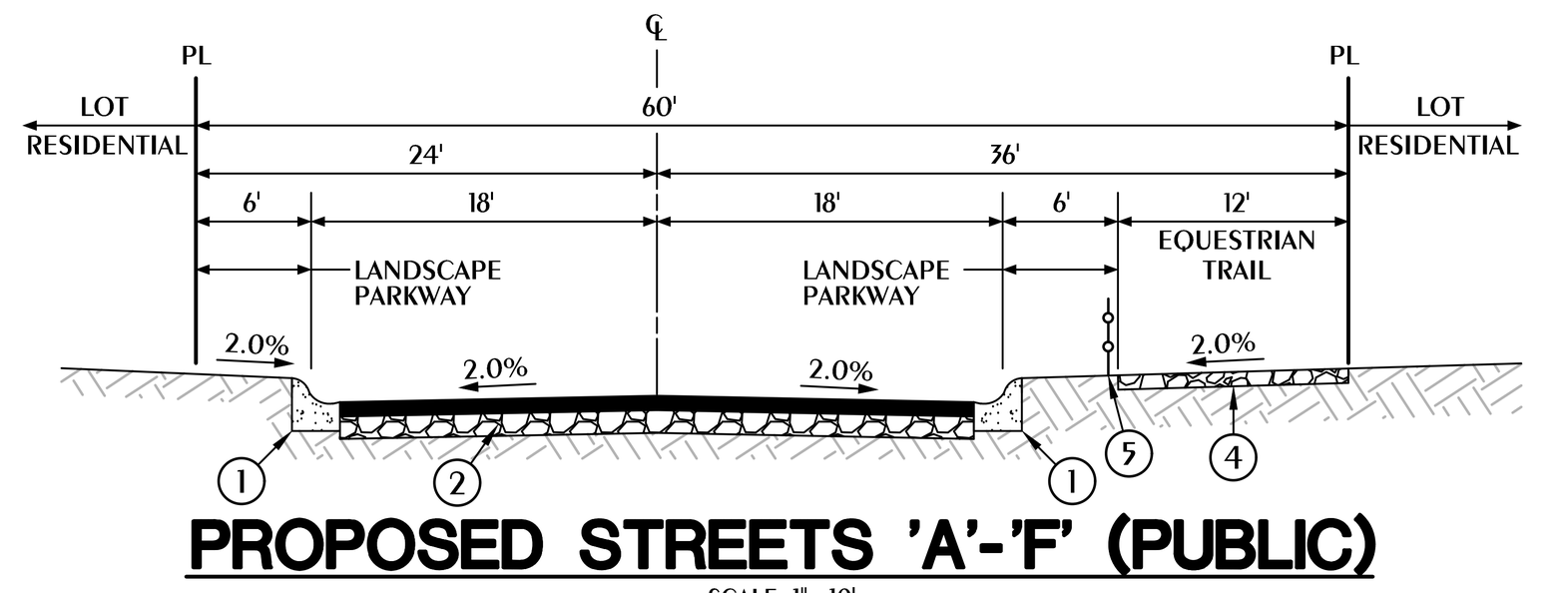
PROPOSED RIVER ROAD (PUBLIC)

(NORTH OF STREET 'A')
SCALE: 1"=10'



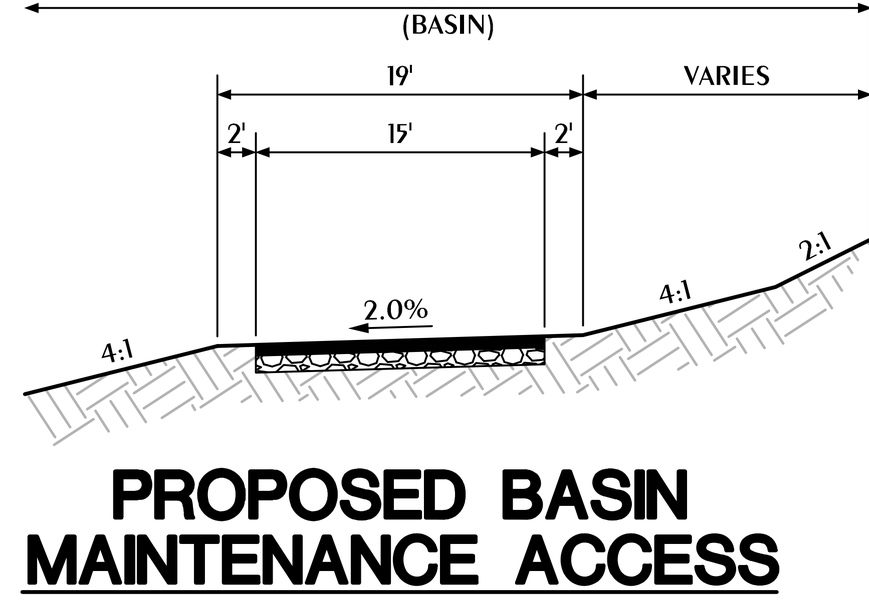
PROPOSED BLUFF STREET (PUBLIC)

SCALE: 1"=10'



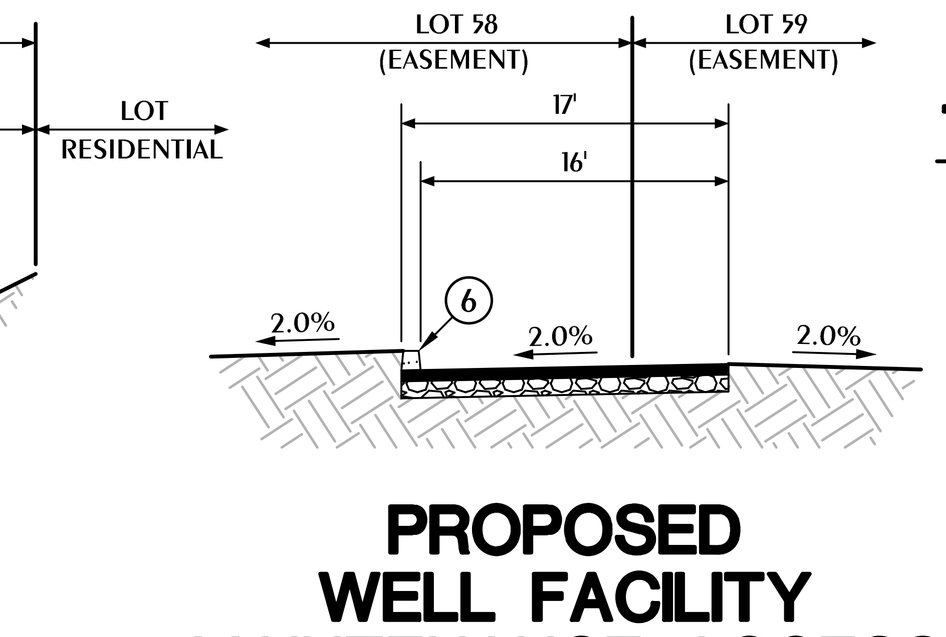
PROPOSED STREETS 'A'-'F' (PUBLIC)

SCALE: 1"=10'



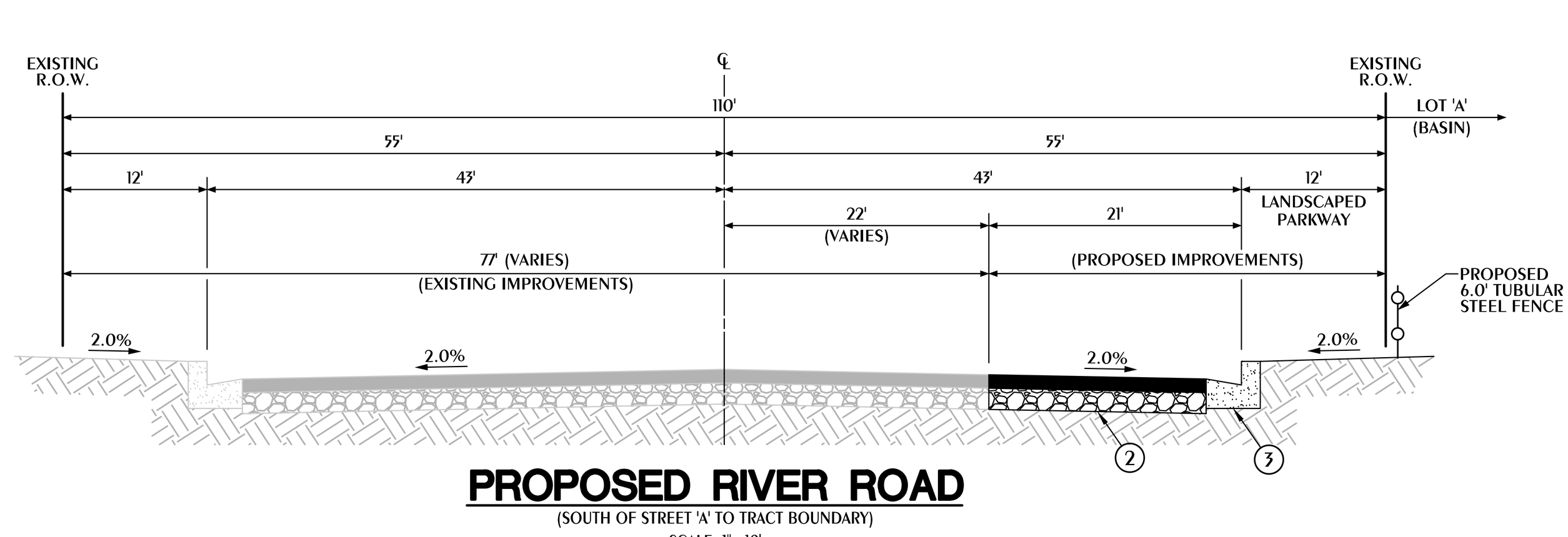
PROPOSED BASIN MAINTENANCE ACCESS

SCALE: 1"=10'



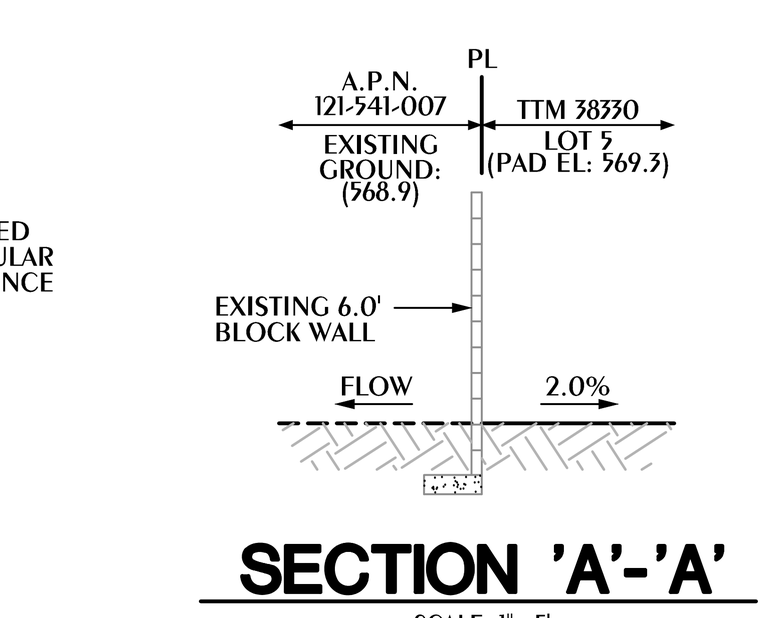
PROPOSED WELL FACILITY MAINTENANCE ACCESS

SCALE: 1"=10'



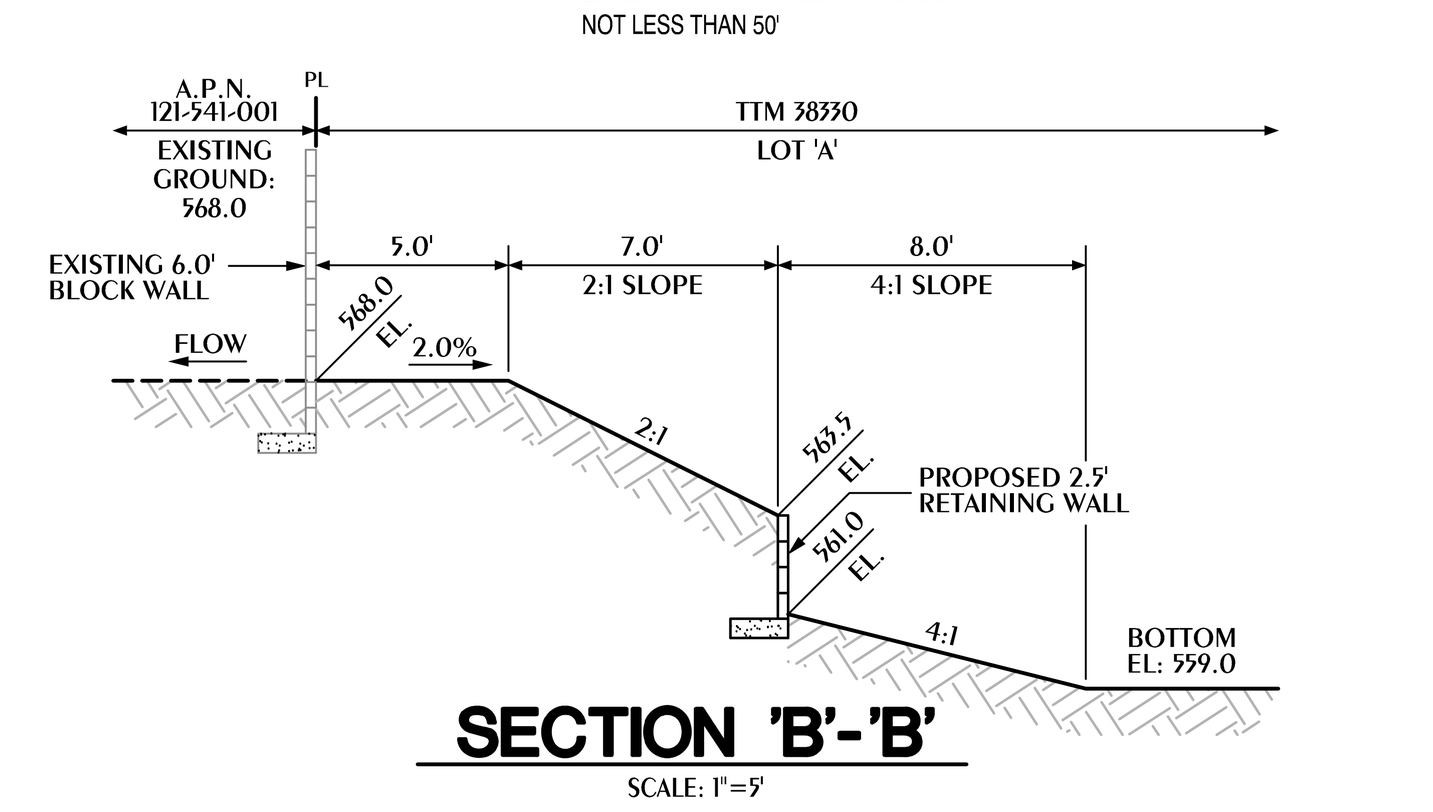
PROPOSED RIVER ROAD

(SOUTH OF STREET 'A' TO TRACT BOUNDARY)
SCALE: 1"=10'



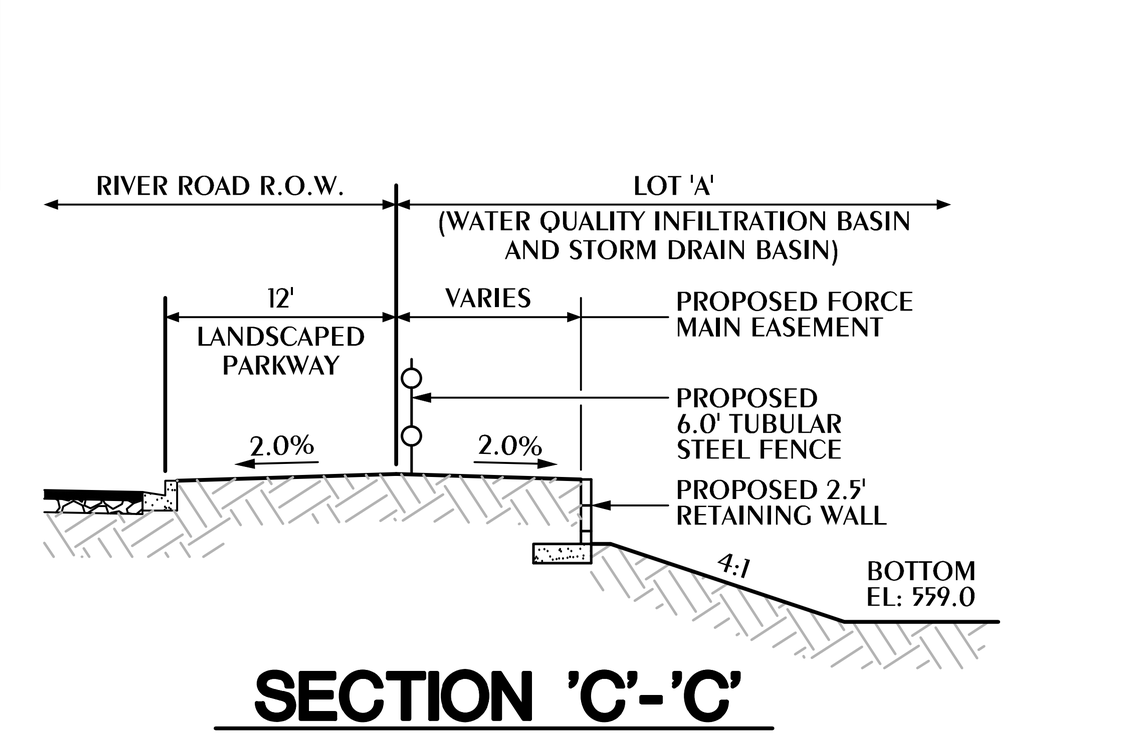
SECTION 'A'-'A'

SCALE: 1"=5'



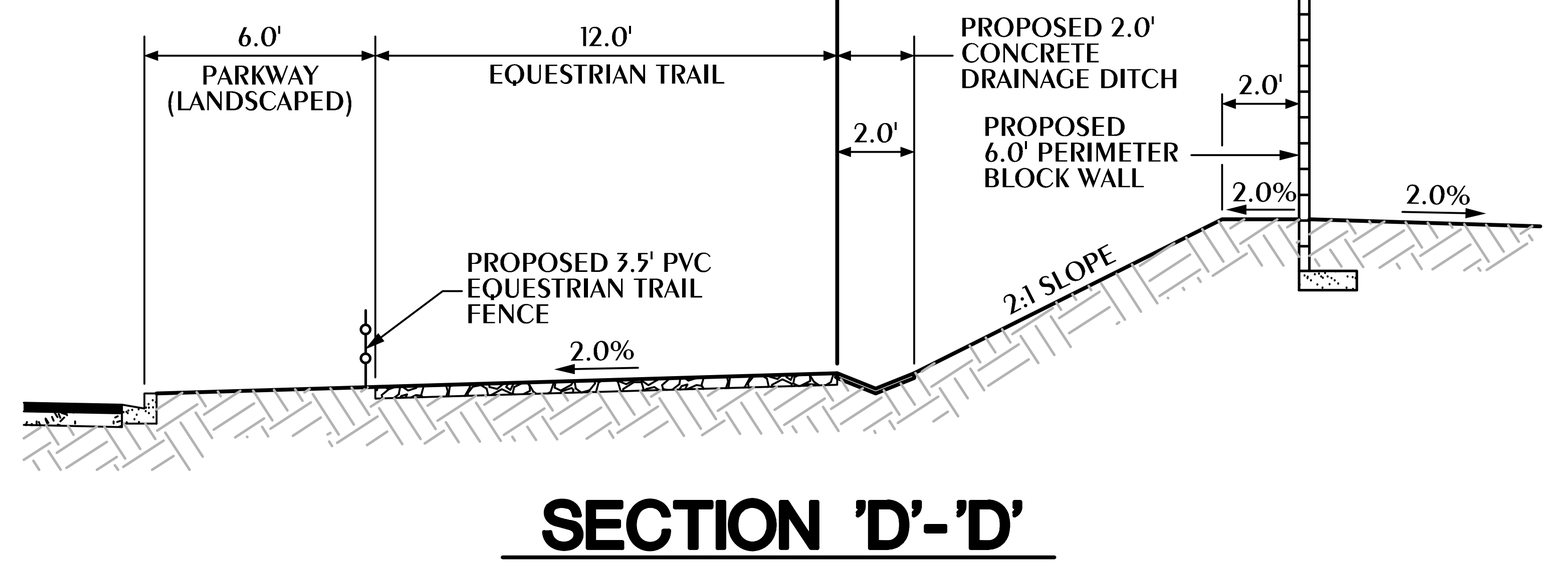
SECTION 'B'-'B'

SCALE: 1"=5'



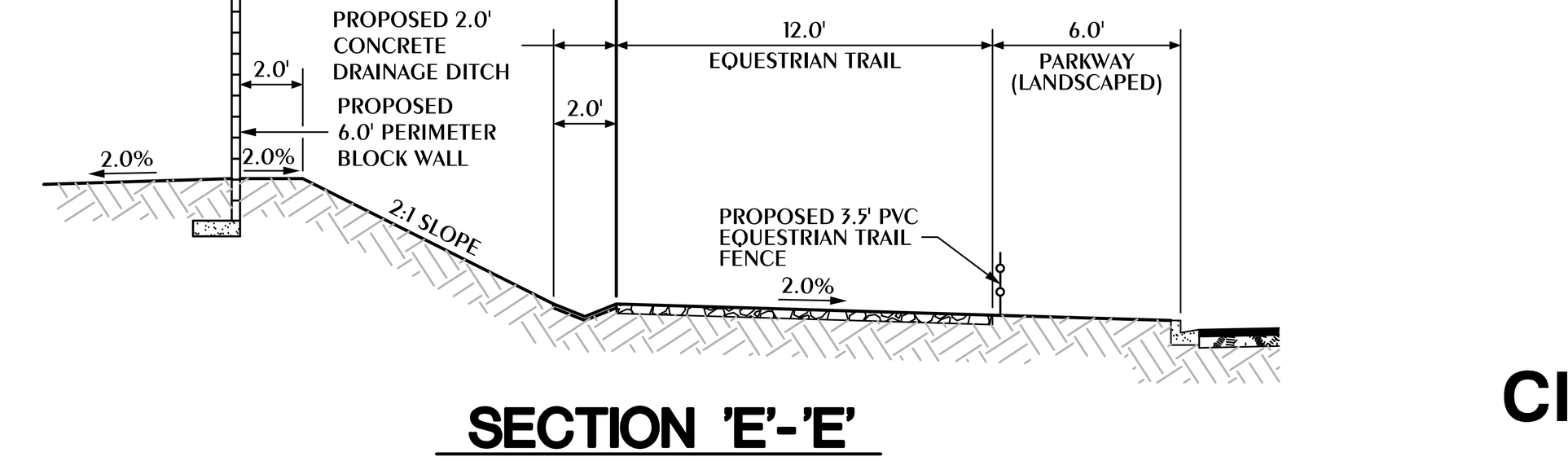
SECTION 'C'-'C'

SCALE: 1"=10'



SECTION 'D'-'D'

SCALE: 1"=5'



SECTION 'E'-'E'

SCALE: 1"=5'

LOT AREA SUMMARY

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
1	10,241	10,154	85.0	160.0	578
2	10,201	10,201	85.0	132.0	578
3	10,201	10,201	85.0	120.0	578
4	10,201	10,201	85.0	120.0	578
5	10,201	10,201	85.0	120.0	578
6	10,202	10,202	85.0	120.0	578
7	10,202	10,202	85.0	120.0	578
8	10,202	10,202	85.0	120.0	578
9	10,202	10,202	85.0	120.0	578
10	10,571	10,571	92.0	118.0	578
11	13,518	13,518	65.0	119.0	1,150
12	11,902	11,902	65.0	101.0	1,150
13	11,302	10,427	95.0	120.0	578
14	10,200	10,200	85.0	120.0	578

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
15	10,200	10,200	85.0	120.0	578
16	10,200	10,200	85.0	120.0	578
17	12,153	12,153	95.0	120.0	578
18	14,304	14,304	89.0	164.0	1,150
19	13,787	13,571	85.0	160.0	1,150
20	10,776	10,236	90.0	120.0	578
21	10,200	9,690	85.0	120.0	578
22	10,200	9,690	85.0	120.0	578
23	10,200	9,690	85.0	120.0	578
24	10,200	9,690	85.0	120.0	578
25	10,200	9,690	85.0	120.0	578
26	10,776	9,477	90.0	120.0	578
27	10,734	9,953	90.0	120.0	578
28	10,200	10,200	85.0	120.0	578

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
29	10,200	10,200	85.0	120.0	578
30	10,200	10,200	85.0	120.0	578
31	10,200	10,200	85.0	120.0	578
32	10,200	10,200	85.0	120.0	578
33	10,734	10,734	90.0	120.0	578
34	10,776	10,776	90.0	120.0	578
35	10,200	10,200	85.0	120.0	578
36	10,200	10,200	85.0	120.0	578
37	10,200	10,200	85.0	120.0	578
38	10,200	10,200	85.0	120.0	578
39	10,200	10,200	85.0	120.0	578
40	10,776	9,975	90.0	120.0	578
41	10,734	9,977	90.0	120.0	578
42	10,200	10,200	85.0	120.0	578

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
43	10,200	10,200	85.0	120.0	578
44	10,200	10,200	85.0	120.0	578
45	10,200	10,200	85.0	120.0	578
46	10,200	10,200	85.0	120.0	578
47	10,733	10,733	90.0	120.0	578
48	10,702	10,702	90.0	120.0	578
49	10,200	10,200	85.0	120.0	578
50	10,200	10,200	85.0	120.0	578
51	10,200	10,200	85.0	120.0	578
52	10,200	10,200	85.0	120.0	578
53	10,200	10,200	85.0	120.0	578
54	11,263	10,558	90.0	120.0	578
55	13,959	13,071	90.0	153.0	1,150
56	13,012	12,502	85.0	153.0	1,150

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
57	17,986	16,724	90.0	203.0	2,310
58	20,812	20,585	90.0	161.0	2,310
59	23,703	22,865	169.0	137.0	2,310
60	10,425	10,425	85.0	125.0	578
61	11,050	11,050	85.0	133.0	578
62	11,475	11,475	85.0	136.0	578
63	11,687	11,687	85.0	139.0	578
64	11,857	11,857	85.0	140.0	578
65	11,900	11,900	85.0	140.0	578
66	11,900	11,900	85.0	140.0	578
67	11,900	11,900	85.0	140.0	578
68	12,404	12,058	73.0	140.0	578
69	44,261	36,935	211.0	222.0	2,310

DATE:	NO.	REVISIONS

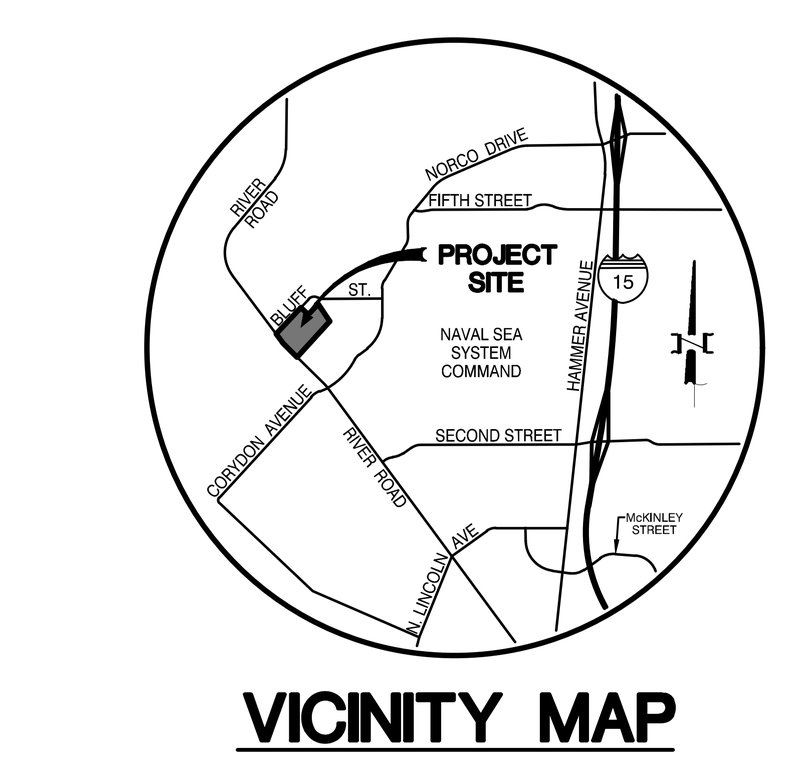
ENGINEER

MDS CONSULTING
5 PETERS CANYON ROAD
SUITE 305
IRVINE, CA 92606
(949) 251-8821
WWW.MDSCONSULTING.NET
PLANNERS ENGINEERS SURVEYORS

REGISTERED PROFESSIONAL ENGINEER
EDWARD J. LENTH
No. 52496
CIVIL
STATE OF CALIFORNIA

EDWARD J. LENTH RCE 052496
EXP. DATE: DECEMBER 31, 2024

Figure 4



VICINITY MAP
NOT TO SCALE

J.D. RANCH

TENTATIVE TRACT NO. 38330

TENTATIVE TRACT MAP

CITY OF NORCO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

SHEET 1 OF 1

TENTATIVE TRACT MAP NO. 38330

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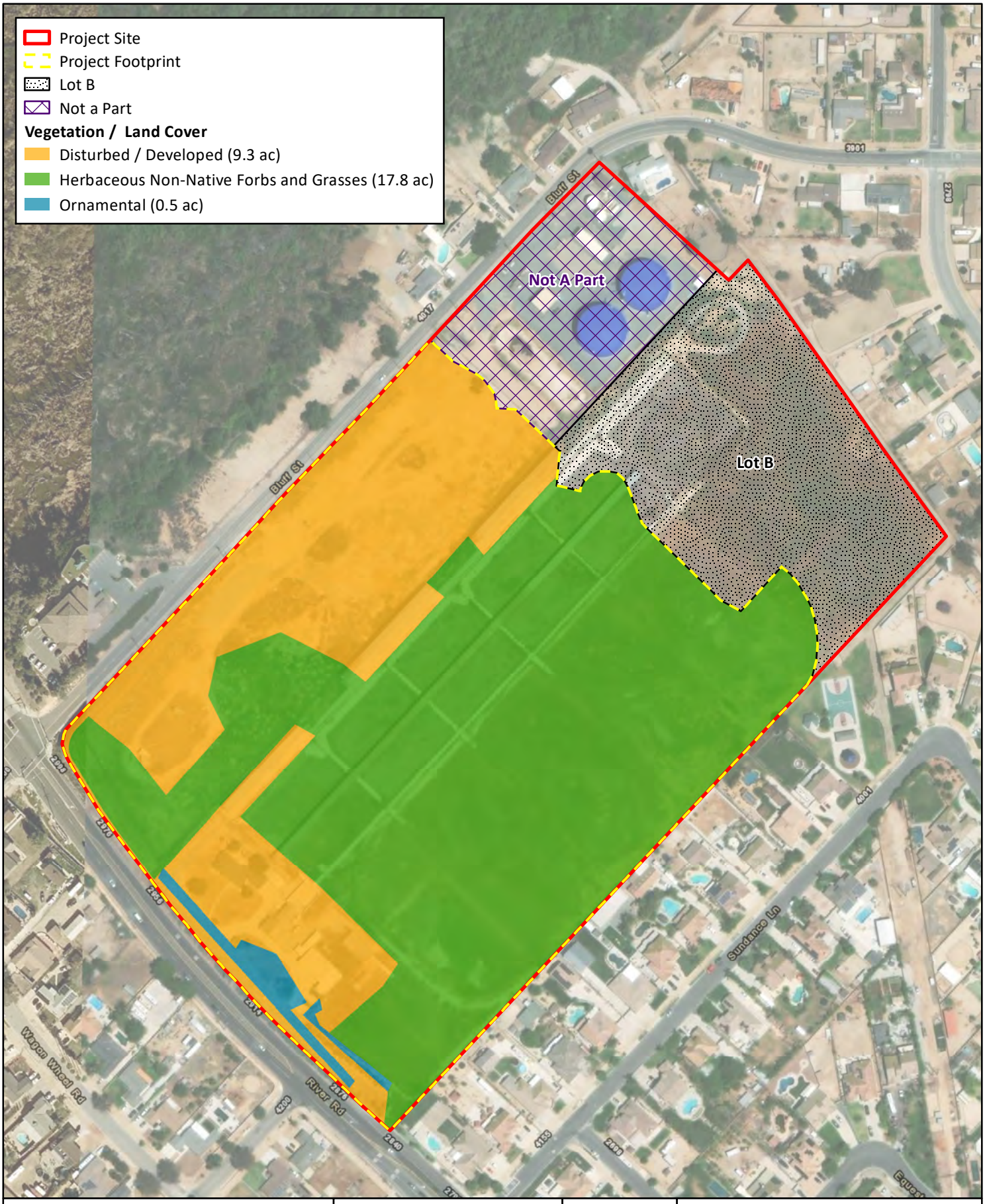

Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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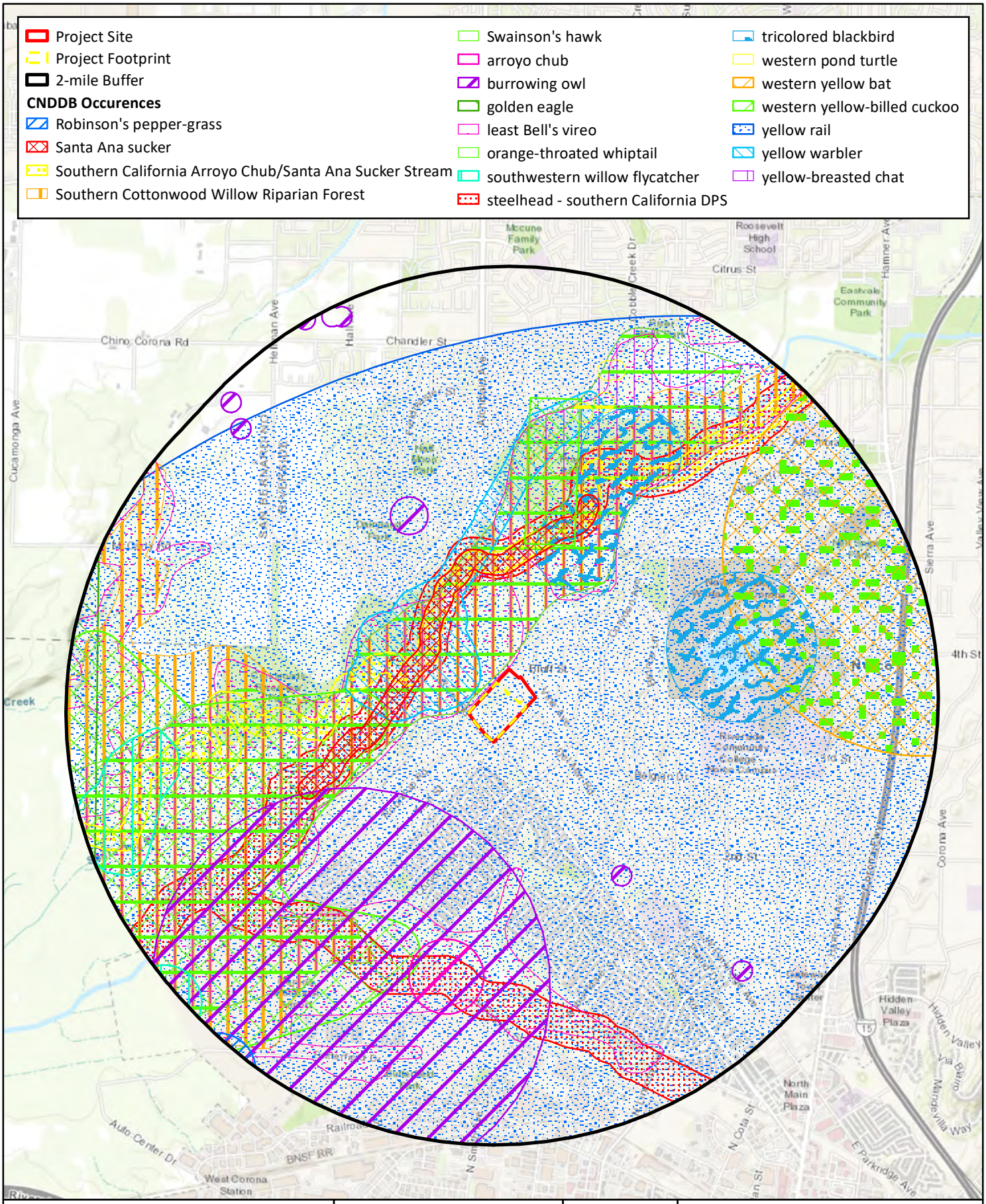
TACRD Investments
Norco Residential Project

Figure 5 Vegetation Map



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, CDFW

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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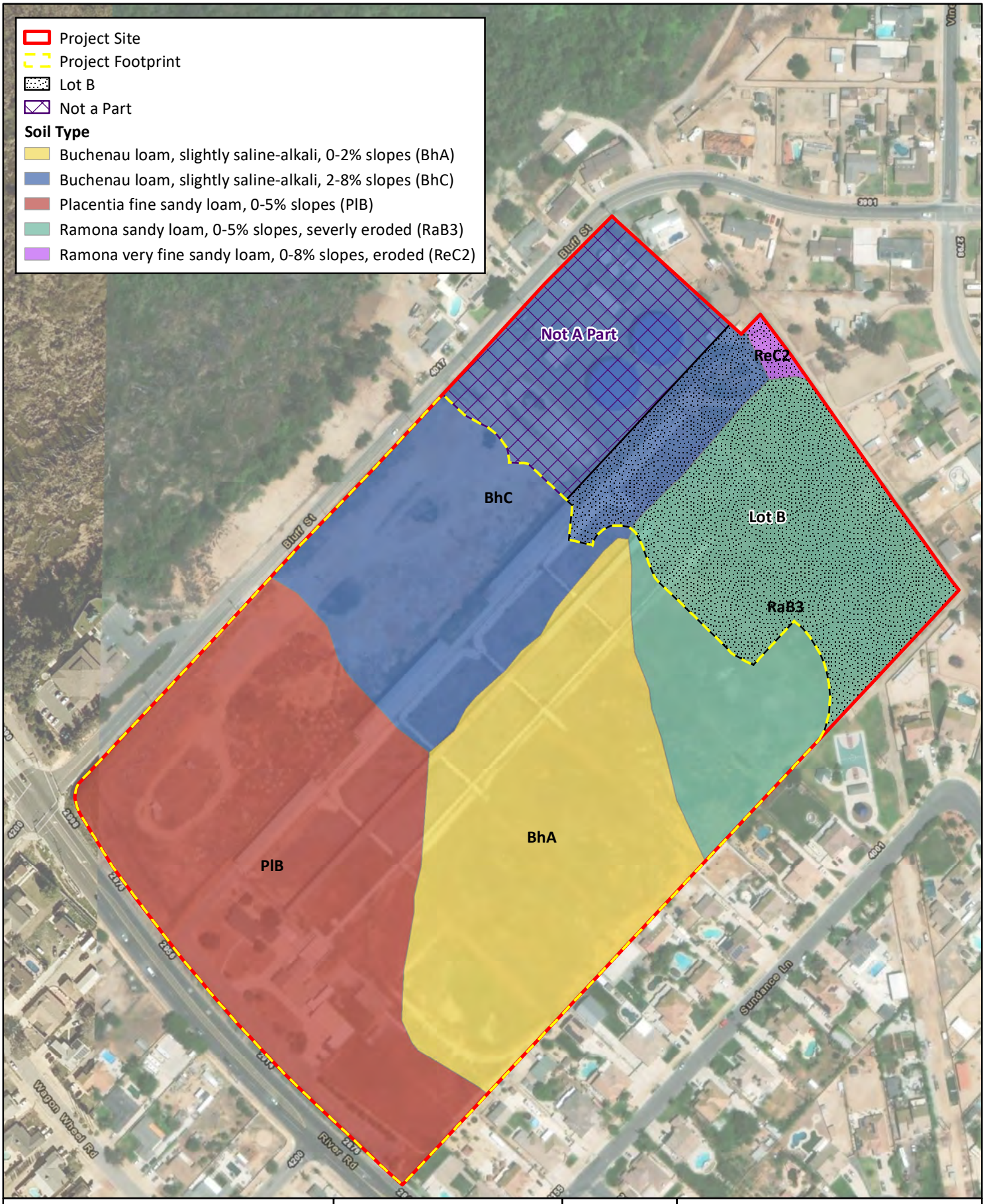
Norco Residential Project

Figure 5 CNDDB Occurrences Map



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, NRCS

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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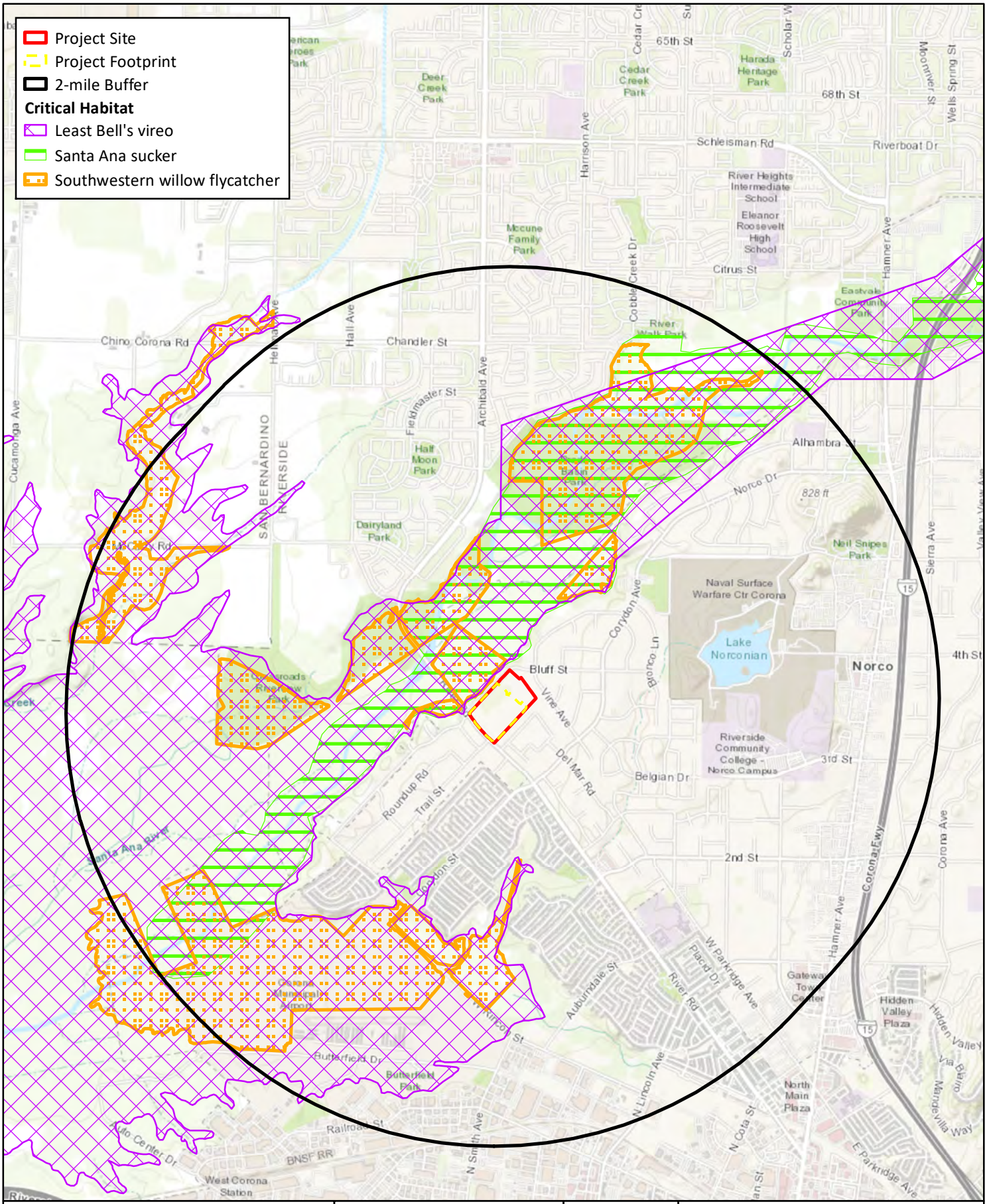
Figure 7

Soils Map



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, USFWS

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Figure 8 Critical Habitat Map

Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, USFWS

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Figure 9

NWI Map

Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Feet
1:4,500

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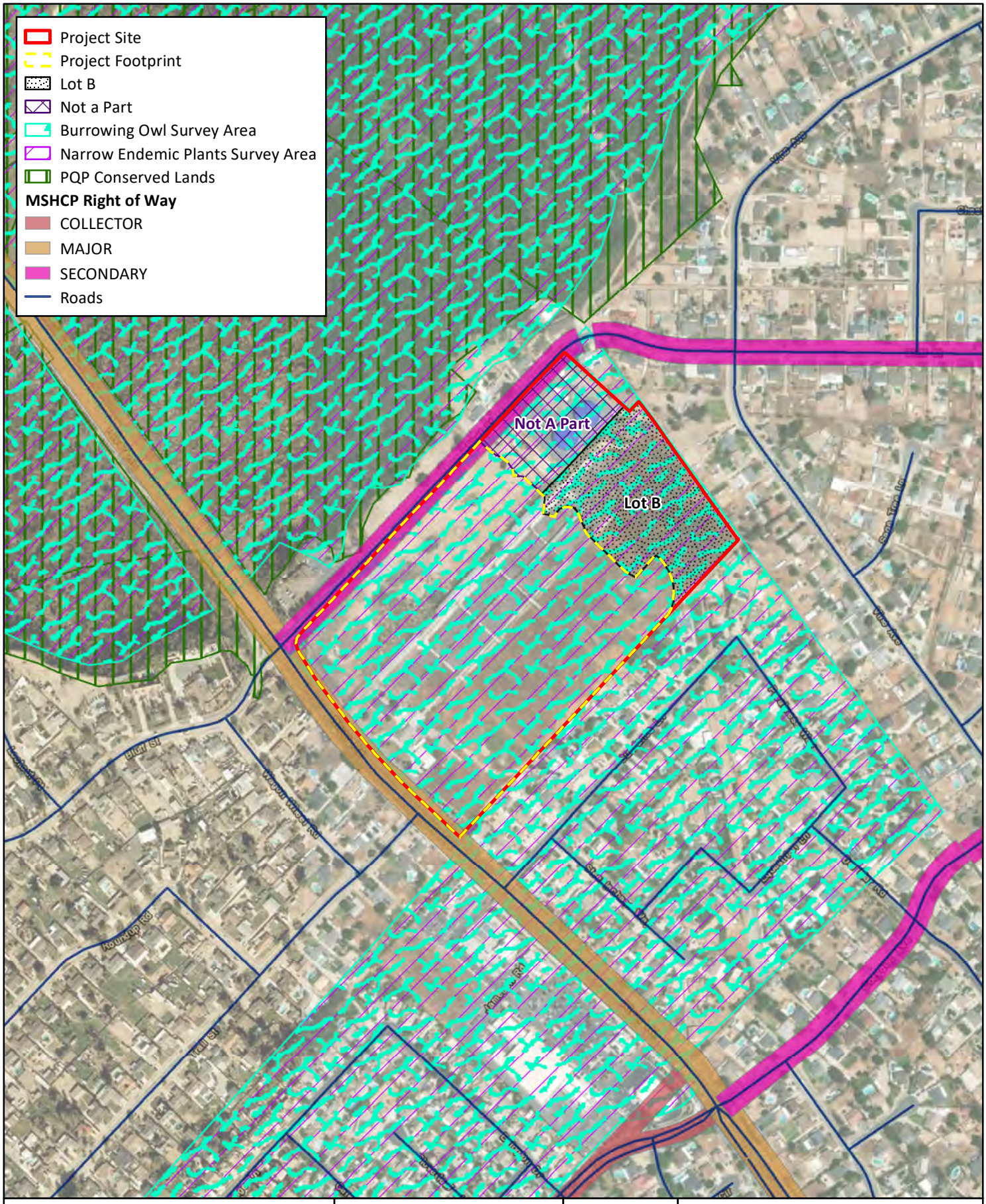
Figure 10 BUOW Study Area Map



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, RCA

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

0 300 600
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1:6,000

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TACRD Investments
Norco Residential Project

Figure 11 MSHCP Designation Map

APPENDIX A

Site Photographs

Photo 1. Typical view of the study area showing non-native grasses and forbs across a majority of the site, viewing northwest.

Photo 2. Taken on 4/4/22. View of the open space area to be avoided in the northeast section of the study area, viewing southeast.

Photo 3. View the middle portion of the study area with debris piles, non-native vegetation, and old dairy farm structures, viewing northeast.

Photo 4. Taken on 4/4/22. View of the middle portion of the site including old dairy farm structures, viewing west.

Photo 5. Taken on 3/21/22. View of the catch basin in the southern section of the study area, viewing east.

Photo 6. Taken on 1/18/22. View of soil cracks within the catch basin, viewing north.

Photo 7. View of the City owned property on the eastern side of the site showing disturbed land, viewing southeast.

Photo 8. View of debris piles on the City owned property on the eastern portion of the study area, viewing west.

Photo 9. View of the paved driveway adjacent to River Road and residential buildings within the study area, viewing southeast.

Photo 10. Taken on 4/11/22. View of palm trees in the southern corner of the site, viewing south.

Photo 10. Representative photo of a suitable burrow observed within the study area with no signs of burrowing owl occupation.

APPENDIX B

Plant and Wildlife Species Observed

Plant Species Observed within the Project Site and Offsite Improvement Area

Scientific Name	Common Name
Agavaceae	**Agave Family**
*Yucca gloriosa**	moundlily yucca
Arecaceae	**Palm Family**
*Syagrus romanzoffiana**	queen palm
*Washingtonia robusta**	Mexican fan palm
Asteraceae	**Sunflower Family**
*Baccharis pilularis**	Coyote brush
Baccharis salicifolia	Mule fat
Centarurea melitensis	tocalote
*Carduus pycnocephalus**	Italian thistle
Heterotheca grandiflora	telegraph weed
Ericameria palmeri var. pachylepis	Thickbracted Goldenbush
*Conyza canadensis**	horseweed
Isocoma menziesii	Menzies' goldenbush
*Oncosiphon piluliferum**	stinknet
Stephanomeria sp.	wire lettuce
*Silybum marianum**	milk thistle
*Verbesina encelioides**	golden crownbeard
Boraginaceae	**Borage Family**
Amsinckia menziesii	Common fiddleneck
Amsinckia tessellate	bristly fiddleneck
Brassicaseae	**Mustard Family**
*Capsella bursapastoris**	Shepherd's Purse
*Brassica sp.**	Brassica
*Lepidium latifolium**	perennial pepperweed
*Sisymbrium altissimum**	tumble tumblemustard
*Sisymbrium irio**	London rocket
Chenopodiaceae	**Goosefoot Family**
*Atriplex semibaccata**	Australian saltbush
*Salsola tragus**	Russian thistle
Geraniaceae	**Geranium Family**
*Erodium cicutarium**	common stork's bill

Scientific Name	Common Name
Lamiaceae	**Mint Family**
*Marrubium vulgare**	white horehound
Malvacace	**Mallow Family**
*Malva sp.**	mallow
Pinaceae	**Pine Family**
Pinus coulteri	Coulter pine
Poaceae	**Grass Family**
*Avena fatura**	wild oats
*Bromus catharticus**	rescuegrass
*Bromus diandrus**	ripgut brome
*Cynodon dactylon**	Bermuda grass
*Hordeum murinum**	hare barley
*Polypogon monspeliensis**	annual beard-grass
*Polypogon viridis**	beardless rabbit's-foot grass
Solanaceae	**Nightshade Family**
Datura wrightii	sacred thorn-apple
*Nicotiana glauca**	tree tobacco
*Solanum nigrum**	Blackberry nightshade
Urticaceae	**Family**
Urtica urens	burning nettle

* non-native species.

Wildlife Species Observed/Detected within the Project Site and Offsite Improvement Area

Scientific Name	**Common Name**
Aves – Birds	
Accipitridae	**Hawks, Kites, Eagles, and Allies**
Buteo jamaicensis	red-tailed hawk
Charadriidae	**Plovers**
Charadrius vociferus	killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Corvidae	**Jays, Magpies and Crows**
Corvus brachyrhynchos	American crow
Emberizidae	**Emberizines**
Zonotrichia leucophrys	white-crowned sparrow
Fringillidae	**Finches**
Haemorhous mexicanus	house finch
Hirundinidae	**Swallows**
Hirundo rustica	barn swallow
Icteridae	**New World Blackbirds**
Euphagus cyanocephalus	Brewer's blackbird
Passerellidae	**New World Sparrow**
Passerculus sandwichensis	Savannah sparrow
Sturnidae	**Starlings and Allies**
Sturnus vulgaris	European starling
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Tyto alba	barn owl

Scientific Name	**Common Name**
Mammalia – Mammals	
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	desert cottontail
Sciuridae	**Squirrels, Chipmunks and Marmots**
Ostospermophilus beecheyi	California ground squirrel

APPENDIX C

Special Status Species
Potential Occurrence Determination

Special Status Species Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status species within the Project Footprint. During the field surveys, the potential for special status species to occur within the Project F was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or recorded on-site by other qualified biologists.

- High potential to occur: observed in similar habitat in the region by a qualified biologist, or habitat on the site is a type often utilized by the species and the site is within the known distribution and elevation range of the species.

- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species and habitat on the site is a type occasionally used by or typical of the species.

- Low potential to occur: the site is within the known distribution and elevation range of the species but habitat on the site is rarely used by the species or no suitable habitat is present, or there are no known recorded occurrences of the species within or adjacent to the site.

- Absent: a focused study failed to detect the species or the site is outside the known distribution and elevation range of the species**.**

- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assess the *probability* of occurrence rather than make a definitive conclusion about species' presence or absence. Failure to detect the presence of the species is not definitive and may be due to variable effects associated with fire, rainfall patterns, and/or season.

Special Status Species: Potential for Occurrence within the Project Footprint.

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
PLANTS				
Abronia villosa var. *aurita*	Chaparral Sand-verbena (also foothill sand-verbena)	CRPR: 1B.1, BLMS, FSS SD County List A	Exposed sites with sandy soils, especially washes and dunes, in chaparral, sage scrub, and alluvial scrub. Elevation: < 1600 meters Blooming period: (Jan)March – September, annual herb	Absent. Lack of suitable habitat on site, nearest occurrence is in Corona and historical (1934)
Ambrosia pumila	San Diego Ambrosia	FE, CRPR: 1B.1 MSHCP: Group 3	Range extends from Riverside County through San Diego County into Baja California. Found along drainages and areas adjacent to riparian areas. Nearest location is San Luis Rey. Elevation 20 - 415 meters Blooming period: April - October	Absent. Lack of suitable habitat on site, and no nearby occurrences.
Arctostaphylos rainbowensis	Rainbow manzanita	CRPR: 1B.1, BLMS, FSS MSHCP: Group 2 and Table 9-3	It is endemic to California, where it is known only from northern San Diego and southern Riverside Counties in the Peninsular Ranges. It is most common in the chaparral of the lower elevation coastal Santa Ana Mountains, and the only manzanita species throughout most of its range. Elevation: 205 – 670 meters Blooming period: December - March	Absent. Project Footprint lacks suitable habitat. No nearby occurrences, no habitat on site, and outside of elevation range.
Brodiaea filifolia	Thread-leaved Brodiaea	FT, SE, CRPR: 1B.1, MSCHP: Group 3	Found in chaparral (openings), cismontane woodland, and coastal scrub, playas, valley and foothill grassland, vernal pools. Requires very heavy clay soils. Elevation: 25 - 1120 meters Blooming period: March - June	Absent. Project Footprint lacks suitable habitat. Soils are various sandy loams with no heavy clay soils. Nearest occurrence is near Perris, Ca.

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
Calochortus plummerae	Plummer's Mariposa-lily	CRPR: 4.2, MSHCP: Group 2	Perennial bulbiferous herb endemic to California. Habitat includes granitic, rocky soils within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Threatened by development, fire suppression, foot traffic, mining, powerline construction, and recreational activities. Less common at higher elevations. Elevation: < 1700 meters Blooming period: May - July	Absent. Project Footprint lacks suitable habitat. No nearby occurrences.
Centromadia pungens ssp. *laevis*	Smooth Tarplant	CRPR: 1B.1 S2 MSHCP: Group 3	Suitable habitat for the smooth tarplant includes alkali scrub, alkali playas, and grasslands with alkaline affinities. Elevation: 90 - 500 meters Blooming period: April - September	Absent. Project Footprint lacks suitable habitat. Species is somewhat tolerant of disturbance and nearby (5.4 mi NE) in similar habitat, however, was not observed during the April 2022 rare plant survey.
*Clinopodium chandleri (*formerly *Satureja chandleri)*	San Miguel savory	CRPR: 1B.2, BLMS, FSS MSHCP: Group 3	Perennial shrub native to California and Baja California. Habitat includes rocky, gabbroic or metavolcanic substrates, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Tends to grow in rocky slopes. Elevation: 120 - 1075 meters (CNPS); < 1100 meters (Jepson eFlora) Blooming period: March - July	Absent. Project Footprint lacks suitable habitat. Nearest occurrence is in peninsular range. No rocky, gabbroic or metavolcanic substrates on site.

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
Chorizanthe leptotheca	Peninsular Spineflower	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	Annual herb found in open habitats, typically on granitic-derived or alluvial surfaces. At higher elevations, this species appears to be associated with chaparral, sage scrub and coniferous forest openings and at lower elevations it is typically associated with old formation alluvial benches. Elevation: 300 - 1600 meters Blooming period: May - August	Absent. Project Footprint lacks suitable habitat. Nearby occurrences occur in very different habitat and soils (alluvial fan/washes).
Chorizanthe parryi var. *parryi*	Parry's Spineflower	CRPR: 1B.1, BLMS, FSS, MSHCP: Group 2	Parry's spineflower occurs within the alluvial chaparral and scrub of the San Gabriel, San Bernardino and San Jacinto Mountains. Elevation: 90 – 800 meters Blooming period: April - June	Absent. Project Footprint lacks suitable habitat. Nearby occurrences occur in very different habitat and soils.
Deinandra mohavensis (formerly known as Hemizonia mohavensis)	Mojave Tarplant	SE, CRPR: 1B.2, BLMS, FSS MSHCP: Group 2 and Table 9-3	Mojave tarplant can be found in low sand bars in riverbeds, along stream channels and in ephemeral grassy areas in riparian scrub and chaparral. Elevation: 460 - 1600 meters Blooming period: (May)June – Oct(Jan)	Absent. Project Footprint lacks suitable habitat. No suitable habitat and outside of elevation range.
Deinandra paniculata	San Diego Tarweed (paniculate tarplant)	CRPR: 4.2 SD County List D	Occurs as a dominant or co-dominant plant in the herbaceous layer of grasslands, forblands, openings of coastal sage scrub and oak woodland. Often in sandy soils. Elevation: < 1320 meters Blooming period: (Mar)April – November(Dec); May – Nov (Jepson eFlora)	Absent. Project Footprint lacks suitable habitat. Species is somewhat tolerant of disturbance and nearby (<1 mi ENE).in similar habitat, however was not observed during the

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
				April 2022 rare plant survey.
Dudleya multicaulis	Many-stemmed Dudleya	CRPR: 1B.2, BLMS, FSS MSHCP: Group 3 SD County List A	Many-stemmed dudleya is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands on clay soils. Elevation: 15 – 790 meters (CNPS); < 600 meters (Jepson eFlora) Blooming period: April - July (CNPS); May – Jun (Jepson eFlora)	Absent. Project Footprint lacks suitable habitat. Nearest occurrence 4.4 mi ENE in very different habitat.
Dudleya viscida	Sticky-leaved Dudleya	CRPR 1B.2, FSS MSHCP: Group 2 and Table 9-3	Perennial herb endemic to California. Occurs on bluffs and rocky cliffs. Known from southern South Coast of Orange and San Diego Counties. Also within chaparral, sage scrub, and coastal bluff scrub within the Santa Ana Mountains of western Riverside County on mesic, mostly north-facing, and often steep, rocky canyon slopes. Elevation: 10 - 550 meters Blooming period: May -June	Absent. Project Footprint lacks suitable habitat. No habitat on site and no nearby occurrences.
Eriastrum densifolium ssp. *sanctorum*	Santa Ana River woollystar	FE, SE, CRPR: 1B.1, MSHCP: Group 3	This plant is found only within open washes and early-successional alluvial fan scrub on open slopes above main watercourses on fluvial deposits where flooding and scouring occur at a frequency that allows the persistence of open shrublands. Elevation: 91 - 610 meters Blooming period: April - September	Absent. Project Footprint lacks suitable habitat. No habitat on site and nearest extant occurrences are > 10 miles ENE in very different habitat
Galium californicum ssp. *primum*	California Bedstraw (Alvin	CRPR: 1B.2, BLMS, FSS,	A perennial herb found in granitic and sandy soils with chaparral or lower montane coniferous forests.	Absent. Project Footprint lacks suitable habitat.

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
	Meadow bedstraw)	MSHCP: Group 2 and Table 9-3	Elevation: 1350 – 1700 meters Blooming period: May - July	There is no habitat on site, site is well below the elevational range and there are no nearby occurrences.
Heuchera hirsutissima	Shaggy-haired Alumroot	CRPR: 1B.2, FSS MSHCP: Group 2 and Table 9-3	Shaggy-haired alumroot is known from rocky areas and granite crevices within upper-montane coniferous forest and subalpine coniferous forest. Elevation: 2,200 - 3,500 meters Blooming period: May (June) - July	Absent. Project Footprint lacks suitable habitat. Site is well below the elevational range and there are no nearby occurrences.
Holocarpha virgata ssp. *elongata*	Graceful Tarplant (also curving tarplant)	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	This plant is endemic to Orange County, Riverside County and San Diego County. It is known from heavy clay soils around vernal pools and wet meadows. Elevation: < 900 meters Blooming period: May - November	Absent. Project Footprint lacks suitable habitat. Site lacks suitable soils and no nearby occurrences.
Hulsea vestita ssp. *callicarpha*	Pumice Alpinegold	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	Typically grows within chaparral and lower montane coniferous forests. Prefers granitic soils, rock or gravelly soils in chaparral and in open areas of montane conifer forest. Elevation: 1300 – 2500 meters Blooming period: May - October	Absent. Project Footprint lacks suitable habitat. Site is well below the species elevational range, and there are no nearby occurrences.
Lepidium virginicum var. *robinsonii*	Robinson's Pepper-grass	CRPR 4.3	Often found along roadsides, gravel and sandy shores, waste grounds, grassy meadows, dry flats, streambeds, woods, cliffs, pastures, sagebrush and	Absent. Project Footprint lacks suitable habitat. Species is somewhat

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
			other desert shrub communities, dry mountain slopes. Elevation: less than 2800 meters Bloom period: (Jan)Mar – June (July)	tolerant of disturbance and nearby (2.2 mi SE) in disturbed habitat, however was not observed during the April 2022 rare plant survey.
Lilium humboldtii ssp. *ocellatum*	Ocellated Humboldt Lily	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	Ocellated Humboldt lily is associated with riparian corridors in lower montane coniferous forest and coastal chaparral. This species typically occurs on lower stream benches but can also occur on shaded, dry slopes, beneath a dense coniferous canopy and cismontane oak woodland. Elevation: Below 1,691 meters Blooming period: March – July (August)	Absent. Project Footprint lacks suitable habitat. Species occurs at higher ends of its elevational range in the inland area, there is no habitat on site and there are no nearby occurrences.
Lilium parryi	Lemon Lily	CRPR: 1B.2, FSS MSHCP: Group 2 and Table 9-3	Typical habitat consists of forested, shady stream banks within narrow canyon bottoms. Lemon lily requires moisture year-round and the distribution of this species is limited to the banks of seeps, springs and permanent streams. Elevation: 1300 – 2600 meters Blooming period: July - August	Absent. Project Footprint lacks suitable habitat. Site is well below the elevational range, there is no habitat on site and there are no nearby occurrences
Microseris douglasii var. *platycarpha*	Douglas' silverpuffs	CRPR:4.2 MSHCP: Group 2 SD County List D	Clay soils in association with native grasslands or vernal pools. Elevation: 15 – 1070 meters Blooming period: March - May	Absent. Project Footprint lacks suitable habitat. No nearby occurrences.

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
*Mimulus clevelandii (*also *Diplacus clevelandii)*	Cleveland's Bush Monkeyflower	MSHCP: Group 2 and Table 9-3	Habitat includes gabbroic, often disturbed areas, and rocky. Occurs in chaparral, cismontane woodland and lower montane coniferous forests. Elevation: 915 – 1465 meters Blooming period: April - June	Absent. Project Footprint lacks suitable habitat. Site is well below the elevational range, there is no habitat on site and there are no nearby occurrences.
Muhlenbergia californica	California Muhly	CRPR: 4.2 MSHCP: Group 2 and Table 9-3	A perennial grass found in mesic, seeps and streambanks. Habitat includes chaparral, coastal scrub, lower montane coniferous forest, meadows and seeps. Elevation: 100 – 2000 meters Blooming period: June - September	Absent. Project Footprint lacks suitable habitat. Species occurs at higher ends of its elevational range in the inland area. There are no nearby occurrences and no habitat on site.
Orcuttia californica	California Orcutt Grass	FE, SE, CRPR: 1B.1 MSHCP: Group 3 SD County List A	All known California Orcutt grass localities are associated with vernal pools. Elevation: < 700 meters Blooming period: April - August	Absent. Project Footprint lacks suitable habitat. No vernal pools on site or nearby.
Oxytheca caryophylloides	Chickweed Oxytheca	MSHCP: Group 2 and Table 9-3	Habitat includes montane coniferous forest (yellow pine forest) on sandy soils. Elevation: 1,300 - 2,600 meters Blooming period: July – September (October)	Absent. Project Footprint lacks suitable habitat. Site is well below the elevational range, there is no habitat and there are no nearby occurrences.

Scientific Name	Common Name	Status	General Habitat Description Blooming period: months in parenthesis are uncommon	Potential for Occurrence within Project Footprint
Phacelia stellaris	Brand's Phacelia (Brand's Star Phacelia)	CRPR: 1B.1 MSHCP: Group 3 SD County List A	Coastal dunes, coastal scrub. Elevation: < 400 meters Blooming period: March – June (May, Jepson eFlora)	Absent. Project Footprint lacks suitable habitat. No habitat on site and nearest extant occurrences are > 10 miles ENE in very different habitat
Polygala cornuta var. *fishiae*	Fish's Milkwort	CRPR: 4.3 MSHCP: Group 2 and Table 9-3	Perennial deciduous shrub native to California and Baja California. often associated with shaded areas within cismontane oak woodlands and riparian woodlands, although it also occurs in xeric and mesic chaparral habitat. Elevation: 90 - 1270 meters Blooming period: May - August	Absent. Project Footprint lacks suitable habitat. No nearby occurrences and no habitat on site.
Potentilla rimicola	Cliff Cinquefoil	CRPR: 2B.2, FSS MSHCP: Group 2 and Table 9-3	Cliff cinquefoil is a perennial plant which grows in granitic crevices within upper montane and subalpine coniferous forest. Elevation: 2400 – 2800 meters Blooming period: July – September	Absent. Project Footprint lacks suitable habitat. Site is well below the species elevational range and there are no nearby occurrences.
Romneya coulteri	Matilija Poppy	CRPR: 4.2 MSHCP: Group 1 and Table 9-3	This poppy is native to southern California and Baja California, where it grows in dry canyons in chaparral and coastal sage scrub plant communities, sometimes in areas recently burned. It is a popular ornamental plant, kept for its large, showy flowers. Elevation: < 1200 meters Blooming period: March – July (August)	Absent. Project Footprint lacks suitable habitat. There are no nearby occurrences.

ANIMALS				
Invertebrates / Insects				
Danaus plexippus	Monarch butterfly	FC	Open fields, roadside areas, urban gardens, and meadows with milkweed	Low. Project Footprint lacks suitable habitat.
Rhaphiomidas terminates abdominalis	Delhi sands flower-loving fly	FE	Arid, sandy habitats, dune systems of inland desert valleys, rivers, deltas, and beach strands. Generally found in areas containing Delhi fine sands soil type.	Absent. Project Footprint lacks suitable habitat.
Invertebrates / Crustaceans				
Branchinecta lynchi	Vernal Pool Fairy Shrimp	FT, IUCN: VU MSHCP: Group 3	This species is usually associated with vernal pools (79%) but can also be found in association with other ephemeral habitats including alkali pools, seasonal drainages, stock ponds, vernal swales and rock outcrops.	Absent. Project Footprint lacks suitable habitat. Focused wet/dry season surveys were completed and concluded species not onsite.
Linderiella santarosae	Santa Rosa Plateau Fairy Shrimp	MSHCP: Group 3	The Santa Rosa Plateau fairy shrimp is restricted to cool-water vernal pools which are formed on Southern Basalt Flows.	Absent. Project Footprint lacks suitable habitat. Site is not located within the Santa Ana Plateau and this species is only known to occur in this area.
Streptocephalus woottoni	Riverside Fairy Shrimp	FE, IUCN: EN MSHCP: Group 3	*S. wootoni* is restricted to deep (greater than 12" in depth) seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions.	Absent. Project Footprint lacks suitable habitat. Focused wet/dry season surveys were completed and concluded species not onsite.
Fish				

Gila orcuttii	Arroyo chub	SSC, AFS-V; USFS_S	Habitats with slow moving water, mud or sand substrate, and depths greater than 40cm. Pool habitats with gravel, cobble, and boulder substrates. Streams with gradients of less than 2.5% slope, where water temps range from 10 to 28 degrees Celsius (CDFW)	Absent. Project Footprint lacks suitable habitat.
Catostomus santaanae	Santa Ana sucker	FT, AFS-TH;	Shallow portions of rivers and streams. Native to the Los Angeles and Santa Ana basins. Typically found in lower and middle Santa Ana River; east, west, and north forks of the San Gabriel River; the lower Big Tujunga Creek; and Santa Clara River	Absent. Project Footprint lacks suitable habitat.
Oncorhynchus mykiss irideus	steelhead - south-central California coast DPS	FT, S1, AFS-EN	Freshwater streams and rivers such as the Los Angeles River and San Gabriel River	Absent. Project Footprint lacks suitable habitat.
Reptiles				
Aspidoscelis hyperythra	Orange-throated whiptail	WL, FSS, MSHCP: Group 1	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food-termites.	Low. Project Footprint lacks suitable habitat.
Charina bottae umbratica	Southern rubber boa	ST, FSS MSHCP: Group 2 and Table 9-3	The rubber boa is often found in fallen debris, rock piles, and steep, rocky montane areas within coniferous forests, woodlands, chaparral, and grasslands above 1,540 meters in elevation.	Absent. Project Footprint lacks suitable habitat. Project Footprint is outside of known elevation range for the species.
Emys marmorata	Western pond turtle	SSC, BLMS, USFS_S	Found in permanent and intermittent rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs.	Absent. Project Footprint lacks suitable habitat.
Lampropeltis zonata parvirubra	San Bernardino Mountain kingsnake	MSHCP: Group 2 and Table 9-3	The San Bernardino mountain kingsnake is only known to occur within the San Bernardino Mountains and San Jacinto Mountains bioregions above 1,500 meters. They are restricted to rock outcrops, talus, and steep shady canyons within coniferous and mixed coniferous,	Absent. Project Footprint lacks suitable habitat. Project Footprint is outside of known

			hardwood, or riparian woodlands and other edge Habitats when associated with coniferous Habitat.	elevation range for the species.
Lampropeltis zonata pulchra	San Diego mountain Kingsnake	MSHCP: Group 2 and Table 9-3	The San Diego mountain kingsnake is only known to occur within the Santa Ana Mountains, Aqua-Tibia Mountains, and Desert Transition Bioregions above 500 meters in elevation. They are restricted to rock outcrops, talus, and steep shady canyons within coniferous and mixed coniferous, hardwood, or riparian woodlands.	Absent. Project Footprint lacks suitable habitat. Project Footprint is outside of known elevation range for the species
Sceloporus graciousus vandenburgianus	Southern Sagebrush Lizard	MSHCP: Group 2 and Table 9-3	The sagebrush lizard occurs primarily in open montane areas with good light and scattered low bushes. Habitats in which it is found includes montane chaparral, sage brush, hardwood and conifer forests and woodlands and juniper woodlands.	Low. Project Footprint lacks suitable habitat. Project Footprint lacks suitable habitat.
Birds				
Agelaius tricolor	Tricolored blackbird	ST, SSC, BCC, BLMS	Found in permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches and reservoirs.	Low. Project Footprint lacks suitable habitat. Habitat in Santa Ana river adjacent to Project site.
Ammodramus savannarum	Grasshopper Sparrow	SSC, MSHCP: Group 2 and Table 9-3	Breeds in open grasslands, prairies, hayfields, and pastures, typically with some bare ground. Grasshopper Sparrows usually avoid breeding in grasslands with extensive shrub cover but are a bit more tolerant of shrubs in migration and during the winter. Nests are domed with grasses, typically well concealed in depressions at the base of grass clumps. Sensitive to edge effects and requires relatively large blocks of contiguous habitat. Valley and foothill (native) grasslands are the preferred habitat although non-native grasslands are used by the species as well.	Moderate. Project Footprint includes moderately suitable breeding and foraging habitat.
Aquila chrysaetos	Golden Eagle	WL, BCC	Typically found in open country, around mountains, hills, and cliffs. Can use shrublands, grasslands,	Low – Project Footprint lacks suitable habitat.

			coniferous forests, farmlands, and areas along rivers and streams.	Nearest occurrence is 2 miles from the site.
Athene cunicularia	Burrowing Owl	SSC, BCC, BLMS, MSHCP: Group 3	The burrowing owl inhabits open areas with sparse ground vegetation and low tree cover. Their habitats can include grasslands, prairies, plains, vacant urban areas and agricultural lands. They occupy vacant burrows created by other animals including ground squirrels and badgers. Active burrows are identified by the presence of whitewash, pellets, small animal bones, or feathers.	Moderate-high. Suitable burrows found throughout the Project site, nearby occurrence < 1 mile of the site.
Buteo swainsoni	Swainson's Hawk	ST, BCC, BLMS	Open areas including prairies, grasslands, steppes, and agricultural lands. Rely on scattered stands of trees near agricultural fields and grasslands for nesting sites.	Moderate – Potential foraging habitat on site.
Coccyzus americanus occidentalis	Western Yellow-Billed Cuckoo	FT, SE, BLMS, USFS_S, BCC	Found in coastal scrub, second-growth forests and woodlands, hedgerows, forest edges, and riparian patches. Generally use woody lowland vegetation near fresh water.	Low – Project Footprint lacks suitable habitat. Potential foraging and nesting habitat in Santa Ana River north of the site. No suitable habitat within the Project Footprint.
Coturnicops noveboracensis	Yellow Rail	SSC, BCC, USFS_S	The yellow rail moves through dense vegetation more by walking and running than flying. For breeding it prefers freshwater grass or sedge marshes and wet meadows, but may also use brackish wetlands, particularly the drier margins that are dominated by *Carex* spp.	Low. Foraging and nesting habitat within Santa Ana River north of the site. No suitable habitat within the Project Footprint.
Empidonax traillii extimus	Southwestern Willow Flycatcher	FE, SE, MSHCP: Group 3	The southwestern willow flycatcher is present in breeding territories by mid-May. It builds nests and lays eggs in late May and early June and fledges young in early to mid-July. Between August and September, the southwestern willow flycatcher migrates to wintering grounds in Mexico, Central America, and possibly	Low – Project Footprint lacks suitable habitat. Foraging and nesting habitat within Santa

			northern South America. This species is an insectivore and forages within and above dense riparian vegetation. The breeding range of the species includes southern California. The southwestern willow flycatcher breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. Habitat patches must be at least 0.25 acres in size and at least 30 feet wide. Following modern changes to riparian communities, this subspecies still nests in native vegetation, but also uses thickets dominated by non-native tamarisk and Russian olive, or in mixed native non-native stands.	Ana River north of the site.
Icteria virens	Yellow-breasted chat	SSC MSHCP: Group 2	Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses.	Low. Project Footprint lacks suitable habitat.
Melospiza lincolnii	Lincoln's sparrow	MSHCP: Group 1 and Table 9-3	Willow and alder thickets, muskeg, brushy bogs. In winter, thickets, weeds, bushes. Breeds in northern and mountainous areas in dense low vegetation near water, such as streamside willow groves, bushy edges of bogs, brushy clearings in wet coniferous forest. Winters in dense thickets, overgrown fields.	Low. Project Footprint lacks suitable habitat. .
Polioptila californica californica	Coastal California Gnatcatcher	FT	Coastal sage scrub, desert scrub, and coastal dune scrub. Found along coast areas dominated by California sagebrush. Can be found foraging in chaparral areas in inland and coastal areas.	Low. Project Footprint lacks suitable habitat.
Setophaga petechia	Yellow warbler	SSC, BCC	Riparian habitat along streams and wetlands. Often found among willows. In winter they can be found in dry scrub, marshes, and forests.	Low. Project Footprint lacks suitable habitat. Nesting and foraging habitat in Santa Ana River north of the site.
Sphyrapicus thyroideus	Williamson's Sapsucker	MSHCP: Group 2 and Table 9-3	Habitat for the Williamson's sapsucker includes montane coniferous forest dominated by lodgepole pines and firs, and oak woodlands and forests. Requires specific micro-habitat for nesting sites (snags).	Low. Project Footprint lacks suitable habitat.

Strix occidentalis occidentalis	California Spotted Owl	BLMS, SSC, FSS, BCC, MSHCP: Group 2 and Table 9-3	Lives in montane coniferous and oak-deciduous woodlands and forest habitats.	Low. Project Footprint lacks suitable habitat.
Vireo bellii pusillus	Least Bell's Vireo	FE, SE, MSHCP: Group 2	Summer resident of Southern California in low riparian, in vicinity of water or in dry river bottoms; below 2000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis or, mesquite.	Low – Project Footprint lacks suitable habitat. Potential nesting and foraging habitat in Santa Ana River north of the Project site.
Mammals				
Dipodomys stephensi	Stephens' Kangaroo Rat	FE, SE, MSHCP: Group 2	The species is found in open grassland habitats where the sparse vegetation is mainly composed of shrubs, sagebrush, grasses and forbs.	Low. Project Footprint lacks suitable habitat.
Glaucomys sabrinus californicus	San Bernardino Flying Squirrel	SSC, FSS MSHCP: Group 3 and Table 9-3	The San Bernardino flying squirrel lives in high-elevation, mixed-conifer forests dominated by Jeffrey pine, white fir and black oak between 4,600 and 7,550 feet.	Absent. Project Footprint lacks suitable habitat. Project Footprint is located outside of known elevation range and lacks suitable habitat.
Lasiurus xanthinus	Western yellow bat	SSC, WBWG (H)	Year-round resident of southern California, found below 2000 feet in or near riparian habitats. Roosts in trees, including palm trees, in and near palm oases and riparian habitats.	Low – Moderate: Palm trees are found onsite and riparian habitat is found within the Santa Ana River north of the Project site.

LEGEND

Federal Endangered Species Act (ESA) Listing Codes: Federal listing is pursuant to the Federal Endangered Species Act of 1973, as amended (ESA).

FE = Federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range.

FT = Federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.

California Endangered Species Act (CESA) Listing Codes: State listing is pursuant to § 1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals.
SE = State listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range.
ST = State listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.

California Department of Fish and Wildlife (CDFW):
SSC = species of special concern: Status applies to animals which 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The CDFW has designated certain vertebrate species as "species of special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.
FP = Fully protected: animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.
WL = Watch list: these birds have been designated as "Taxa to Watch" in the *California Bird Species of Special Concern report* (Shuford and Gardali, 2008). The report defines "Taxa to Watch" as those that are not on the current special concern list that (1) formerly were on the 1978 (Remsen, 1978) or 1992 (CDFG, 1992) special concern lists and are not currently listed as state threatened and endangered; (2) have been removed (delisted) from either the state or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California.

United States Fish and Wildlife Service (USFWS):
BCC = Bird of Conservation Concern: The goal of the BCC 2021 report is to accurately identify the bird species (beyond those already designated as threatened or endangered) that represent highest conservation priorities of the USFWS. The hope is by focusing attention on these highest priority species, it will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities.

United States Forest Service (USFS):
FSS = Forest Service sensitive: those plant and animal species identified by a Regional Forester that are not listed or proposed for listing under the ESA and for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution."

United States Bureau of Land Management (BLM):
BLMS = BLM sensitive: those plant and animal species on BLM administered lands and that are (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. BLM policy is to provide the same level of protection as USFWS candidate species.

Western Bat Working Group (WBWG):
WBWG ("Priority"): Species are ranked as High, Medium, or Low Priority in each of 10 regions in western North America. Because California includes multiple regions where a species may have different WBWG Priority ranks, the CNNDB includes categories for Medium-High, and Low-Medium Priority. The CNDDB tracks bat species that are at least Low-Medium Priority in California. "Priority" ranks are abbreviated as follows: High = H, Medium = M, Low = L, Medium-High = MH, Low-Medium = LM.

American Fisheries Society: Listing of imperiled freshwater and diadromous fishes of North America prepared by the American Fisheries Society's Endangered Species Committee.
AFS-E= Endangered
AFS-TH= Threatened
AFS-V= Vulnerable

California Rare Plant Ranks (Formerly known as CNPS Lists): The CNPS is a statewide, non-profit organization that maintains, with CDFG, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFG officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CPRP). This was done to reduce confusion over the fact that CNPS and CDFG jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

CRPR 1A - California Rare Plant Rank 1A (formerly List 1A): Plants presumed extirpated in California and either rare or extinct elsewhere. All of the plants constituting California Rare Plant Rank 1A meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 1B - California Rare Plant Rank 1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 2 - California Rare Plant Rank 2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 4 - California Rare Plant Rank 4 (formerly List 4): Plants of Limited Distribution - A Watch List. Very few of the plants constituting California Rare Plant Rank 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS and CDFG strongly recommend that California Rare Plant Rank 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Sources:

- CNPS Inventory of Rare and Endangered Plants (CNPS 2020)
- The Jepson Manual: *Vascular Plants of California,* second edition (Baldwin *et al.* 2012).
- RareFind, CDFW, California Natural Diversity Database (CNDDB) (CDFW 2020).
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW, January 2024).
- State and Federally Listed Endangered and Threatened Animals of California (CDFW, January 2024).
- Special Animals List (CDFW, January 2024).
- Life History Accounts (CDFW).
- Sensitive List (BLM)

APPENDIX D

MSHCP Burrowing Owl Survey Report

June 17, 2022

Tom Dallape
TACRD Investment
18881 Von Karman Avenue, Suite 150
Irvine, CA 92612

Subject: Results of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Focused Burrowing Owl Surveys conducted for the approximately 34-acre Project site in the City of Norco, Riverside County, California.

Dear Mr. Dallape

This letter report provides a summary of existing conditions and provides the methods and results of the western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) focused burrowing owl (*Athene cunicularia*) [BUOW] surveys conducted for the approximately 34-acre Project site (Project) in the City of Norco, Riverside County (Figure 1; Regional/Site Location Map). The Study Area includes the Project limits and a 500-foot surrounding buffer as depicted on Figure 2; Aerial Map - Burrowing Owl Study Area.

The focused BUOW surveys were conducted on March 14, March 21, April 4, and April 11, 2022 by Sierra Valladares, Nathalie Munoz, and Molly Burdick-Whipp of VCS Environmental (VCS). No BUOW or signs thereof were observed within the Study Area during the surveys. Based on the lack of any direct or indirect evidence of BUOW presence, the survey results indicate that the Study Area was not occupied by BUOW at the time of the surveys.

Project Location and Existing Conditions

The Project is located in the City of Norco, County of Riverside and consists of two Assessor Parcel Numbers (APNs): 121-110-003 and 121-110-001, totaling approximately 34 acres (Figure 3; Site Plan). More specifically, the site is situated northeast of River Road and southeast of Bluff Drive. The Project site is regionally accessible from Interstate 15 (I-15) to the west and California State Route (SR-91) to the north. Access from the I-15 would be approximately 1.3 miles west along Second Street from the Second Street exit to River Road going north for approximately one mile. Access from SR-91 would be from approximately 0.5 mile north on N Main Street and approximately 2.6 miles northwest on River Road. The Project site is located within Township 3

South and Range 7 West of the United States Geological Survey (USGS) Corona North 7.5-minute quadrangle map (Figure 4; USGS Map).

The Project site is not located within an MSHCP Criteria Cell or Cell Group. The Project site is located within the MSHCP Burrowing Owl and Narrow Endemic Plant Species Survey Area (Figure 5; MSHCP Survey Areas) and subject to the burrowing owl survey requirements (MSHCP Section 6.3.2).

The topography throughout the Project site is generally flat. Elevation on the Project site is at and around 565 feet (~172 meters) above mean sea level (MSL).

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Burrowing Owl Survey Methods

Projects within the MSHCP Burrowing Owl Survey Area are subject to the MSHCP burrowing owl survey requirements. The entire Project Footprint and the surrounding 500-ft buffer were included within the Study Area.

The burrowing owl assessment followed the guidelines identified in *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area* (RCA, 2006). The survey instructions note the following steps to the MSHCP burrowing owl assessment:

- Step 1: Habitat Assessment

- Step 2: Locating Burrows and Burrowing Owls
    - Part A: Focused Burrow Survey
    - Part B: Focused Burrowing Owl Surveys (4 separate surveys)

A burrowing owl habitat assessment (Step 1) was performed during the general biological survey on January 18, 2022 by VCS biologists Sierra Valladares and Nathalie Munoz. It was immediately determined that the Project Footprint hosted suitable habitat for burrowing owls; therefore Step 2, locating Burrows and Burrowing Owl was performed. The habitat assessment included the survey for burrows and burrowing owl sign. The first of the four focused burrowing owl surveys was conducted on March 14, 2022.

The focused burrow and focused burrowing owl surveys (Step 2, Parts A and B) involved walking through the Study Area depicted on Figure 2. The surveys included the entire Project site and were conducted within the areas where suitable habitat and burrows were identified during the habitat assessment and burrow survey; this generally included the entire Project Footprint. The field methodology employed for the focused burrow and focused burrowing owl surveys was essentially the same. The pedestrian survey transects were spaced an appropriate distance apart to allow 100 percent visual coverage of the ground surface (approximately 10 to 15 meters [30 to 50 feet]; adjusted for specific field conditions including vegetation and topography). The biologists paid special attention to those habitat areas that appeared to provide suitable habitat for BUOW. Soil conditions, topography, vegetative communities, and habitat quality were documented. Accessible areas that contained suitable BUOW habitat were surveyed on foot. Areas not walked were either unsuitable habitat for BUOW or inaccessible (legal access limitations). Legally accessible areas included public right of ways and other private/public areas. The inaccessible areas that contained suitable BUOW habitat included areas within the 500-foot buffer, which were viewed through binoculars.

All encountered burrows or structure entrances were checked for the presence of BUOWs, molted feathers, cast pellets, prey remains, eggshell fragments, tracks, or excrement at or near a burrow entrance. Natural or man-made structures and debris piles that could support BUOWs were also surveyed. All burrows were monitored at a short distance from the entrance, and at a location that would not interfere with owl behavior. All the burrow and burrow surrogate locations were recorded using global position system (GPS) technology. The surveys were not conducted during rain, high winds (> 20 miles per hour), dense fog, or temperatures above 90-degree Fahrenheit (°F).

The methods used to detect and identify BUOW included observation of key signs identified by the California Burrowing Owl Consortium (CBOC) such as sight, scat, tracks, burrows, nests, and

calls. All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Binoculars were used to aid in the identification of observed wildlife.

Prior to the field surveys, available literature and databases including the California Natural Diversity Database (CNDDB) were reviewed, to identify sensitive habitats and special status wildlife species, specifically burrowing owl observations in the vicinity of the Study Area.

Results

The surveys were conducted over a series of four field visits by VCS biologists, as noted in Table 1 below. The survey on January 18th included the initial habitat assessment and locating suitable burrows only and the four focused burrowing owl surveys began in March.

Table 1. Survey Data

Survey No.	Survey Date	Time	Temperature High and Low (Fahrenheit)	Conditions	Personnel	Burrowing Owl Detected
1	January 18, 2022	0700 – 1000	50 - 59	Partly cloudy, no wind	SV & NM	No
2	March 14, 2022	0645 – 0930	44 – 56	Clear skies, 1-2 mph wind	SV & NM	No
3	March 21, 2022	0700 – 0930	46 – 62	Clear skies, no wind	SV & NM	No
4	April 4, 2022	0645 – 0930	53 – 59	Cloudy skies, 0 - 2 mph wind	SV & MBW	No
5	April 11, 2022	0645 - 0945	57 – 60	Cloudy skies, 1 – 3 mph wind	SV & NM	No

SV = Sierra Valladares; NM = Nathalie Munoz; MWB = Molly Burdick-Whipp

The surveys were conducted in compliance with MSHCP protocol's suggested time frame of 1 hour before sunrise and two hours after sunrise as much as possible and were conducted during weather conditions that were conducive for observing burrowing owls outside of their burrows (not during rain, high winds or hot temperatures as required by the instructions). Although the surveys extended beyond two hours after sunrise, areas where potential BUOW burrows were observed (i.e., suitably sized burrows or cavities) were surveyed earliest in the day within the required timeframe to provide for the highest probability of BUOW observation, if present. Areas of the site that did not contain suitable habitat were surveyed last.

The results of the survey are detailed below.

Results – Habitat/Vegetation

The Project site includes large areas of disturbed land vegetated with annual non-native and/or ruderal plants. Some portions of the site are developed. The Project site is classified as herbaceous non-native forbs and grasses, ornamental, and disturbed/developed. Soils in the Project site include loam, sandy loam, fine and very fine sandy loam. Most areas within the Project site were dominated by invasive/non-native grasses and weedy native annual species. The common plant species observed on the Project site included non-native species such as Australian saltbush (*Atriplex semibaccata*), red-stemmed filaree (*Erodium cicutarium*), stinknet (*Oncosiphon piluliferum*), Russian thistle (*Salsola tragus*), and London rocket (*Sisymbrium irio*). Some patches of native species such as Menzies' fiddleneck (*Amsinckia menziesii*), mulefat (*Baccharis salicifolia*), Menzie's goldenbush (*Isocoma menziesii*), and coyote brush (*Baccharis pilularis*) were also observed at low cover within the Study Area.

No burrowing owls or signs of burrowing owl were observed during the March/April 2022 focused surveys. There have been no previous burrowing owl observations recorded onsite. The site provides suitable habitat for the species, including suitably-sized burrows (>4 inches in diameter) and grassland habitat for foraging, although the site generally lacks suitable perches for owls. Overall, suitable habitat for burrowing owl is present onsite and multiple recorded observations of the species occur within 2 miles of the Project Footprint.

The surrounding 500-foot buffer consists mostly of residential and commercial development, and the Santa Ana River is approximately 200 feet to the north of the Project Footprint.

Photographs taken to document existing conditions within the Project Footprint are attached as Appendix A.

Results – Wildlife

During the field surveys, there were generally low levels of bird and other wildlife activity, however barn swallows were observed nesting underneath old dairy farm shade structures. The following wildlife were observed/detected:

- American crow (*Corvus brachyrhynchos*)
- black phoebe (*Sayornis nigricans*)
- European starling (*Sturnus vulgaris*)
- mourning dove (*Zenaida macroura*)
- red-tailed hawk (*Buteo jamaicensis*)
- Say's phoebe (*Sayornis saya*)
- house finch (*Haemorhous mexicanus*)
- barn owl (*Tyto alba*)
- barn swallow (*Hirundo rustica*)
- Brewer's blackbird (*Euphagus cyanocephalus*)
- killdeer (*Charadrius vociferus*)
- savannah sparrow (*Passerculus sandwichensis*)
- ground squirrel (*Otospermophilus beecheyi*)
- Audubon's cottontail (*Sylvilagus audubonii*)

Results – BUOW

No BUOW or active signs thereof were observed during the four focused surveys within the Study Area. Suitable burrows and burrow surrogates were observed within the Study Area during the surveys. The burrows/burrow surrogates depicted on Figure 2, within the Study Area, are considered potentially suitable for burrowing owls. However, no burrowing owls, or signs of burrowing owl were observed during the surveys.

Conclusion

Based on the lack of direct observation of BUOW or evidence of BUOW activity (e.g., active burrows, whitewash, pellets, etc.) during the surveys, the Study Area was not considered to be occupied by BUOW. However, the Study Area includes burrows suitable for burrowing owl and suitable burrowing owl foraging habitat; therefore, although burrowing owls were not found, a pre-construction survey will need to be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls in compliance with the Burrowing Owl Survey Instructions for the MSHCP (RCA, 2006).

If you have any questions, please feel free to contact me at (949) 466-9714.

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

Date: June 17, 2022

Signed:

Sierra Valladares (Project Manager / Biologist)

Enclosures

Figure 1	Regional Site Location Map
Figure 2	BUOW Study Area Map
Figure 3	Site Plan
Figure 4	USGS Topographic Map
Figure 5	MSHCP Designation Map
Appendix A	Site Photographs

References

Burrowing Owl Survey Instructions for the Western Riverside MSHCP. County of Riverside, Environmental Programs Department. March 29, 2006.

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. Dated March 7, 2012.

CDFW. 2021. RareFind, California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB). State of California, The Natural Resources Agency, Department of Fish and Wildlife, Biogeographic Data Branch, California Natural Diversity Database, Sacramento, CA.

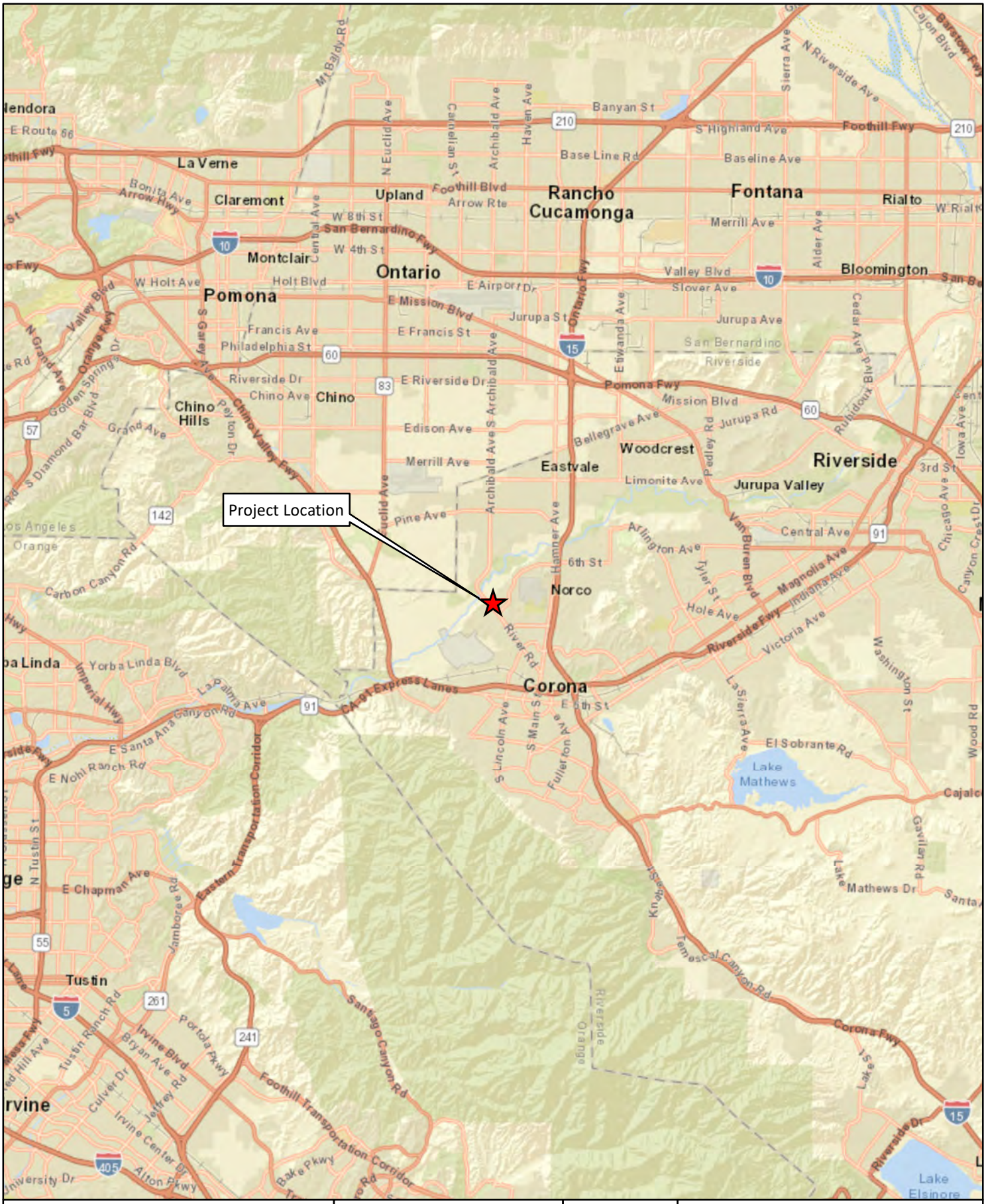
National Geographic Society. 2011. *Field Guide to the Birds of North America*, 6th Ed. National Geographic Society, Washington, D.C.

Western Riverside County Regional Conservation Authority (RCA). 2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area.

Western Riverside County Regional Conservation Authority (RCA). June 2003. *Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)*. http://rctlma.org/Portals/0/mshcp/volume1/index.html

RCA. 2021. MSHCP Information Tool. Accessed July 2, 2021, at https://www.wrcrca.org/rcamaps/

FIGURES



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

0 12,000 24,000
Feet

1:250,000

N
W E
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TACRD Investments
Norco Residential Project

Figure 1 Regional Location Map

Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

0 200 400
Feet

1:4,500

N
W E
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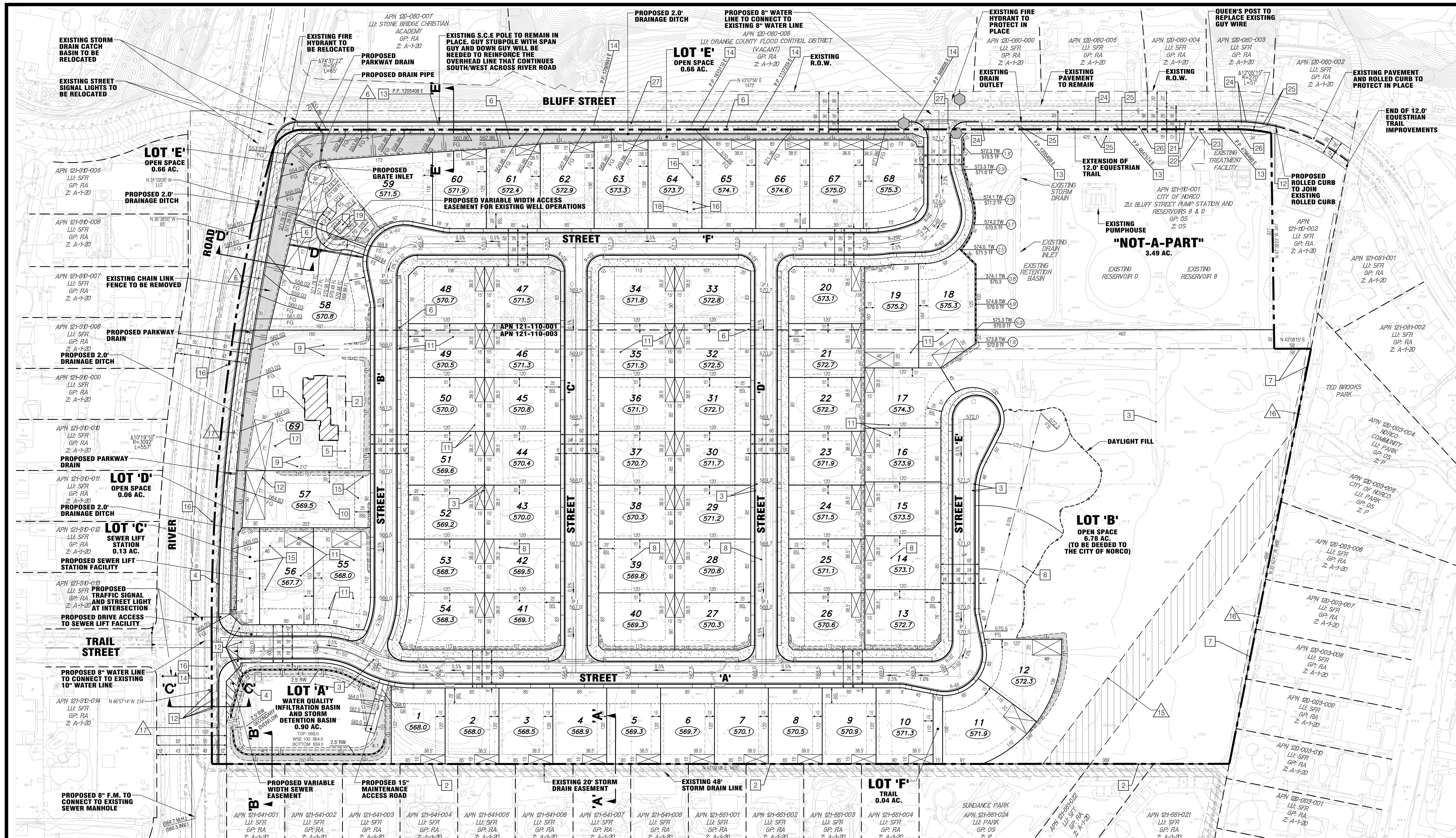
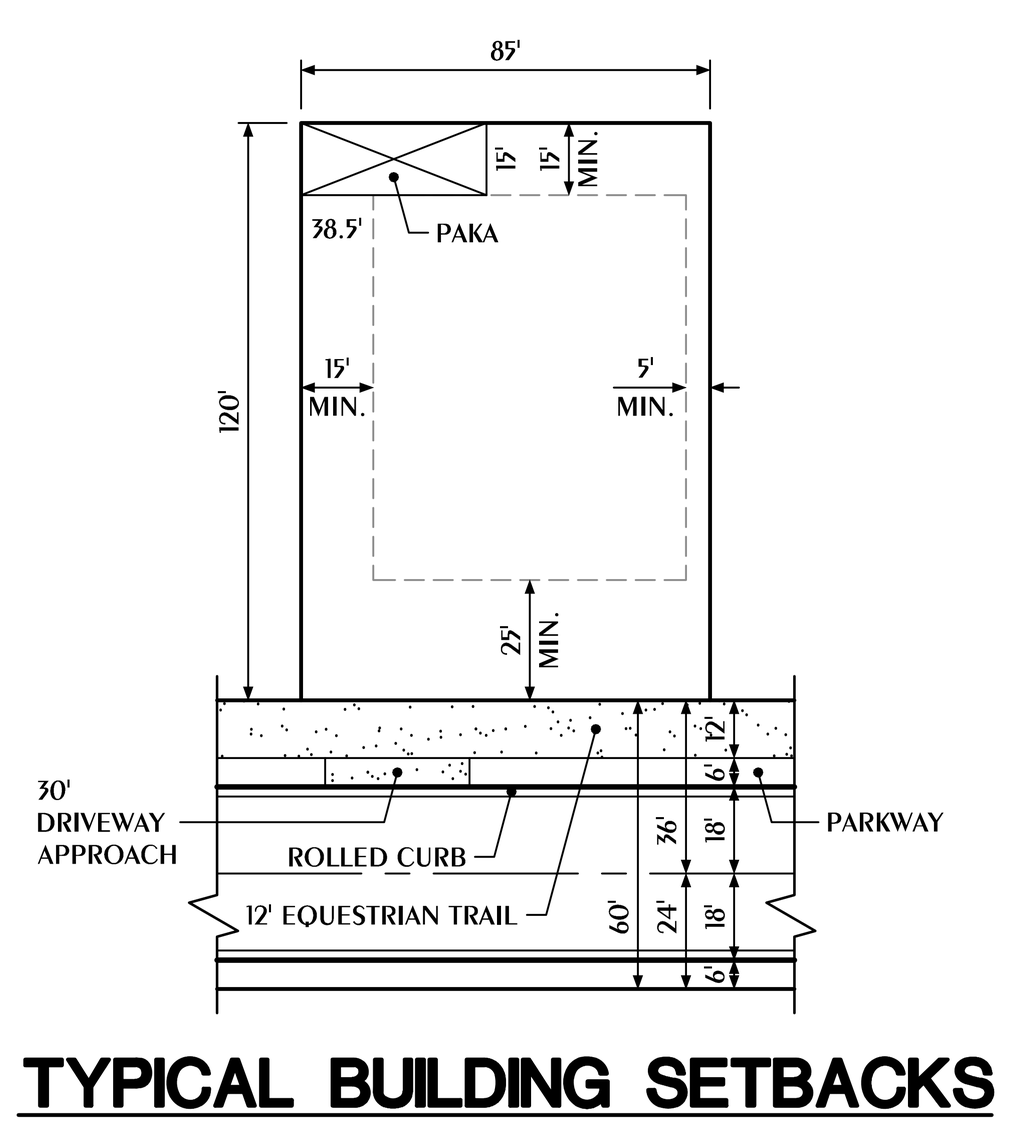
TACRD Investments
Norco Residential Project

Figure 2 BUOW Study Area Map



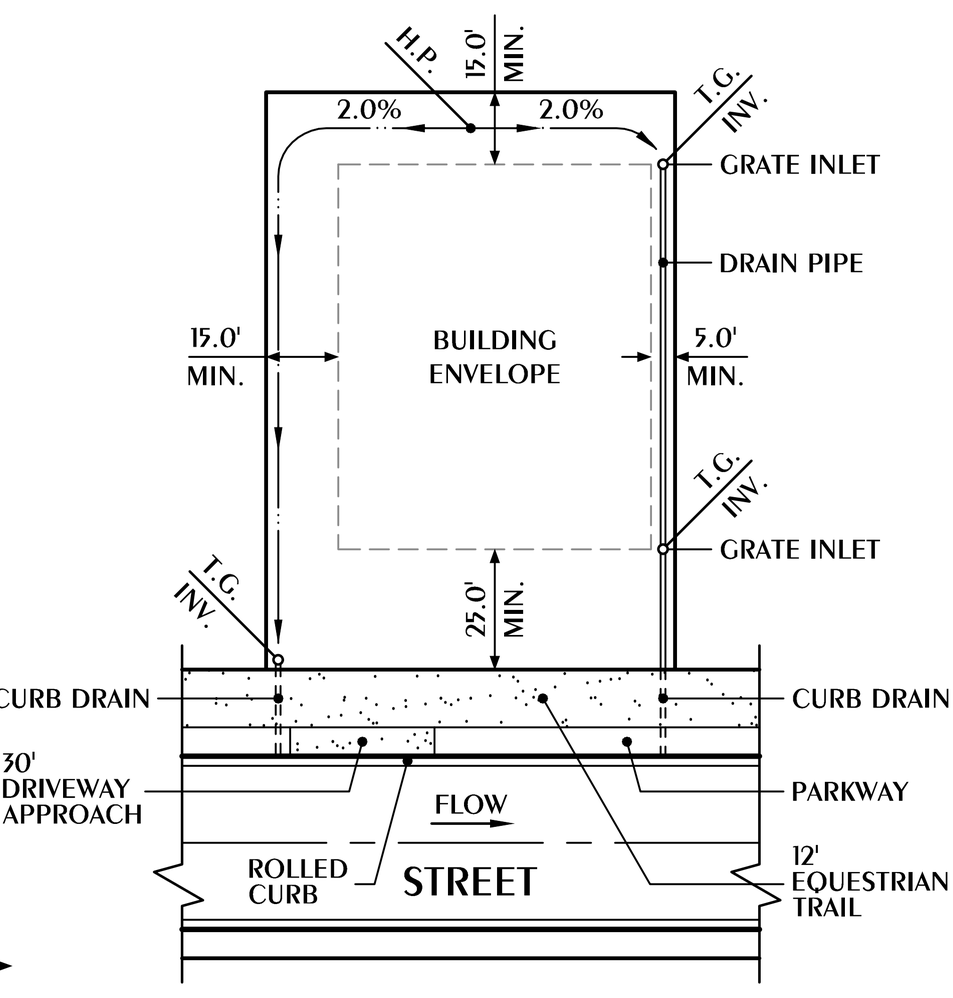
LEGEND

- EXISTING STORM DRAIN
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING RECLAIM WATER LINE
- EXISTING SEWER FORCEMAIN
- EXISTING UTILITY EASEMENT
- PROPOSED STORM DRAIN
- PROPOSED SEWER LINE
- PROPOSED WATER LINE
- PROPOSED SEWER MANHOLE
- PROPOSED FORCE MAIN
- PROPOSED UTILITY EASEMENT
- PROPOSED STREET CENTERLINE
- PROPOSED CENTERLINE RADIUS — R=150'
- PROPOSED TENTATIVE TRACT BOUNDARY
- PROPOSED BUILDING SETBACK LINE — BSL
- LIMITS OF GRADING (DAYLIGHT LINE)
- PROPOSED LOT NUMBER — 67
- PROPOSED HIGHEST LOT NUMBER — 69
- PROPOSED PAD ELEVATION — 757.0
- PROPOSED STREET ELEVATION — 730.5
- PROPOSED 2:1 SLOPE
- PROPOSED 4:1 SLOPE — 4:1
- PROPOSED RETAINING WALL / PROPOSED RETAINING WALL HEIGHT — 775.0 TRW / 772.0 TF (3.0')
- PROPOSED STREET LIGHT
- PROPOSED FIRE HYDRANT
- PROPOSED LIMITED USE AREA
- PROPOSED P.A.K.A. (BASED ON LOT AREA)
- PROPOSED DG EQUESTRIAN TRAIL
- PROPOSED STOP SIGN
- PROPOSED TRAFFIC SIGNAL



TYPICAL BUILDING SETBACKS

SCALE: 1"=40'



TYPICAL LOT DRAINAGE

SCALE: 1"=40'

LOT SUMMARY

SINGLE-FAMILY RESIDENTIAL	69
MINIMUM LOT WIDTH:	85 FT *
MINIMUM LOT DEPTH:	100 FT
MINIMUM LOT AREA:	10,200 SF
MAXIMUM LOT AREA:	44,261 SF
AVERAGE LOT AREA:	11,758 SF
MINIMUM PAD AREA:	9,477 SF
AVERAGE PAD AREA:	11,468 SF
GROSS ACREAGE:	34.38 AC
NET ACREAGE	33.54 AC
GROSS DENSITY:	2.0 DU/AC
NET DENSITY:	2.06 DU/AC

* EXCEPT ON A KNUCKLE OR CUL-DE-SAC NOT LESS THAN 50'

EXISTING CONDITIONS

1. EXISTING RESIDENCE TO REMAIN.
2. EXISTING 6.0' HIGH BLOCK WALL TO REMAIN.
3. EXISTING 5.0 HIGH WROUGHT IRON FENCE TO BE REMOVED.
4. EXISTING 5.0' HIGH WOOD FENCE TO BE REMOVED.
5. EXISTING OVERHANG TO REMAIN.
6. EXISTING 6.0' HIGH CHAIN LINK FENCE W/ BARBED WIRE TO BE REMOVED.
7. EXISTING 6.0' HIGH CHAIN LINK FENCE TO REMAIN.
8. EXISTING 5.0' HIGH BARBED WIRE FENCE TO BE REMOVED.
9. EXISTING PCC DRIVEWAY TO BE PROTECTED IN PLACE.
10. EXISTING TANK TO BE REMOVED.
11. EXISTING BUILDING/CANOPY TO BE REMOVED.
12. EXISTING TREE/PALM TO BE REMOVED.
13. EXISTING SCE OVERHEAD/WIRE POWER POLE TO REMAIN IN PLACE.
14. EXISTING SCE OVERHEAD/WIRE POWER POLE TO BE UNDERGROUND UNDER SEPARATE PERMIT.
15. EXISTING A.C. PAVEMENT TO BE REMOVED.
16. EXISTING IDLE OVERHEAD POLES/WIRES TO BE REMOVED.
17. EXISTING SCE IDLE OVERHEAD POLE/WIRES TO BE REMOVED.
18. EXISTING 8.0' HIGH CHAIN LINK FENCE TO BE REMOVED
19. EXISTING CITY WELL FACILITY TO REMAIN IN PLACE.
20. EXISTING CATCH BASIN TO REMAIN.
21. EXISTING A.C. PAVEMENT TO BE PROTECTED IN PLACE.
22. EXISTING LIGHT TO BE PROTECTED IN PLACE.
23. EXISTING WATER VALVE TO BE RELOCATED.
24. EXISTING STREET SIGNAGE TO BE RELOCATED.
25. EXISTING ELECTRICAL EQUIPMENT TO BE RELOCATED.
26. EXISTING 6.0' CHAIN LINK FENCE WITH BARBED WIRE TO BE RELOCATED.
27. EXISTING ELECTRICAL FACILITY TO BE RELOCATED.

CONSTRUCTION NOTES

1. CONSTRUCT STANDARD ROLLED CURB PER CITY STANDARD PLAN 205.
2. CONSTRUCT 4" AC OVER 6" CAB OR AS APPROVED BY CITY ENGINEER PER CITY STANDARD PLAN 830.
3. CONSTRUCT TYPE 'C' INTEGRAL CURB AND GUTTER PER CITY STANDARD PLAN 200.
4. CONSTRUCT 12.0' EQUESTRIAN TRAIL PER CITY STANDARD PLAN 700.
5. CONSTRUCT 3'-6" PVC EQUESTRIAN TRAIL FENCING PER CITY STANDARD PLAN 705.
6. CONSTRUCT TYPE 'A' CURB ONLY, PER CITY STANDARD PLAN 200.

UTILITIES

ELECTRIC:
SOUTHERN CALIFORNIA EDISON
1351 EAST FRANCIS STREET
ONTARIO, CA. 91761
(909) 930-8431

WATER & SEWER:
CITY OF NORCO
2870 CLARK AVE
NORCO, CA. 92860
(951) 270-5678

SOLID WASTE:
WASTE MANAGEMENT
800 SOUTH TEMESCAL STREET
JURUPA VALLEY, CA. 92509
(951) 786-0639

GAS:
SOUTHERN CALIFORNIA GAS COMPANY
1981 WEST LUGONIA AVENUE
RANCHO CUCAMONGA, CA. 91730
(909) 335-7715

CABLE:
CHARTER COMMUNICATIONS
7337 CENTRAL AVE
RIVERSIDE, CA. 92504
(951) 343-4100 EXT. 4156

TELEPHONE:
A.T.&T.
1265 NORTH VAN BUREN STREET
RM. 180
ANAHEIM, CA. 92807
(714) 666-5503

BASIS OF BEARING

CENTERLINE OF SUNDANCE LANE
N 43° 09' 18" E AS SHOWN ON TRACT 28765
BK 274, PG 95-98

LEGAL DESCRIPTION

PARCEL 1: (APN: 121-110-001)
BLOCKS 67,68,69 AND LOTS 2 TO 23, INCLUSIVE OF BLOCK 70, TOGETHER WITH THOSE PORTIONS OF PINE STREET, 60 FEET WIDE, SPRUCE STREET, 60 FEET WIDE, SYCAMORE STREET, 60 FEET WIDE AND ALL ALLEYS AND PUBLIC WAYS APPURTENANT THERETO BETWEEN BLUFF STREET AND GILBERT STREET AS SHOWN ON THE MAP OF AUBURNDALE COLONY AND TOWNSITE ON BOOK 6 PAGES 20 AND 21 OF MAPS, SAN BERNARDINO COUNTY, CALIFORNIA.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO TOMMY DALLAPE, ET UX., BY DEED RECORDED APRIL 6, 1964 AS INSTRUMENT NO. 42079 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM ANY OIL, GAS, OTHER HYDROCARBON SUBSTANCES AND ALL OTHER MINERALS IN, ON OR UNDER THE ABOVE-IDENTIFIED LAND, TOGETHER WITH THE RIGHTS TO TAKE AND RECOVER POSSESSION OF SAID MINERALS AND TO ENTER UPON SAID LAND FOR THE PURPOSE OF EXPLORING FOR, MINING, DRILLING FOR, EXTRACTING, PRODUCING, TRANSPORTING OR MARKETING THE SAME OF ANY PORTION THEREOF IN ANY MANNER NOT INCONSISTENT WITH THE PUBLIC HEALTH USE FOR WHICH SAID PROPERTY IS HEREBY CONVEYED, AS RESERVED IN DOCUMENT RECORDED OCTOBER 8, 2009 AS INSTRUMENT NO 2009-0523643 OF OFFICIAL RECORDS OF SAID COUNTY.

PARCEL 2: (APN: 121-110-003)
BLOCKS 47, 48, 49 AND 50, THOSE PORTIONS OF BLOCKS 43, 44, 45 AND 46, THOSE PORTIONS OF ALL STREETS AND ALLEYS, AND THAT PORTION OF THAT CERTAIN PARCEL OF LAND MARKED "PROPOSED POMONA AND ELSINORE RAILROAD DEPOT GROUNDS", AS SHOWN ON THE MAP OF AUBURNDALE COLONY AND TOWNSITE ON FILE IN BOOK 6 PAGES 20 AND 21 OF MAPS, SAN BERNARDINO COUNTY RECORDS, LYING WITHIN THE BOUNDARIES OF THE PARCEL OF LAND DESCRIBED.

LAND EXCHANGE SUMMARY

LOT	ACREAGE	ACREAGE
B	6.78 AC	J.D. RANCH
18 - 20, 33 - 34, 47 - 48, 58 - 68 (121-110-01 PORTION)	8.20 AC	CITY OF NORCO

LAND USE SUMMARY

LOTS	LAND USE	ACREAGE	PERCENT (%)
1 - 68	SINGLE-FAMILY RESIDENTIAL	17.61 AC	46.5%
69	EXISTING SINGLE-FAMILY RES.	1.02 AC	2.7%
'A'	WATER QUALITY INFILTRATION BASIN AND STORM DETENTION BASIN	0.90 AC	2.4%
'B'	OPEN SPACE	6.78 AC	18.0%
'C'	SEWER LIFT STATION	0.13 AC	0.3%
'D' - 'E'	LANDSCAPE OPEN SPACE	0.72 AC	1.9%
'F'	TRAIL	0.04 AC	0.1%
	BLUFF STREET	0.16 AC	0.4%
	RIVER ROAD	0.68 AC	1.8%
	STREETS 'A' - 'F'	6.31 AC	16.7%
	"NOT-A-PART"	3.49 AC	9.2%
	GROSS ACREAGE	37.84 AC	100%

TENTATIVE TRACT NO. 38330

NUMBER OF LOTS:	TOTAL	76
	SINGLE-FAMILY RESIDENTIAL	69
	WATER QUALITY INFILTRATION BASIN AND STORM DETENTION BASIN	1
	SEWER LIFT STATION	1
	OPEN SPACE	1
	TRAIL	1
	LANDSCAPE OPEN SPACE	2
	N.A.P.	1

GROSS ACREAGE: 37.84 AC
CONTOUR INTERVAL: 1 FOOT
SCALE: 1"=60'
DATE: APRIL 26, 2022
REVISED: AUGUST 18, 2022
REVISED: MARCH 13, 2023
REVISED: JUNE 28, 2023
REVISED: JANUARY 25, 2024

GENERAL INFORMATION

1. EXISTING LAND USE: UNDEVELOPED, PREVIOUS DAIRY FACILITIES, SINGLE FAMILY RESIDENCE.
2. EXISTING ZONING: OS (OPEN SPACE)
   A-1-20 (AGRICULTURAL - LOW DENSITY (20,000 SF)
3. EXISTING GENERAL PLAN: RA (RESIDENTIAL AGRICULTURAL)
   PL (PUBLIC LAND)
4. PROPOSED LAND USE: SINGLE-FAMILY RESIDENTIAL, WATER QUALITY BASIN, SEWER LIFT
5. PROPOSED ZONING: R-1-10 (RESIDENTIAL - SINGLE FAMILY 10,000 SF)
6. PROPOSED GENERAL PLAN: RL
7. ADJACENT LAND USES:
   NORTH: CITY RESERVOIR FACILITY, VACANT
   EAST: SINGLE-FAMILY RESIDENTIAL, PARK
   SOUTH: SINGLE-FAMILY RESIDENTIAL, PARK
   WEST: SINGLE-FAMILY RESIDENTIAL
8. PARK REQUIREMENTS TO BE MET BY IN LIEU FEES PER CITY OF NORCO MUNICIPAL CODE SECTION 17.14.08.
9. SCHOOL DISTRICTS: (CORONA-NORCO UNIFIED SCHOOL DIST.)
   ELEMENTARY: WASHINGTON ELEMENTARY
   MIDDLE SCHOOL: AUBURNDALE INTERMEDIATE
   HIGH SCHOOL: NORCO HIGH SCHOOL
10. PAD ELEVATIONS SHOWN ON THE TENTATIVE TRACT MAP MAY BE ADJUSTED PLUS OR MINUS 3.0 FEET.
11. MULTIPLE FINAL MAPS MAY BE FILED PURSUANT TO SECTION 66456.1 OF THE CALIFORNIA GOVERNMENT CODE.
12. PROPOSED TENTATIVE TRACT 38330 IS NOT WITHIN AN APPROVED SPECIFIC PLAN BOUNDARY.
13. ALL PROPOSED MANUFACTURED SLOPES SHALL BE CONSTRUCTED AT A MAXIMUM OF 2:1, UNLESS OTHERWISE NOTED ON THE PLAN.
14. ESTIMATED EARTHWORK QUANTITIES:
    ADJUSTED CUT: 157,920 C.Y.
    ADJUSTED FILL: 206,320 C.Y.
    IMPORT: 48,400 C.Y.
    APPROXIMATE QUANTITY OF ORGANICS EXPORTED
    CUT: 10,300 C.Y.
15. THE PRELIMINARY GEOTECHNICAL/SOILS REPORT WAS PREPARED BY LGC GEOTECHNICAL, INC., JANUARY 21, 2022.
16. THERE IS ONE EXISTING HABITABLE STRUCTURE THAT IS WITHIN THE BOUNDARIES OF THE PROPOSED TENTATIVE TRACT MAP THAT SHALL REMAIN IN PLACE.
17. ALL PROPOSED STREETS WITHIN TENTATIVE TRACT 38330 SHALL BE PUBLIC AND SHALL BE OWNED AND MAINTAINED BY THE CITY OF NORCO.
18. THE PROPOSED LANDSCAPE PARKWAYS AND EQUESTRIAN TRAILS WITHIN THE PROPOSED PUBLIC STREETS 'A'-'F' SHALL BE OWNED BY THE CITY OF NORCO AND MAINTAINED BY AN APPROVED H.O.A. EACH INDIVIDUAL HOMEOWNER SHALL MAINTAIN THEIR TRAIL FRONTAGE AS IT RELATES TO GENERAL WEED AND MANURE ABATEMENT.
19. THE DEVELOPER RESERVES THE RIGHT TO MERGE LOTS ON THE FINAL MAP.
20. THERE IS ONE ACTIVE WELL, OWNED AND MAINTAINED BY THE CITY OF NORCO, WITHIN THE BOUNDARIES OF THE TENTATIVE TRACT MAP THAT WILL REMAIN IN PLACE.
21. PROPOSED TENTATIVE TRACT MAP 38330 IS WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOODING) PER F.I.R.M. MAP NO 06065C0687G, DATED AUGUST 28, 2008
22. PROPOSED TENTATIVE TRACT MAP 38330 CONTAINS PARCELS OWNED BY THE CITY OF NORCO AND BY THOMAS Q. DALLAPE AND DIANE L. DALLAPE, TRUSTEES OF THE DALLAPE FAMILY TRUST AND TACRD INSTRUMENTS. PROPOSED TENTATIVE TRACT MAP 38330 DOES NOT CONTAIN A CONTIGUOUS OWNERSHIP OF LAND BEING SUBDIVIDED.
23. THOMAS BROTHERS MAP PAGE 38, GRIDS B-4, C-4, B-5 AND B-6, RIVERSIDE COUNTY.
24. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT WITHIN A COMMUNITY SERVICE DISTRICT.
25. PROPOSED TENTATIVE TRACT MAP 38330 IS WITHIN THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT (RCFCD)
26. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT SUBJECT TO LIQUEFACTION OR OTHER GEOLOGICAL HAZARD AND IS NOT WITHIN A SPECIAL STUDIES ZONE.
27. TOPOGRAPHIC SURVEY WAS FLOWN AND COMPILED BY DON READ AERIAL CORPORATION ON JUNE 16, 2021.
28. THERE ARE NO PROPOSED OPEN STORM DRAIN CHANNEL WITHIN THE BOUNDARIES OF THE TENTATIVE TRACT MAP.
29. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT A GATED COMMUNITY.
30. PROPOSED VEHICULAR ACCESS SHALL BE RESTRICTED ON RIVER ROAD AND BLUFF STREET.
31. FINAL DESIGN OF THE TENTATIVE TRACT MAP 38330 SHALL COMPLY WITH N.P.D.E.S. REQUIREMENTS AS OUTLINED BY N.P.D.E.S., SUPPLEMENT NO. 'A'.
32. PROPOSED LANDSCAPE OPEN SPACE LOTS 'D'-'E' ARE PRIVATE AND SHALL BE OWNED BY AN APPROVED H.O.A. IF AVAILABLE, OPEN SPACE LOTS 'D'-'E' TO BE IRRIGATED BY RECLAIMED WATER PROVIDED BY THE CITY OF NORCO.
33. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT WITHIN A HIGH FIRE HAZARD AREA.
34. ALL PROPOSED RESIDENTIAL LOTS SHALL MAINTAIN A 2.0% MINIMUM GRADE FROM THE REAR YARD TO THE FRONTING PUBLIC STREET.
35. THE PROPOSED TENTATIVE TRACT MAP 38330 IS WITHIN THE COUNTY'S 2ND SUPERVISORY DISTRICT.
36. THE CURRENT PROPERTY ADDRESS IS 2877 RIVER ROAD, NORCO, CA.
37. THERE ARE NO EXISTING SEWER SYSTEM PIPES WITHIN THE TENTATIVE TRACT MAP BOUNDARIES. THE EXISTING SINGLE FAMILY RESIDENCE IS CURRENTLY SEWERED BY A SEPTIC SYSTEM BUT WILL BE CONNECTED TO THE PROPOSED SEWER LINE.
38. ALL EXISTING ON-SITE CONCRETE PADS SHALL BE REMOVED, AND WHERE POSSIBLE, CRUSHED AND PLACED IN PROPOSED FILL AREAS AND APPROVED BY THE SOILS ENGINEER.
39. PROPOSED LOT 'A' WATER QUALITY INFILTRATION AND DETENTION BASIN, WILL BE AND MAINTAIN BY AN APPROVED H.O.A.
40. THE EXISTING 60.0' WIDE CALIFORNIA ELECTRIC POWER COMPANY EASEMENT SHALL BE PROTECTED IN PLACE.
41. PROPOSED KNUCKLES (PUBLIC) SHALL BE DESIGNED PER CITY STANDARD PLAN NO. 145A.
42. PROPOSED CUL-DE-SACS (PUBLIC) SHALL BE DESIGNED PER CITY STANDARD PLAN NO. 140C.
43. PROPOSED STREETS 'A'-'F' WITHIN TENTATIVE TRACT MAP 38330 SHALL BE DESIGNED PER CITY STANDARD PLAN NO. 100.
44. PROPOSED TENTATIVE TRACT MAP 38330 IS NOT SUBJECT TO FLOOD WATERS, OVERFLOW OR INUNDATION. ALL PROPOSED RESIDENTIAL PAD AREAS ARE A MINIMUM OF 2.0' FEET ABOVE THE 566 SANTA ANA FLOOD ELEVATION.
45. THERE ARE NO REGULATED TREES OR PLANTS IDENTIFIED WITHIN THE TENTATIVE TRACT MAP BOUNDARIES.
46. PROPOSED STREET TREES SHALL BE PROVIDED ALONG ALL PROPOSED PUBLIC STREETS WITHIN THE TENTATIVE TRACT MAP BOUNDARIES (SEE CONCEPTUAL LANDSCAPE PLANS) AND MAINTAINED BY LANDSCAPE MAINTENANCE DISTRICT.
47. PROPOSED OPEN SPACE LOT 'B' SHALL BE DEEDED IN FEE TO THE CITY OF NORCO FOR OWNERSHIP AND MAINTENANCE.
48. PROPOSED LOT 'C', SEWAGE LIFT STATION, SHALL BE DEEDED IN FEE TO THE CITY FOR OWNERSHIP AND MAINTENANCE.
49. PROPOSED LOT 69, EXISTING SINGLE FAMILY RESIDENCE, SHALL REMAIN IN PLACE.
50. PROPOSED STANDARD ROLLED CURB FOR LOCAL PUBLIC STREETS 'A'-'F' SHALL BE CONSTRUCTED PER CITY STANDARD PLAN NO. 205.
51. PROPOSED CROSS GUTTERS FOR PUBLIC LOCAL STREET 'A' SHALL BE CONSTRUCTED PER CITY STANDARD PLAN NO. 225.
52. PROPOSED HANDICAP RAMP AT THE INTERSECTION OF PROPOSED STREET 'A' AT RIVER ROAD SHALL BE CONSTRUCTED PER CITY STANDARD NO. 235.
53. RIVER ROAD IMPROVEMENTS PER A MODIFIED CITY STANDARD PLAN NO. 120A.
54. BLUFF STREET IMPROVEMENTS PER CITY STANDARD NO. 100.
55. LANDSCAPE PARKWAYS FOR LOCAL PUBLIC STREETS 'A'-'F' SHALL BE OWNED BY THE CITY AND MAINTAINED BY AN H.O.A.
56. LANDSCAPE PARKWAYS FOR RIVER ROAD AND BLUFF STREET SHALL BE OWNED BY THE CITY AND MAINTAIN BY A L.M.D.
57. PROPOSED ROLLED CURB AT THE INTERSECTION OF STREET 'A' AT RIVER ROAD AND STREET 'F' AT BLUFF STREET SHALL TRANSITION TO A STANDARD CURB PER CITY STANDARD 215.
58. PROPOSED PARKWAY DRAIN FROM PROPOSED 2-0' DRAINAGE DITCHES ALONG "TOE-OF-SLOPE" OF OPEN SPACE LOTS 'D' AND 'E' ALONG RIVER ROAD AND BLUFF STREET PER CITY STANDARD 300B.
59. PROPOSED PRIVATE PARKWAY DRAINS THROUGH CURB OUTLET FOR RESIDENTIAL ROLLED CURB SHALL BE CONSTRUCTED PER CITY STANDARD 301.
60. EXISTING WATERLINE FROM THE EXISTING CITY OWNED WELL FACILITY, CURRENTLY LOCATED WITHIN LOTS 59-68, TO BE RELOCATED WITHIN PROPOSED STREET 'F' TO RECONNECT TO THE CITY RESERVOIR LOT.
61. PROPOSED STREET LIGHTS FOR LOCAL STREETS 'A'-'F' SHALL BE OWNED BY THE CITY AND MAINTAINED BY AN APPROVED L.M.D.
62. PROPOSED EQUESTRIAN TRAIL FOR RIVER ROAD AND BLUFF STREET SHALL BE OWNED BY THE CITY AND MAINTAINED BY AN APPROVED L.M.D.
63. PROPOSED LOT 'F' TO BE OWNED AND MAINTAINED BY AN APPROVED H.O.A. AND IS NON-GATED.
64. "NOT-A-PART" TO REMAIN AS CITY OWNED AND MAINTAINED PUMP STATION AND RESERVOIRS 8 AND 9.

EASEMENTS

5. A RIGHT OF WAY RESERVED TO THE SOUTH RIVERSIDE LAND AND WATER COMPANY AND ITS ASSIGNS FOR CONSTRUCTION AND MAINTENANCE OF ALL NECESSARY WATER PIPES AND DITCHES, FLUMES AND CONDUITS, FOR ALL PURPOSES OF IRRIGATION AND DOMESTIC USE, BY DEED RECORDED AUGUST 12, 1985 IN BOOK 17, PAGE 223, OF DEEDS. EASEMENT CANNOT BE PLOTTED BASED ON RECORD INFORMATION. EASEMENT IS AN INDENTURE, CONVEYING LANDS TO INDIVIDUALS BUT RETAINING WATER RIGHTS, INCLUDING DITCHES, IRRIGATION PIPES, ETC.. THERE IS NO DESCRIPTION OTHER THAN THE LANDS BEING SOLD AND IS A BLANKET EASEMENT.
6. AN EASEMENT FOR ROAD AND INCIDENTAL PURPOSES, RECORDED OCTOBER 14, 1963 AS INSTRUMENT NO. 108259 OF OFFICIAL RECORDS. EASEMENT TO BE ABANDONED.
9. AN UNITED STATES OF AMERICA EASEMENT FOR ACCESS AND INCIDENTAL PURPOSES, RECORDED OCTOBER 8, 2009 AS INSTRUMENT NO. 2009-0523643 OF OFFICIAL RECORDS, EASEMENT CANNOT BE PLOTTED BASED ON RECORDED INFORMATION. EASEMENT TO BE PROTECTED IN PLACE.
14. A SOUTH RIVERSIDE LAND AND WATER COMPANY EASEMENT FOR WATER PIPES AND DITCHES, FLUMES AND CONDUITS FOR PURPOSE OF IRRIGATION AND DOMESTIC USE AND INCIDENTAL PURPOSE, RECORDED AUGUST 08, 1895 IN BOOK 17 OF DEEDS, PAGE 223 AND RECORDED DECEMBER 31, 1906 IN BOOK 173, PAGE 336 OF DEEDS. EASEMENT CANNOT BE PLOTTED BASED ON RECORD INFORMATION. EASEMENT IS AN INDENTURE, CONVEYING LANDS TO INDIVIDUALS BUT RETAINING WATER RIGHTS, INCLUDING DITCHES, IRRIGATION PIPES, ETC.. THERE IS NO DESCRIPTION OTHER THAN THE LANDS BEING SOLD AND IS A BLANKET EASEMENT.
15. A CALIFORNIA ELECTRIC POWER COMPANY EASEMENT FOR UTILITIES, 60 FEET WIDE, OVER THAT PORTION OF THE POMONA AND ELSINORE RAILROAD RIGHT OF WAY LYING EAST OF BLOCKS 47 AD 45, ALL OF BLOCK 24, AND THE NORTHWESTERLY HALF OF BLOCK 22 OF THE HEREIN DESCRIBED PROPERTY AND INCIDENTAL PURPOSES, RECORDED JANUARY 28, 1954 AS INSTRUMENT NO. 4649 OF OFFICIAL RECORDS. EASEMENT TO BE PROTECTED IN PLACE.
16. A SOUTHERN CALIFORNIA EDISON EASEMENT FOR UTILITIES AND INCIDENTAL PURPOSES, RECORDED APRIL 23, 1959 AS INSTRUMENT NO. 34510 OF OFFICIAL RECORDS. EASEMENT TO BE PROTECTED IN PLACE.
17. A COUNTY OF RIVERSIDE EASEMENT FOR EXCAVATION SLOPES AND INCIDENTAL PURPOSES, RECORDED SEPTEMBER 23, 1963 AS INSTRUMENT NO. 99907 OF OFFICIAL RECORDS. EASEMENT TO BE ABANDONED.

BENCHMARK

(CITY OF CORONA BENCHMARKER C-102)
A 2 ½" BRASS DISK STAMPED "C-102" SET IN THE TOP OF THE CURB LOCATED 5 FOOT NORTH OF THE E.C.R. OF THE NORTHEASTERLY CURB RETURN OF THE INTERSECTION OF CORYDON STREET AND KINGFORD DRIVE.
ELEVATION: 569.419' (DATED 4/88)

ENGINEER

MDS CONSULTING
5 PETERS CANYON DRIVE
SUITE 305
IRVINE, CA. 92606
PHONE: (949) 251-8821
ATTN: BOB ZOLLER

APPLICANT/DEVELOPER

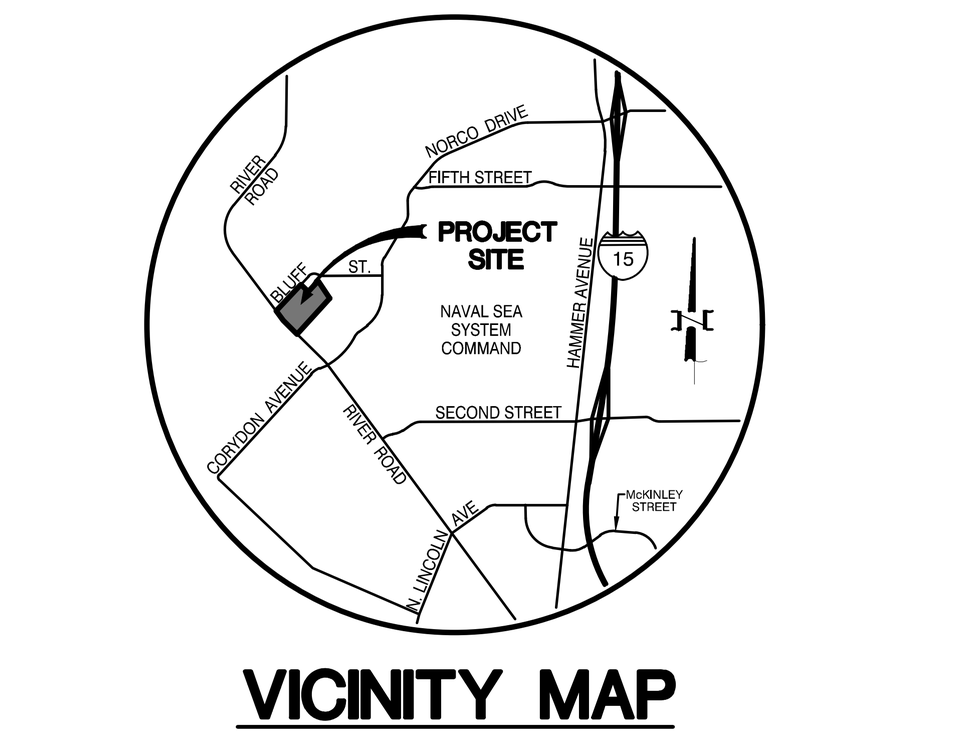
TACRD INVESTMENT L.P.
THE HOFFMAN COMPANY
18881 VON KARMAN AVENUE
SUITE 150
IRVINE, CA. 92612
(949) 553-2020
ATTN: TOM DALLAPE

OWNER

THOMAS G. DALLAPE & DIANE L. DALLAPE, TRUSTEES OF THE DALLAPE FAMILY TRUST, DATED NOVEMBER 18,1993
TACRD INVESTMENT, L.P.
C/O. TOM DALLAPE
18881 VON KARMAN AVENUE
SUITE 150
IRVINE, CA. 92612
(949) 553-2020

ASSESSORS PARCEL NUMBERS

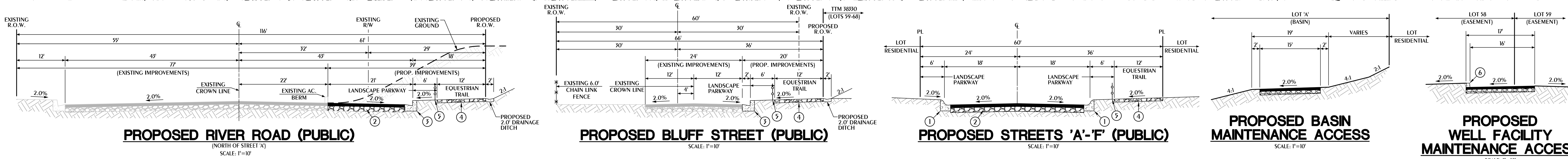
121-110-003, 121-110-001 (PORTION)



VICINITY MAP

NOT TO SCALE

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.



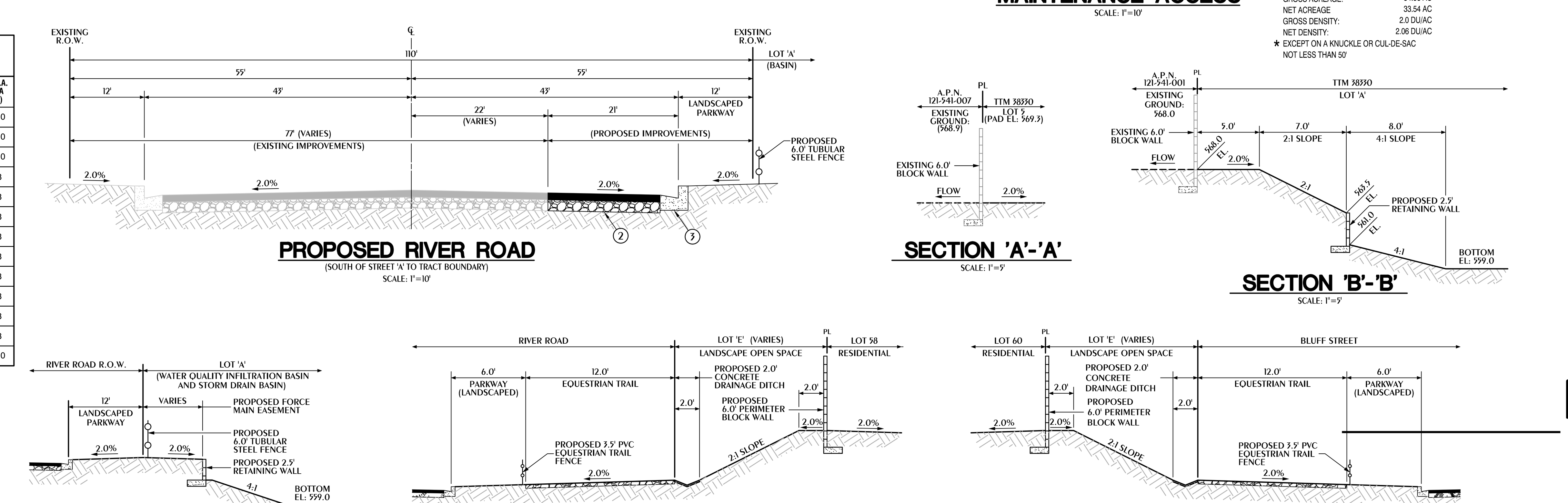
PROPOSED RIVER ROAD (PUBLIC)
(NORTH OF STREET 'A')
SCALE: 1"=10'

PROPOSED BLUFF STREET (PUBLIC)
SCALE: 1"=10'

PROPOSED STREETS 'A'-'F' (PUBLIC)
SCALE: 1"=10'

PROPOSED BASIN MAINTENANCE ACCESS
SCALE: 1"=10'

PROPOSED WELL FACILITY MAINTENANCE ACCESS
SCALE: 1"=10'



PROPOSED RIVER ROAD
(SOUTH OF STREET 'A' TO TRACT BOUNDARY)
SCALE: 1"=10'

SECTION 'A'-'A'
SCALE: 1"=5'

SECTION 'B'-'B'
SCALE: 1"=5'

SECTION 'C'-'C'
SCALE: 1"=10'

SECTION 'D'-'D'
SCALE: 1"=5'

SECTION 'E'-'E'
SCALE: 1"=5'

LOT AREA SUMMARY

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
1	10,241	10,154	85.0	160.0	578
2	10,201	10,201	85.0	132.0	578
3	10,201	10,201	85.0	120.0	578
4	10,201	10,201	85.0	120.0	578
5	10,201	10,201	85.0	120.0	578
6	10,202	10,202	85.0	120.0	578
7	10,202	10,202	85.0	120.0	578
8	10,202	10,202	85.0	120.0	578
9	10,202	10,202	85.0	120.0	578
10	10,571	10,571	92.0	118.0	578
11	13,518	13,518	65.0	119.0	1,150
12	11,902	11,902	65.0	101.0	1,150
13	11,302	10,427	95.0	120.0	578
14	10,200	10,200	85.0	120.0	578

LOT AREA SUMMARY

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
15	10,200	10,200	85.0	120.0	578
16	10,200	10,200	85.0	120.0	578
17	12,153	12,153	95.0	120.0	578
18	14,304	14,304	89.0	164.0	1,150
19	13,787	13,571	85.0	160.0	1,150
20	10,776	10,236	90.0	120.0	578
21	10,200	9,690	85.0	120.0	578
22	10,200	9,690	85.0	120.0	578
23	10,200	9,690	85.0	120.0	578
24	10,200	9,690	85.0	120.0	578
25	10,200	9,690	85.0	120.0	578
26	10,776	9,477	90.0	120.0	578
27	10,734	9,953	90.0	120.0	578
28	10,200	10,200	85.0	120.0	578

LOT AREA SUMMARY

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
29	10,200	10,200	85.0	120.0	578
30	10,200	10,200	85.0	120.0	578
31	10,200	10,200	85.0	120.0	578
32	10,200	10,200	85.0	120.0	578
33	10,734	10,734	90.0	120.0	578
34	10,776	10,776	90.0	120.0	578
35	10,200	10,200	85.0	120.0	578
36	10,200	10,200	85.0	120.0	578
37	10,200	10,200	85.0	120.0	578
38	10,200	10,200	85.0	120.0	578
39	10,200	10,200	85.0	120.0	578
40	10,776	9,975	90.0	120.0	578
41	10,734	9,977	90.0	120.0	578
42	10,200	10,200	85.0	120.0	578

LOT AREA SUMMARY

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
43	10,200	10,200	85.0	120.0	578
44	10,200	10,200	85.0	120.0	578
45	10,200	10,200	85.0	120.0	578
46	10,200	10,200	85.0	120.0	578
47	10,733	10,733	90.0	120.0	578
48	10,702	10,702	90.0	120.0	578
49	10,200	10,200	85.0	120.0	578
50	10,200	10,200	85.0	120.0	578
51	10,200	10,200	85.0	120.0	578
52	10,200	10,200	85.0	120.0	578
53	10,200	10,200	85.0	120.0	578
54	11,263	10,558	90.0	120.0	578
55	13,959	13,071	90.0	153.0	1,150
56	13,012	12,502	85.0	153.0	1,150

LOT AREA SUMMARY

LOT #	LOT AREA (SF.)	PAD AREA (SF.)	LOT WIDTH @ R.O.W.	LOT DEPTH	P.A.K.A. AREA (SF.)
57	17,986	16,724	90.0	203.0	2,310
58	20,812	20,585	90.0	161.0	2,310
59	23,703	22,865	169.0	137.0	2,310
60	10,425	10,425	85.0	125.0	578
61	11,050	11,050	85.0	133.0	578
62	11,475	11,475	85.0	136.0	578
63	11,687	11,687	85.0	139.0	578
64	11,857	11,857	85.0	140.0	578
65	11,900	11,900	85.0	140.0	578
66	11,900	11,900	85.0	140.0	578
67	11,900	11,900	85.0	140.0	578
68	12,404	12,058	73.0	140.0	578
69	44,261	36,935	211.0	222.0	2,310

DATE:	NO.	REVISIONS

ENGINEER

MDS CONSULTING
PLANNERS ENGINEERS SURVEYORS
5 PETERS CANYON ROAD
SUITE 305
IRVINE, CA 92606
(949) 251-8821
WWW.MDSCONSULTING.NET

REGISTERED PROFESSIONAL ENGINEER EDWARD J. LENTH No. 52496 CIVIL STATE OF CALIFORNIA

EDWARD J. LENTH RCE 052496
EXP. DATE: DECEMBER 31, 2024

J.D. RANCH

Figure 3: TENTATIVE TRACT NO. 38330

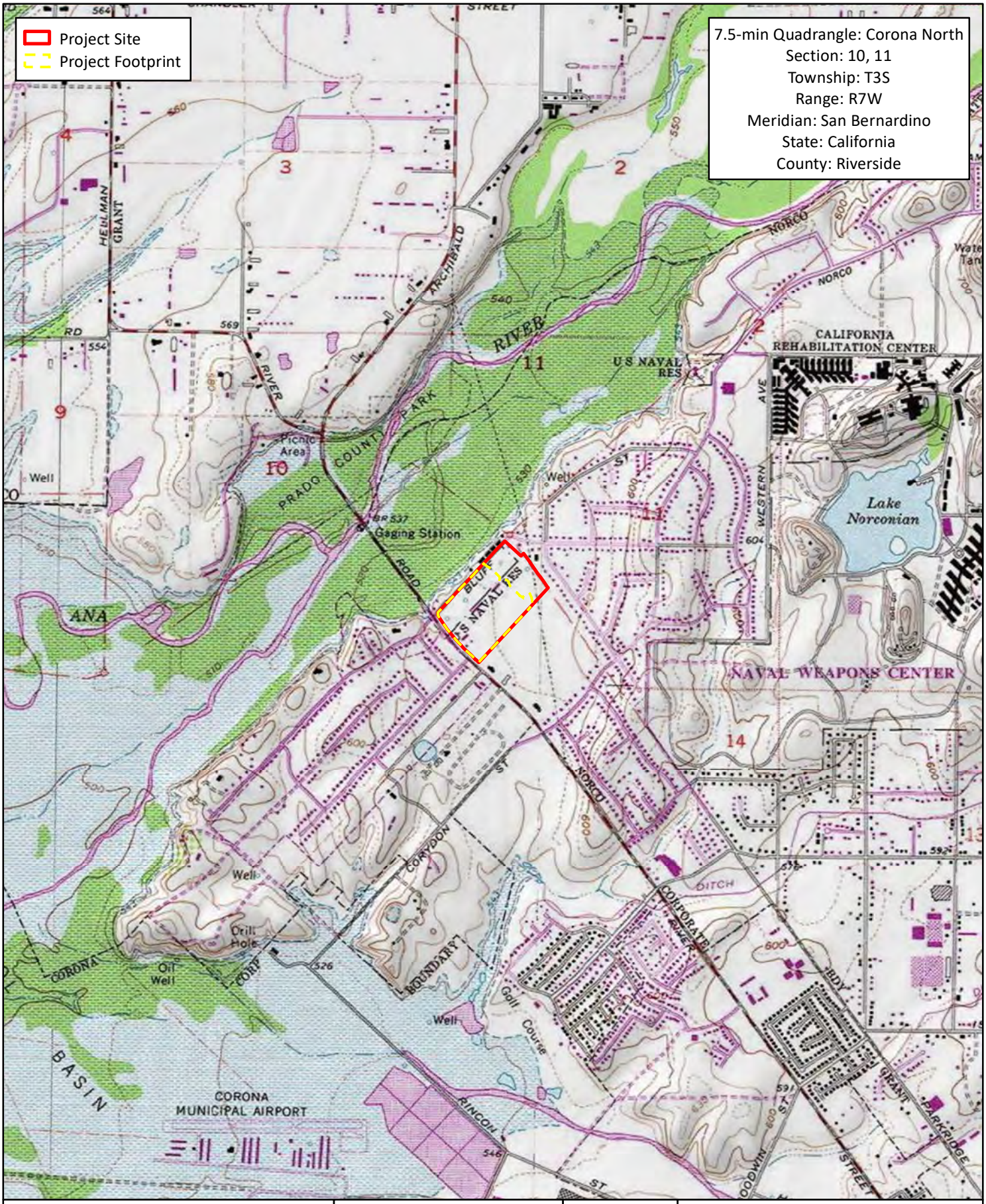
TENTATIVE TRACT MAP

CITY OF NORCO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

SHEET 1 OF 1

TENTATIVE TRACT MAP NO. 38330

I:\90800\PLANNING\Plans\TTM\90800-TTM-01.dwg 1/26/24



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, USGS

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

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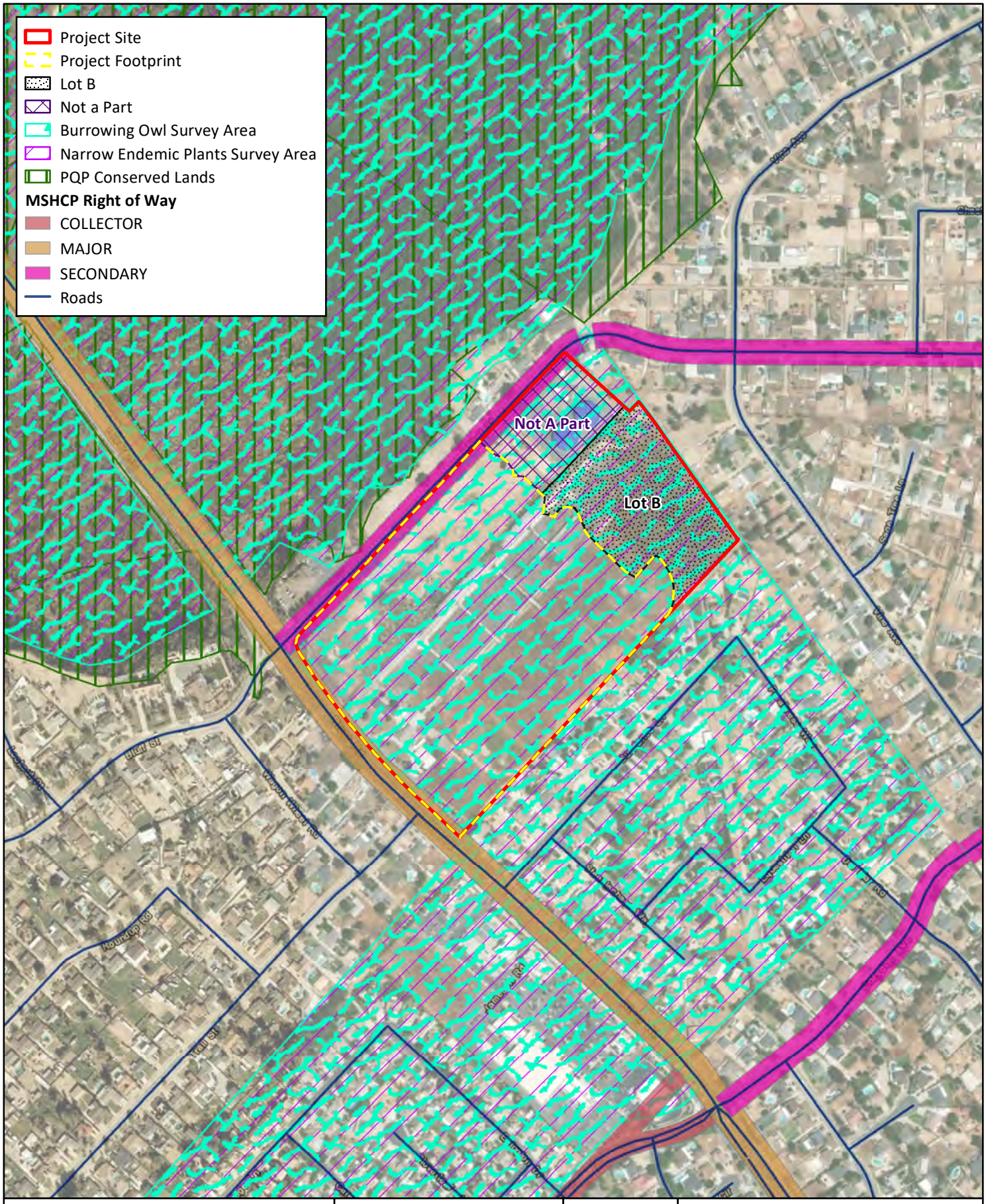
TACRD Investments
Norco Residential Project

Figure 4 USGS Topographic Map



Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting, RCA

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Feet
1:6,000

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W E
S

TACRD Investments
Norco Residential Project

Figure 5 MSHCP Designation Map

APPENDIX A

Site Photographs

Photo 1. Typical view of the study area showing non-native grasses and forbs across a majority of the site, viewing northwest.

Photo 2. Taken on 4/4/22. View of the open space area to be avoided in the northeast section of the study area, viewing southeast.

Photo 3. View the middle portion of the study area with debris piles, non-native vegetation, and old dairy farm structures, viewing northeast.

Photo 4. Taken on 4/4/22. View of the middle portion of the site including old dairy farm structures, viewing west.

Photo 5. View of the City owned property on the eastern side of the site showing disturbed land, viewing southeast.

Photo 6. View of debris piles on the City owned property on the eastern portion of the study area, viewing west.

Photo 7. View of the paved driveway adjacent to River Road and residential buildings within the study area, viewing southeast.

Photo 8. Taken on 4/11/22. View of palm trees in the southern corner of the site, viewing south.

Photo 9. Representative photo of a suitable burrow observed within the study area with no signs of burrowing owl occupation.

APPENDIX E

Fairy Shrimp Dry Season and Wet Season Reports

9 January 2023

Ms. Stacy Love
Recovery Permit Coordinator
U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Re: 90-Day Letter Report of Dry Season Vernal Pool Branchiopod Sampling for the JD Ranch Property in Norco, Riverside County, California; Conducted Under The Endangered Species Act Section 10(A)(1)(A) Permit # TE-038716-5.

Dear Ms. Love:

The following report has been prepared to submit primary survey data and results of the 2022 dry season sampling for vernal pool branchiopods listed under the federal Endangered Species Act of 1973 (ESA) on the JD Ranch Property in Riverside County, California.

SUMMARY

Frank Wegscheider conducted dry season surveys for federally endangered or threatened branchiopods at the JD Ranch Property in Norco, Riverside County, California. Survey sampling was authorized under the ESA Section 10(a)(1)(A) and was conducted by Frank Wegscheider (permit #TE-038716-5) in accordance with the U.S. Fish and Wildlife Service Survey Guidelines for the Listed Large Branchiopods (USFWS, 2017). Eleven seasonal depressions were sampled within the Study Area. A single cyst of the common versatile fairy shrimp (*Branchinecta lindahli*) was detected in one of the depressions. No cysts of the federally listed Riverside fairy shrimp (*Streptocephalus woottoni)*, San Diego fairy shrimp (*Branchinecta sandiegoensis)* or federally threatened vernal pool fairy shrimp (*Branchinecta lynchi)* were found in any of the sampled depressions during the 2022 dry season sampling surveys.

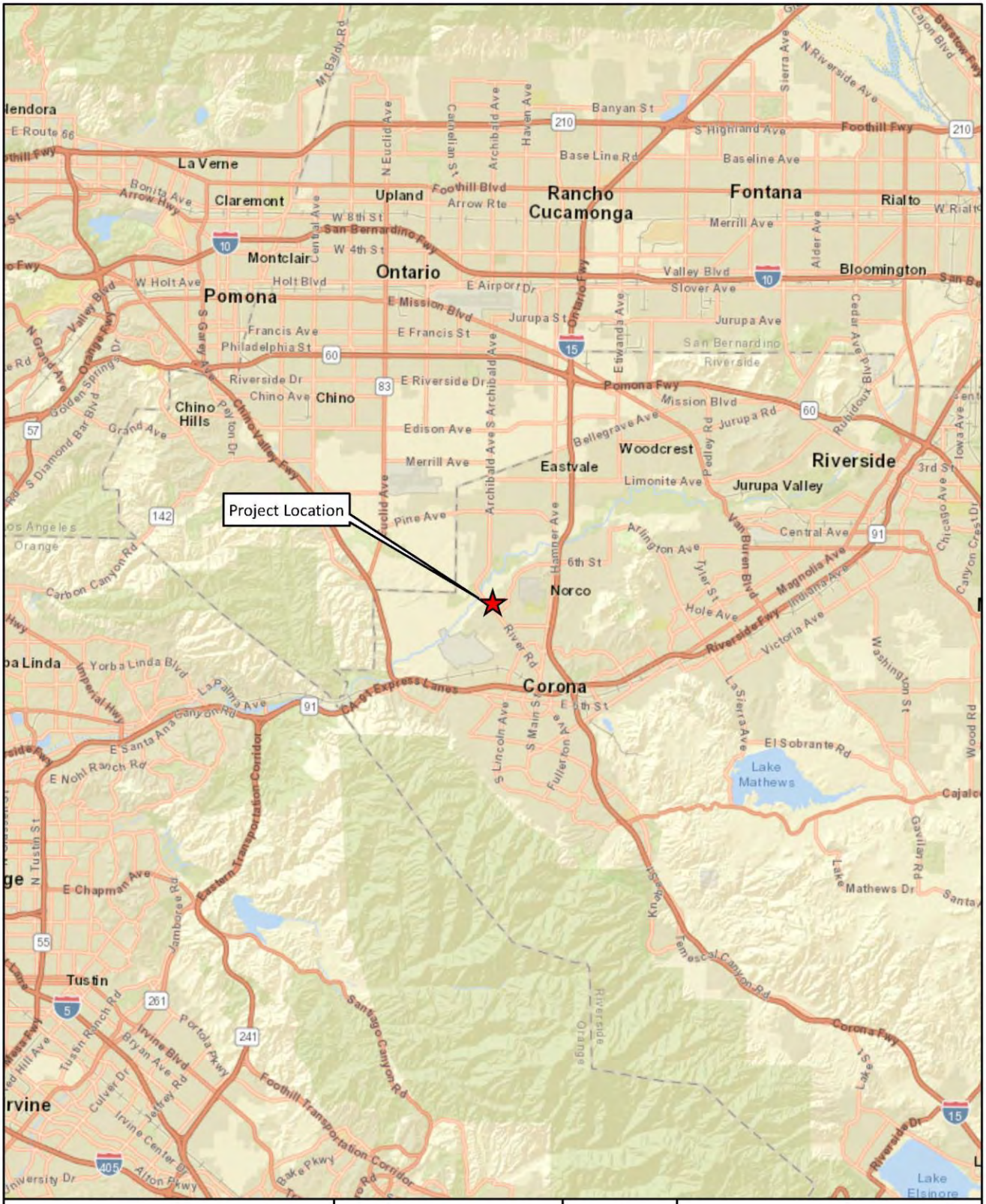
The following terms will be used throughout this document and are defined as follows:

- Project site: The Project site is approximately 37.84 acres comprised of portions of Assessor Parcel Numbers (APNs) 121-110-003 and 121-110-001.
- Project Footprint: The Project Footprint is the approximately 27.57-acre area assessed during the biological survey. The Project Footprint includes the Project site and the immediately adjacent offsite improvement areas needed for street, stormwater, and utility infrastructure.
- Burrowing Owl Study Area: This area includes the Project Footprint plus a 500-foot buffer around the Project Footprint.

STUDY AREA (SA) LOCATION AND DESCRIPTION

The approximately 38-acre Project is located in the City of Norco, Riverside County, California; the Project site is situated in the northeast corner of River Road and Bluff Drive. The Project site is regionally accessible from Interstate 15 (I-15) to the west and California State Route (SR-91) to the north. Access from the I-15 would be approximately 1.3 miles west along Second Street from the Second Street exit to River Road going north for approximately one mile. Access from SR-91 would be from approximately 0.5 mile north on N Main Street and approximately 2.6 miles northwest on River Road [Figures 1 and 2; Regional Location and Aerial Maps]. Most of the site is bordered by residential development. The northwestern boundary is bordered by disturbed/developed land, which is directly adjacent to the Santa Ana River. The Project site is located within Township 3 South and Range 7 West of the United States Geological Survey (USGS) Corona North 7.5-minute quadrangle map. The site comprises portions of Assessor Parcel Numbers (APNs) 121-110-001 and 121-110-003.

The proposed Project requests approval of a General Plan Amendment, a Zone Change, and Tentative Parcel Map, to allow for the development of a 68-unit single family detached housing Project. The Project proposes to retain an existing ranch house proposed on a 1.0-acre lot. The current zoning on the property is A-1-20- Agriculture Low Density, minimum 20,000 square foot lot size. The proposed Project would amend the General Plan designation on the site from Agriculture Low Density to Residential Low and the change the zoning on the site from A-1-20- Agriculture Low Density, minimum 20,000 square foot lot size to A-1-10- Agriculture Low Density, minimum 10,000 square foot lot size.


Project Location
Norco
Corona
Eastvale
Woodcrest
Riverside
Jurupa Valley
Ontario
Rancho Cucamonga
Fontana
Pomona
Chino
Chino Hills
Montclair
Upland
Claremont
La Verne
Tustin
Irvine
Lake Mathews
Lake Elsinore
Prepared By:
VCS Environmental
Map Created: February 2024
Data Sources: ESRI, MDS Consulting
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
0 12,000 24,000
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TACRD Investments
Norco Residential Project
Figure 1
Regional Location Map


Project Site
Project Footprint
Lot B
Not a Part
Not A Part
Lot B
Bluff St
Sundance Ln
Warren Wheel Rd
River Rd
Prepared By:
VCS Environmental
Map Created: February 2024
Data Sources: ESRI, MDS Consulting
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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TACRD Investments
Norco Residential Project
Figure 2
Aerial Vicinity Map

BRANCHIOPOD SURVEYS

Frank Wegscheider [(FW) permit #TE-038716-5] conducted protocol dry season fairy shrimp surveys at the SA on 10 August and 26 October 2022 when all of the sampled depressions were desiccated. Each depression sampled was photographed (Appendix II) and mapped using field-collected global positioning system (GPS) coordinates, during the dry season study. Fairy shrimp sampling sites were located on Public Land Survey Sections (California, San Bernardino Base and Meridian) within the U.S. Geological Survey (USGS) 7.5-minute Corona North quadrangle topographic map.

Depressions Sampled

Five potentially seasonally-ponded depressions (SDs) were originally identified by VCS biologists within the SA prior to the 2022 dry season survey period. An additional six potential SDs were identified during a reconnaissance survey conducted on 26 October 2022 by Frank Wegscheider during soil collections. Hence, a total of eleven SDs were sampled during the dry season sampling period. Given that the northwestern section of the site is currently being used by the City of Norco as a repository for spoils resulting from hydro-drilling operations conducted at various locations throughout the City, additional depression inundations may result during the 2023 rain season. The location of each depression sampled is listed in Table 1 and is depicted in the Dry Seasonal Depression Map (Fig. 3) following.

Sampling Timelines

On 25 July 2022, the United States Fish & Wildlife Service (USFWS) was notified of Intent–to –Perform dry-season surveys for ESA listed branchiopods on the SA. USFWS biologist Rebecca Christensen granted approval on 28 July. Protocol dry season sampling commenced on 14 August and was completed on 23 October whereupon soil samples were collected from the selected SDs. Soil samples were lab-processed beginning on 16 October and were completed on 26 December 2022.

TABLE 1: LOCATION OF SEASONAL DEPRESSIONS SAMPLED ON THE JD RANCH SITE DURING THE 2022 DRY SEASON STUDY

Feature	GPS Coordinates (Lat:/Long:)
Seasonal Depression 1	33.918514°N 117.591324°W
Seasonal Depression 2	33.918370°N 117.5910781°W
Seasonal Depression 3	33.919290°N 117.589679°W
Seasonal Depression 4	33.919439°N 117.589527°W
Seasonal Depression 5	33.920124°N 117.592408°W
Seasonal Depression 6	33.918998°N 117.591868°W
Seasonal Depression 7	33.921155°N 117.591708°W
Seasonal Depression 8	33.921050°N 117.591740°W

Feature	GPS Coordinates (Lat:/Long:)
Seasonal Depression 9	33.921019°N 117.592111°W
Seasonal Depression10	33.920844°N 117.592249°W
Seasonal Depression 11	33.920792°N 117.592072°W
Note: All ponded area locations were recorded using the NAD 83 Datum.	

METHODS

Soil Collection

Soil sample collection and processing followed the U.S. Fish and Wildlife Service Survey Guidelines for the Listed Large Branchiopods (USFWS 2017). Briefly, SDs > 24 $m^{2,}$ were sampled at approximately 10 equidistant points starting at the edge of the ponded area continuing lengthwise and widthwise concentrating on the deeper points within the SD or, in the case of narrow depressions, samples are collected equidistantly in a linear manner**.** Twenty-five subsamples were collected from SDs 1 and 2. SD-10 comprised a complex of five small road ruts of approximately 5 m^2 each. Hence, a total of 15 subsamples were collected from the complex. Soil samples of ~100 milliliter (ml) aliquots were removed at each subsample site (generally for a total of 1 liter/ponded area) and transferred to individually labeled plastic bags for future analysis. Each SD was photographed, and hand-drawn sketches of subsample locations were recorded in field notes**.**

Soil Analysis

Soil analyses were conducted by USFWS-approved branchiopod biologist Frank Wegscheider. Soil samples were placed into a one-gallon plastic container and allowed to pre-soak in water. The resulting slurry was slowly poured into a graded set of stacked U.S. standard 8-inch soil sieves (710, 300, and 150 micron), while concurrently being gently washed with flowing water. Water was directed through the samples for a time period sufficient to wash all of the resting eggs (cysts) into the 150-micron sieve. Soil remaining in the 150-micron and 300-micron sieves was used for analysis. The Project site lies outside of the currently documented range of the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*), which is endemic to California's Central Valley (Rogers, 2001); therefore, it was not necessary to examine the 300-micron samples. Nonetheless, the 300-micron samples were examined for the presence of cladoceran ephippia. To facilitate the analyses, the 150-micron samples were transferred to a 150 ml beaker, whereupon the organic components were thrice-decanted. The remaining organic contents were then examined under a Celestron dissecting microscope at 10-30X for the presence of anostracan cysts.


Project Site
Project Footprint
Lot B
Not a Part
Seasonal Depression
Not A Part
Lot B
Cliff St
Sundance Ln
Wagon Wheel Rd
River Rd
1
2
3
4
5
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Prepared By:
VCS Environmental
Map Created: February 2024
Data Sources: ESRI, MDS Consulting
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TACRD Investments
Norco Residential Project
Figure 3
Seasonal Depression Map

RESULTS OF 2022 DRY SEASON STUDY

A total of six depressions were originally identified within the Project area. Subsequently, an additional five potential SDs were identified during the initial soil collections. Hence, a total of 11 SDs were sampled for the presence of fairy shrimp cysts. No federally listed Riverside fairy shrimp cysts were found in any of the SDs sampled during this suite of surveys, although the Project is located within the documented range of this listed species.
(Eriksen and Belk, 1999). Two of the SDs (#1 and 5) were found to contain a single *Branchinecta* sp. cyst; no fairy shrimp cysts were detected in any of the remaining SDs. The data summary analysis from the SDs sampled is provided in Appendix I. No listed fairy shrimp species were identified in any of the samples. Most of the SDs contained water flea ephippia (the resting eggs of Cladocerans), a non-anostracan branchiopod. Other crustacea associated with two of these SDs (#s 3 and 4) included the cysts and valves of seed shrimp (Ostracoda). A number of hexapod (insect) parts were found in all of the SDs and recorded, but were not identified to species. Selected photographs of the sampled depressions are provided in Appendix II.

DISCUSSION

Seasonal/Vernal Pools

Vernal pools are characterized by shallow, ephemeral wetlands with very specific hydrologic characteristics and possess a unique vegetative community (Zedler, 1987). As such, they are habitat for specific types of wildlife including fairy shrimp. None of the SDs within the SA area supported typical vernal pool vegetation during this suite of survey. Hence, these features were considered to be seasonal pools/depressions and not true vernal pools. However, branchiopods—including listed fairy shrimp—are often found in SDs not meeting the criteria of a typical vernal pool. Further assessment of the duration and extent of inundation will be evaluated during the wet season.

Fairy Shrimp Species of Concern

Two species of anostracan brachiopods listed for protection under the ESA have the potential to occur at or near the Project site: the Riverside fairy shrimp and the vernal pool fairy shrimp (Eriksen and Belk 1999). The versatile fairy shrimp, which ranges throughout this area, is not a concern since it is a widespread and common brachiopod, and not an ESA listed species.

The Riverside fairy shrimp is federally listed as endangered (Federal Register 1993). This species lives in warm-water, long-lived pools with low to moderate total dissolved solids (TDS) generally with a depth greater than 30 centimeters (cm) (Eng, Belk, and Eriksen, 1990; Hathaway and Simovich, 1996; Eriksen and Belk, 1999), although it has recently been found in stock ponds with relatively high TDS (F. Wegscheider, unpublished data). Only one of the low-quality onsite depressions (SD-5) may possess marginally sufficient depth and duration to support Riverside fairy shrimp**.** However, no Riverside fairy shrimp cysts were found in any of the sampled depressions during these surveys.

The federally threatened vernal pool fairy shrimp (Federal Register 1994) lives in short-lived cool-water pools that may exist for only three weeks in the spring, with low to moderate TDS (Eriksen and Belk 1999). Generally, they exist in vernal pools (79 percent), although they are sometimes found in a range of natural and artificially created ephemeral habitats such as alkali pools and seasonal drainages (Federal Register 2003). The vernal pool fairy shrimp generally hatches early in the season when water temperatures are below 10 degrees Celsius (Gallagher 1996; Helm 1998) and may cohabit with the versatile fairy shrimp. However, it is found in very low densities, typically comprising perhaps only 1 to 5 percent of the total containment population.

Widespread and Common Fairy Shrimp Species

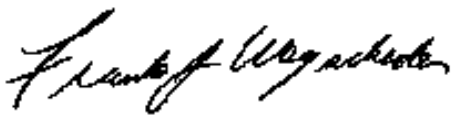
Two of the on-site SDs contained a single *Branchinecta* sp. cyst. Given the SDs morphologies and the lack of any vernal pool indicator plant species, the cysts were most likely those of the common versatile fairy shrimp, is a species typical of disturbed, low-quality habitats. However, differentiation of cysts among species of *Branchinecta* is not possible using a light microscope. There are three known populations of vernal pool fairy shrimp within western Riverside County: Skunk Hollow in unincorporated French Valley, the Santa Rosa Plateau Ecological Reserve near Murrieta, and the Stowe Pools in Hemet. Given that the Project lies within the range of the listed vernal pool fairy shrimp, it was not possible to rule out the presence of vernal pool fairy shrimp in these depressions based on cyst morphology.

Additional Studies Recommended

Based on the USFWS protocol for fairy shrimp surveys, either two consecutive wet season surveys or one full wet season and one dry season are required to complete protocol requirements. A protocol dry season survey has been completed for the 2022 dry season. A 2023 wet season survey should be completed to fulfill the protocol requirements of fairy shrimp surveys at the SA.

If you have any questions regarding this report, please contact me via phone at (714) 402-2899 or email at fwegscheider@fullerton.edu. The primary Project contact is Wade Caffrey at (949) 489-2700 x213.

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.



9 January 2023	TE-038716-5
Frank J. Wegscheider	Date	Permit No.

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APPENDIX I

JD RANCH PROPERTY 2022 DRY SEASON
FAIRY SHRIMP SURVEYS SUMMARY ANALYSIS

SEASONAL DEPRESSION 1 (216 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	+++	++++
2	0	N/A	0	+	+
3	0	N/A	0	++	+++++
4	0	N/A	0	+	++++++
5	0	N/A	0	++	++++
6	0	N/A	0	+	+++
7	0	N/A	0	+	++++
8	0	N/A	0	+	+++++
9	0	N/A	0	+	++++
10	0	N/A	0	+	++++
11	0	N/A	0	+	++++++
12	0	N/A	0	+	++++
13	0	N/A	0	++	+++
14	0	N/A	0	+++	++
15	1	*Branchinecta* sp.	0	++	++
16	0	N/A	0	+	+++
17	0	N/A	0	++	++++
18	0	N/A	0	++	+++
19	0	N/A	0	+++	++++
20	0	N/A	0	++	+++
21	0	N/A	0	+++	+++++
22	0	N/A	0	++	+++
23	0	N/A	0	++	+++
24	0	N/A	0	+	++
15	0	N/A	0	++	+++

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 2 (195 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	++	++++
2	0	N/A	0	+	+++++
3	0	N/A	0	++	++++
4	0	N/A	0	+	+++
5	0	N/A	0	++	+++++
6	0	N/A	0	0	++++
7	0	N/A	0	+	+
8	0	N/A	0	++	+++++
9	0	N/A	0	+	++++++
10	0	N/A	0	+	++++
11	0	N/A	0	++	++++
12	0	N/A	0	+	+++++
13	0	N/A	0	+	+++
14	0	N/A	0	++	++++++
15	0	N/A	0	+	++++
16	0	N/A	0	+++	+++
17	0	N/A	0	+	++++
18	0	N/A	0	+	++++
19	0	N/A	0	++	+++++
20	0	N/A	0	+	++++
21	0	N/A	0	+	+++
22	0	N/A	0	+	+++++
23	0	N/A	0	+	++++
24	0	N/A	0	++	+++++
25	0	N/A	0	++	+++++

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 3 (14 m²)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	+	+
2	0	N/A	0	+	+
3	0	N/A	0	+	+
4	0	N/A	0	+	+
5	0	N/A	+	+	++
6	0	N/A	+	++	++
7	0	N/A	+	+	+
8	0	N/A	++	+	+
9	0	N/A	++	+	++
10	0	N/A	+	+	+

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 4 (24 m²)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	++++	+	++
2	0	N/A	+++++	++	++
3	0	N/A	++++++	+	++
4	0	N/A	++++++	+	+++
5	0	N/A	++++++	+	+++
6	0	N/A	++++++	+	+++
7	0	N/A	++++++	+	+++
8	0	N/A	++++++	+	+++
9	0	N/A	++++++	++	+++
10	0	N/A	+	++	+

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 5 (20 m²)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	+	0
2	0	N/A	0	+	+
3	1 N/V	*Branchinecta* sp.	0	+	+
4	0	N/A	0	+	0
5	0	N/A	0	0	0
6	0	N/A	0	0	0
7	0	N/A	0	+	0
8	0	N/A	0	+	0
9	0	N/A	0	+	0
10	0	N/A	0	0	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 6 (21 m²)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	++	0
2	0	N/A	0	++	0
3	0	N/A	0	+	0
4	0	N/A	0	+	0
5	0	N/A	0	++	+
6	0	N/A	0	+	0
7	0	N/A	0	+	0
8	0	N/A	0	++	0
9	0	N/A	0	+	0
10	0	N/A	0	+	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 7 (19.5 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	+	+
2	0	N/A	0	+	+
3	0	N/A	0	+	0
4	0	N/A	0	+	0
5	0	N/A	0	+	0
6	0	N/A	0	++	0
7	0	N/A	0	0	0
8	0	N/A	0	0	0
9	0	N/A	0	0	0
10	0	N/A	0	0	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 8 (16 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	0	0
2	0	N/A	0	0	0
3	0	N/A	0	+	0
4	0	N/A	0	0	0
5	0	N/A	0	0	0
6	0	N/A	0	0	0
7	0	N/A	0	+	0
8	0	N/A	0	0	+
9	0	N/A	0	0	0
10	0	N/A	0	+	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 9 (18 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	+	0
2	0	N/A	0	0	0
3	0	N/A	0	+	0
4	0	N/A	0	+	0
5	0	N/A	0	+	0
6	0	N/A	0	0	0
7	0	N/A	0	+	0
8	0	N/A	0	0	0
9	0	N/A	0	0	0
10	0	N/A	0	0	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 10 (25 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	0	0
2	0	N/A	0	+	+
3	0	N/A	0	0	0
4	0	N/A	0	+	0
5	0	N/A	0	+	0
6	0	N/A	0	0	0
7	0	N/A	0	0	0
8	0	N/A	0	+	0
9	0	N/A	0	0	0
10	0	N/A	0	+	0
11	0	N/A	0	0	0
12	0	N/A	0	0	0
13	0	N/A	0	0	0
14	0	N/A	0	0	0
15	0	N/A	0	+	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

SEASONAL DEPRESSION 11 (22.5 m^2)					
Subsample number	**Cyst quantity**	**Genus/species**	**Ostracod cysts**	**Hexapod exoskeleton**	**Cladocera ephippia**
1	0	N/A	0	0	0
2	0	N/A	0	+	0
3	0	N/A	0	0	0
4	0	N/A	0	+	0
5	0	N/A	0	0	0
6	0	N/A	0	+	0
7	0	N/A	0	0	0
8	0	N/A	0	0	0
9	0	N/A	0	0	0
10	0	N/A.	0	0	0

N/A = Not Applicable N/V = Non-Viable N/R = Not Recorded
+ = Relative number of individuals

APPENDIX II

JD RANCH PROPERTY 2022 DRY SEASON
FAIRY SHRIMP SURVEYS PHOTOGRAPHIC DOCUMENTATION

Depression 1 Location: Lat:/Long: 33.918514°N 117.591324°W Date: 11 August 2022
View looking northwest Photo by: F. J. Wegscheider

Depression 2 Location: Lat:/Long: 33.918370°N 117.5910781°W Date: 11 August 2022
View looking south Photo by: F. J. Wegscheider

Depression 3 Location: Lat:/Long: 33.919290°N 117.589679°W Date: 11 August 2022
View looking northeast Photo by: F. J. Wegscheider

Depression 4 Location: Lat:/Long: 33.919439°N 117.589527°W Date: 11 August 2022
View looking northeast Photo by: F. J. Wegscheider

Depression 5 Location: Lat:/Long: 33.920124°N 117.592408°W Date: 11 August 2022
View looking northwest Photo by: F. J. Wegscheider

Depression 6 Location: Lat:/Long: 33.918998°N 117.591868°W Date: 11 August 2022
View looking southwest Photo by: F. J. Wegscheider

Depression 7 Location: Lat:/Long: 33.921155°N 117.591708°W Date: 26 October 2022
View looking northeast Photo by: F. J. Wegscheider

Depression 8 Location: Lat:/Long: 33.921050°N 117.591740°W Date: 26 October 2022
View looking northeast Photo by: F. J. Wegscheider

Depression 9 Location: Lat:/Long: 33.921019°N 117.592111°W Date: 26 October 2022
View looking northeast Photo by: F. J. Wegscheider

Depression 10 Location: Lat:/Long: 33.920792°N 117.592072°W Date: 26 October 2022
View looking north Photo by: F. J. Wegscheider

Depression 11 Location: Lat:/Long: 33.588392°N -117.087610°W Date: 26 October 2022
View looking northeast Photo by: F. J. Wegscheider

30 June 2023

Ms. Stacy Love
Recovery Permit Coordinator
U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife
Office 2177 Salk Avenue, Suite
250
Carlsbad, CA 92008

Re: 90-Day Letter Report of Wet Season Vernal Pool Branchiopod Sampling for the JD Ranch Property in Norco, Riverside County, California; Conducted Under The Endangered Species Act Section 10(A)(1)(A) Permit # TE-038716-5.

Dear Ms. Love:

The following report has been prepared to submit primary survey data and results of the 2023 wet season sampling for vernal pool branchiopods listed under the Federal Endangered Species Act of 1973 (ESA) on the JD Ranch Property in Riverside County, California.

SUMMARY

Frank Wegscheider conducted wet season surveys for federally endangered or threatened branchiopods at the JD Ranch Property in Norco, Riverside County, California. Survey sampling was authorized under the ESA Section 10(a)(1)(A) and was conducted by Frank Wegscheider (permit #TE-038716-5) in accordance with the U.S. Fish and Wildlife Service Survey Guidelines for the Listed Large Branchiopods (USFWS, 2017). Nineteen seasonal depressions were sampled within the Study Area. No federally listed Riverside fairy shrimp (*Streptocephalus woottoni)*, San Diego fairy shrimp (*Branchinecta sandiegoensis),* or federally threatened vernal pool fairy shrimp (*Branchinecta lynchi)* were found in any of the sampled depressions during the 2023 wet season sampling surveys.

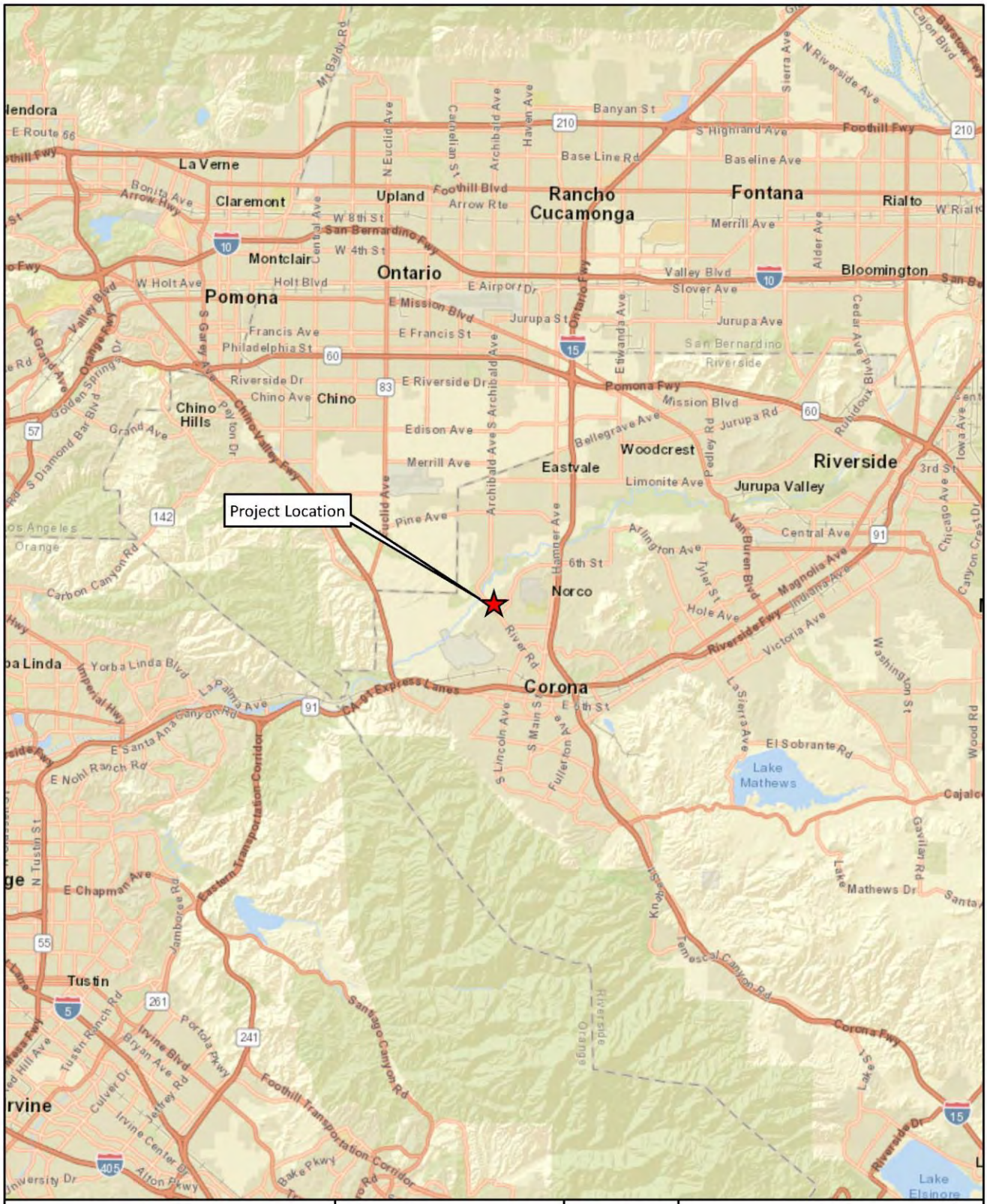
The following terms will be used throughout this document and are defined as follows:

- Project site: The Project site is approximately 37.84 acres comprised of portions of Assessor Parcel Numbers (APNs) 121-110-003 and 121-110-001.
- Project Footprint: The Project Footprint is the approximately 27.57-acre area assessed during the biological survey. The Project Footprint includes the Project site and the immediately adjacent offsite improvement areas needed for street, stormwater, and utility infrastructure.
- Burrowing Owl Study Area: This area includes the Project Footprint plus a 500-foot buffer around the Project Footprint.

STUDY AREA (SA) LOCATION AND DESCRIPTION

The approximately 38-acre Project is located in the City of Norco, Riverside County, California; the Project site is situated in the northeast corner of River Road and Bluff Drive. The Project site is regionally accessible from Interstate 15 (I-15) to the west and California State Route (SR-91) to the north. Access from the I-15 would be approximately 1.3 miles west along Second Street from the Second Street exit to River Road going north for approximately one mile. Access from SR-91 would be from approximately 0.5 mile north on N Main Street and approximately 2.6 miles northwest on River Road [Figures 1 and 2; Regional Location and Aerial Maps]. Most of the site is bordered by residential development. The northwestern boundary is bordered by disturbed/developed land, which is directly adjacent to the Santa Ana River. The Project site is located within Township 3 South and Range 7 West of the United States Geological Survey (USGS) Corona North 7.5-minute quadrangle map. The site comprises portions of Assessor Parcel Numbers (APNs) 121-110-001 and 121-110-003.

The proposed Project requests approval of a General Plan Amendment, a Zone Change, and Tentative Parcel Map, to allow for the development of a 68-unit single family detached housing Project. The Project proposes to retain an existing ranch house proposed on a 1.0-acre lot. The current zoning on the property is A-1-20- Agriculture Low Density, minimum 20,000 square foot lot size. The proposed Project would amend the General Plan designation on the site from Agriculture Low Density to Residential Low and the change the zoning on the site from A-1-20- Agriculture Low Density, minimum 20,000 square foot lot size to A-1-10- Agriculture Low Density, minimum 10,000 square foot lot size.



Prepared By:
VCS Environmental

TACRD Investments
Norco Residential Project

Figure 1 Regional Location Map

Prepared By:
VCS Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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TACRD Investments
Norco Residential Project

Figure 2 Aerial Vicinity Map

VEGETATION

Vegetation Communities/Land Cover

Vegetation surveys were conducted by VCS biologist Sierra Valladares. Vegetation/land cover mapping and acreages for each vegetation community and land type within the Project Footprint can be found in Table 1. A vegetation community/land cover is 0.10 acre or larger in size. The majority of the vegetation within the Project Footprint is characterized by open fields comprised of herbaceous non-native forbs and grasses vegetated with a variety of non-native and early successional weedy plant species.

Common non-native plant species observed during the surveys included barley (*Hordeum* sp.), brome grasses (*Bromus* sp. and *Avena* sp.), and mustard species (*Hirschfeldia* sp., *Brassica* sp., *Sisymbrium* sp.). Common native species observed included common fiddleneck (*Amsinckia menziesii*). Other scattered shrubs observed within the Project footprint include mule fat (*Baccharis salicifolia*), coyote brush (*Baccharis pilularis*), and Menzies' goldenbush (*Isocoma menziesii*). However, these were not vegetation communities large enough to call out separately.

Table 1. Vegetation Communities/Land Cover Observed

Vegetation Community/Land Cover Type	Project Footprint (acres)
Herbaceous Non-Native Forbs and Grasses	17.8
Ornamental	0.5
Disturbed/Developed	9.3
Total	**27.6**

Herbaceous Non-Native Forbs and Grasses

Approximately 17.8 acres of herbaceous non-native forbs and grasses was mapped within a majority of the Project Footprint. Common non-native plant species observed include mustard species, mostly London rocket (*Sisymbrium irio*), stinknet (*Oncosiphon piluliferum*), Russian thistle (*Salsola tragus*), and Australian saltbush (*Atriplex semibaccata).*

Ornamental

Approximately 0.5 acre of ornamental vegetation was mapped within the southwestern corner of the Project Footprint. This community includes approximately 20 Mexican fan palms (*Washingtonia robusta*) and other ornamental trees and shrubs near the existing residence and along the western boundary.

Disturbed/Developed

Approximately 9.3 acres of disturbed/developed area was mapped within the southern and western portion the Project Footprint. This land cover includes residential development, paved driveways, old agriculture shade structures, and highly disturbed areas with little to no vegetation. Native species observed scattered and in low cover in this area include mule fat, Menzies' goldenbush, and non-native grasses.

Special Status Vegetation Communities

The Project Footprint does not support any sensitive vegetation communities. Southern Cottonwood Willow Riparian Forest habitat was reported in the CNDDB approximately 1 mile north-northwest of the Project site within the Santa Ana River but is not present within the Project Footprint.

Plants

A total of 39 plant species were observed within the Project Footprint during the 2022 biological surveys.

Sensitive Plant Species with Potential to Occur

Sensitive plant species include federally, or state listed threatened or endangered species and those species listed on CNPS's rare and endangered plant inventory. Species with the potential to occur onsite were analyzed based on distribution, habitat requirements, and existing site conditions.

No sensitive plant species were observed within the Project Footprint during the 2022 surveys including the rare plant survey conducted on April 27, 2022. Based on the lack of suitable habitat onsite and the negative findings during the April 27, 2022 rare plant survey, sensitive plant species are not expected to occur.

HYDROLOGICAL MONITORING

Frank Wegscheider commenced hydrological monitoring of the SA in October 2022. The first rains of the 2023 wet season occurred during October 2022. However, no ponding was noted at this time. The next substantial rainfall events that resulted in ponding occurred during November 2022. Inundation of some of the SDs was initially observed in mid-November, whereupon wet season fairy shrimp surveys at the SA commenced. The final rain event of the season that resulted in inundation occurred in early May 2023, but monitoring/sampling continued until the last date of June 2023. Table 2 below displays the 2022-2023 monthly rainfall totals.

TABLE 2

2022-2023 MONTHLY RAINFALL TOTALS
FOR THE JD RANCH PROPERTY

MONTH	RAINFALL (in inches)
October 2022	0.30
November 2022	2.09
December 2023	1.64
January 2023	2.98
February 2023	1.43
March 2023	6.20
April 2023	0.01
May 2023	0.78
June 2023	0
Total	**15.43**
Source: https://www.wunderground.com/history/monthly/us/ca/norco/KONT	

BRANCHIOPOD SURVEYS

Frank Wegscheider [(FW) permit #TE-038716-5] conducted protocol wet season fairy shrimp surveys at the SA commencing on 11 November 2022 and continuing through 13 May 2023 when all of the sampled depressions were desiccated. Each depression sampled was photographed (Appendix I) and mapped using field-collected global positioning system (GPS) coordinates, during the wet season study. Fairy shrimp sampling sites were located on Public Land Survey Sections (California, San Bernardino Base and Meridian) within the U.S. Geological Survey (USGS) 7.5-minute Corona North quadrangle topographic map.

Depressions Sampled

Five potentially seasonally-ponded depressions (SDs) had been originally identified by VCS biologists within the SA prior to the 2023 wet season survey period. An additional six potential SDs were identified during a reconnaissance survey conducted on 26 October 2022 by Frank Wegscheider during soil collections. Given that the northwestern section of the site is currently being used by the City of Norco as a repository for spoils resulting from hydro-drilling operations conducted at various locations throughout the City, the creation of eight additional depression inundations were documented and sampled out of an abundance of caution during the wet season sampling period. Hence, a total of nineteen SDs were sampled during the 2023 rain season. The location of each depression sampled is listed in Table 3 and is depicted in the Wet Season Survey Sampling Locations Map (Fig. 3) following.

TABLE 3

LOCATION OF SEASONAL DEPRESSIONS SAMPLED ON THE JD RANCH SITE DURING THE 2023 WET SEASON STUDY

Feature	GPS Coordinates (Lat:/Long:)
Seasonal Depression 1	33.918514°N 117.591324°W
Seasonal Depression 2	33.918370°N 117.5910781°W
Seasonal Depression 3	33.919290°N 117.589679°W
Seasonal Depression 4	33.919439°N 117.589527°W
Seasonal Depression 5	33.920124°N 117.592408°W
Seasonal Depression 6	33.918998°N 117.591868°W
Seasonal Depression 7	33.921155°N 117.591708°W
Seasonal Depression 8	33.921050°N 117.591740°W
Seasonal Depression 9	33.921019°N 117.592111°W
Seasonal Depression10	33.920844°N 117.592249°W
Seasonal Depression 11	33.920792°N 117.592072°W
Seasonal Depression 12	33.920519°N 117.592519°W
Seasonal Depression 13	33.919624°N 117.593297°W
Seasonal Depression 14	33.921537°N 117.591160°W
Seasonal Depression 15	33.921121°N 117.591235°W
Seasonal Depression 16	33.921108°N 117.591330°W
Seasonal Depression 17	33.921035°N 117.591268°W
Seasonal Depression 18	33.920895°N 117.591294°W
Seasonal Depression 19	33.920914°N 117.591634°W
Note: All ponded area locations were recorded using the NAD 83 Datum.	

Sampling Timelines

On 18 October 2022, the United States Fish & Wildlife Service (USFWS) was notified of Intent–to –Perform wet-season surveys for ESA listed branchiopods on the SA. USFWS biologist Rebecca Christensen granted approval on 19 October 2022. Protocol wet season sampling commenced on 11 November and was completed on 13 May 2023 when all of the SDs were desiccated.

The first rains of the 2022 wet season occurred during October 2021. However, no ponding was noted at this time. The next substantial rainfall events that resulted in ponding occurred during November 2022. Monthly rainfall data, as recorded by WeatherUnderground.com, are provided in Table 2. Protocol wet season sampling commenced on 11 November, whereupon two of the depressions retained at least 3 centimeters (cm) of standing water for a period exceeding 24 hours.

Prepared By:
VCUE Environmental

Map Created: February 2024
Data Sources: ESRI, MDS Consulting

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

0 150 300
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N
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TACRD Investments
Norco Residential Project

Figure 3 Seasonal Depression Map

Surveys dates comprise the following: 1/11, 12/13, 12/20 (2022) and 1/03, 1/11, 1/18, 1/25, 1/31, 2/28, 3/07, 3/14, 3/21, 3/28, 4/05, 4/12, 5/06, and 5/13 (2023). The final recorded rainfall event of the wet season that resulted in inundation occurred during early May 2023.

METHODS

Wet Season sampling

Wet season sampling followed the USFWS Survey Guidelines for the Listed Large Branchiopods to Permittees for Recovery Permits Under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods. In short, pools are considered inundated once they have retained 3 cm of standing water for a period exceeding 24 hours. Pools are then sampled within 3 days of inundation and then re-sampled every 7 days thereafter until they are desiccated or until the pool has experienced 120 days of continuous inundation. If pools dry and then refill, sampling is reinitiated within 8 days of refilling**.**

Each depression/pool was photographed (see Appendix I) and the location was recorded using a Garmin handheld GPS receiver. At each subsequent visit the air temperature, wind speed and other weather conditions (Table 4) were recorded along with the maximum surface area, depth, water temperature, and total dissolved solids (TDS) of each depression. The depressions were sampled throughout the entire water column, including edges and bottom, with a standard 500-micron aquatic dip net (Bioquip®). Additionally, a 10-micron aquarium net was often used to sample the water column to ascertain the presence of newly hatched fairy shrimp and other small branchiopods (e.g., cladocerans and conchostracans).

RESULTS OF 2023 WET SEASON STUDY

Five seasonal depressions were originally identified within the Project area prior to the 2023 wet season. Subsequently, an additional fourteen SDs were identified during the wet season study. Hence, a total of nineteen SDs were sampled for the presence of fairy shrimp. The data summary analysis from the SD's sampled is provided in Appendix II.

No federally listed Riverside fairy shrimp, San Diego fairy shrimp (*Branchinecta sandiegoensis),* or federally threatened vernal pool fairy shrimp were found in any of the sampled depressions during the 2023 wet season sampling surveys. Furthermore, no versatile fairy shrimp (*Branchinecta lindahli*) a non-listed common anostracan species—were documented in any of the SDs. Seed shrimp (Ostracoda) comprised the only crustacea that was found in three of these SDs (Nos. 3, 4, and 14). Aquatic hexapods (insects) associated with several of the SDs included springtails (Collembola), midge larvae (Chrironomidae), mosquito larvae (Culicidae), water boatmen (Corixidae), and predaceous diving beetle larvae and adults (Dytiscidae). Selected photographs of the sampled depressions are provided in Appendix I.

TABLE 4

2022-2023 WEATHER CONDITIONS
FOR THE JD RANCH PROPERTY

VISIT	DATE	TEMPERATURE	WINDS	CLOUD COVER	RELATIVE HUMIDITY
1	11/11/22	62.4-70.1° F	0 mph	0%	49.8-43.3%
2	12/13/22	N/R	N/R	N/R	N/R
3	12/20/22	N/R	N/R	N/R	N/R
4	01/04/23	59.9	3.4-4.5 mph	95%	77.4%
5	01/11/23	60.6-67.6° F	0.8-2.7 mph	90-50%	66.5-61.4%
6	01/18/23	60-69° F	0-3.0 mph	15-30%	42.3-45.0%
7	01/25/23	68.5-71.2° F	5.4-13.1 mph	0%	24.9-26.5%
8	01/31/23	60.6-61.2° F	8.5-17.1 mph	0%	20.7-35.1%
9	02/28/23	54.5-62.6° F	0.7-5.1 mph	80%	57.2-50.1%
10	03/07/23	61.2-73.8° F	1.1-4.0 mph	5%	48.1-39.1%
11	03/14/23	64.9-62.6° F	0-0.9 mph	100%	65.5-74.9% (rain)
12	03/21/23	59.9-67.3° F	1.2-4.2 mph	90-80%	72.6-60.4%
13	03/28/23	69.8-75.2° F	1.8-5.9 mph	0%	34.8-32.2%
14	04/05/23	64.6-74.7° F	1.6-2.8 mph	0%	34.6-28.7%
15	04/12/23	60.5° F	3.5-3.7 mph	100%	67.8%
16	05/06/23	61-64° F	1-3 mph	20-30%	N/R
17	05/13/23	82.3° F	3.1-5.4	0%	53.6%

N/R = Not Recorded

DISCUSSION

Seasonal/Vernal Pools

Vernal pools are characterized by shallow, ephemeral wetlands with very specific hydrologic characteristics and possess a unique vegetative community (Zedler, 1987). As such, they are habitat for specific types of wildlife including fairy shrimp. None of the SDs within the SA supported typical vernal pool vegetation during this suite of surveys. The SDs in the northwest portion of the site (SDs 5 and 7-19) that were created as a result of ongoing City of Norco activities were highly disturbed, comprising unvegetated road ruts and spoil deposits resulting from soil hydro-drilling operations and vehicular traffic through the site. Hence, these features were named as seasonal depressions and not true vernal pools, although branchiopods—including listed fairy shrimp—may be found in SDs not meeting the criteria of a typical vernal pool. These created seasonal depressions by the City of Norco were sampled out of an abundance of caution and were determined as a result of this wet season survey to not support listed fairy shrimp. Two of the SDs that were created by the City of Norco (Nos. 19 and 18) were subsequently filled with spoils on 1/18 and 2/28 respectively, and SD-5 never inundated during the wet season.

Fairy Shrimp Species of Concern

Three species of anostracan brachiopods listed for protection under the ESA have the potential to occur at or near the Project site: the Riverside fairy shrimp and the vernal pool fairy shrimp (Eriksen and Belk 1999). The versatile fairy shrimp, which ranges throughout this area, is not a concern since it is a widespread and common brachiopod, and not an ESA listed species.

The Riverside fairy shrimp is federally listed as endangered (Federal Register 1993). This species lives in warm-water, long-lived pools with low to moderate total dissolved solids (TDS) generally with a depth greater than 30 cm (Eng, Belk, and Eriksen, 1990; Hathaway and Simovich, 1996; Eriksen and Belk, 1999), although it has recently been found in stock ponds with relatively high TDS (F. Wegscheider, unpublished data). Only one of the low-quality onsite depressions (SD-5) may possess marginally sufficient depth and duration to support Riverside fairy shrimp**.** However, no Riverside fairy shrimp cysts were found in any of the sampled depressions during these surveys.

The federally threatened vernal pool fairy shrimp (Federal Register 1994) lives in short-lived cool- water pools that may exist for only three weeks in the spring, with low to moderate TDS (Eriksen and Belk 1999).
Generally, they exist in vernal pools (79 percent), although they are sometimes found in a range of natural and artificially created ephemeral habitats such as alkali pools and seasonal drainages (Federal Register 2003). The vernal pool fairy shrimp generally hatches early in the season when water temperatures are below 10 degrees Celsius (Gallagher 1996; Helm 1998) and may cohabit with the versatile fairy shrimp. However, it is found in very low densities, typically comprising perhaps only 1 to 5 percent of the total containment population.

The federally listed San Diego fairy shrimp **(***Branchinecta sandiegonensis*) (USFWS, 2000) typically exists in cool-water, short-lived pools (Eriksen and Belk, 1999), the same conditions that (*Branchinecta lindahli)* thrive in. Cysts hatch in 3-4 days at 10-15º C; hatching will not occur at warmer temperatures and larvae will then mature in 10-20 days as temperatures fluctuate around 20º C (Hathaway & Simovich, 1996). The fairy shrimps generally die after approximately one month, but subsequent cohorts can hatch after following rain events (USFWS, 2000). The site lies outside of the current range of
B. sandiegonensis (Fugate, 1993*)*, but conditions are likely suitable for hatching and maturation of the San Diego fairy shrimp.

Widespread and Common Fairy Shrimp Species

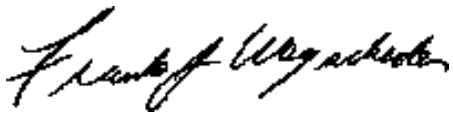
The versatile fairy shrimp, which ranges throughout this area, is not a concern since it is a widespread and common brachiopod, and not an ESA listed species.

Additional Studies Recommended

Based on the USFWS protocol for fairy shrimp surveys, either two consecutive wet season surveys or one full wet season and one dry season are required to complete protocol requirements. A protocol dry season survey was completed for the site during the 2022 dry season. This 2023 wet season survey, in combination with the dry season survey, fulfills the protocol requirements for fairy shrimp surveys at the SA.

If you have any questions regarding this report, please contact me via phone at (714) 402-2899 or email at fwegscheider@fullerton.edu. The primary Project contact is Wade Caffrey at (949) 489-2700 x213.

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.



30 June 2023	TE-038716-5	
Frank J. Wegscheider	Date	Permit No.

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APPENDIX I

JD RANCH PROPERTY 2023 WET SEASON

FAIRY SHRIMP SURVEYS PHOTOGRAPHIC DOCUMENTATION

Photo Number	Direction	Description
1	North	 View of site from south corner. Date: 4 January 2023
2	Southwest	 View of site from east corner. Date: 4 January 2023

Photo Number	Direction	Description
3	South/ southwest	 View of site from north corner. Date: 4 January 2023
4	Northwest	 View of site from south corner. Date: 4 January 2023

Photo Number	Direction	Description
5	Southeast	 Seasonal Depression 1 Date: 11 January 2023
6	South/ southeast	 Seasonal Depression 2 Date: 11 January 2023

Photo Number	Direction	Description
7	North/ northeast	 Seasonal Depression 3 Date: 28 February 2023
8	North/ northeast	 Seasonal Depression 4 Date: 11 January 2023

Photo Number	Direction	Description
9	Northeast	 Seasonal Depression 5 Date: 03 March 2023
10	North/ northeast	 Seasonal Depression 6 Date: 28 February 2023

Photo Number	Direction	Description
11	Northeast	 Seasonal Depression 7 Date: 04 January 2023
12	Northeast	 Seasonal Depression 8 Date: 11 January 2023

Photo Number	Direction	Description
13	Northeast	 Seasonal Depression 9 Date: 11 January 2023
14	Northeast	 Seasonal Depression 10 Date: 18 January 2023

Photo Number	Direction	Description
15	Northeast	 Seasonal Depression 11 Date: 11 January 2023
16	Northwest	 Seasonal Depression 12 Date: 11 January 2023

Photo Number	Direction	Description
17	Northeast	 Seasonal Depression 13 Date: 11 January 2023
18	Northeast	 Seasonal Depression 14 Date: 18 January 2023

Photo Number	Direction	Description
19	Northeast	 Seasonal Depression 15 Date: 18 January 2023
20	Northeast	 Seasonal Depression 16 Date: 11 January 2023

Photo Number	Direction	Description
21	North/ northwest	 Seasonal Depression 17 Date: 18 January 2023
22	Northwest	 Seasonal Depression 18 Date: 11 January 2023

Photo Number	Direction	Description
23	North/ northwest	 Seasonal Depression 19 Date: 11 January 2023

APPENDIX II

JD RANCH PROPERTY 2023 WET SEASON
FAIRY SHRIMP SURVEYS SUMMARY ANALYSIS

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-1								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	35	5	19.1	168	N/R	0	0	0
01/18/23	30.5	5	20.8	3220	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	0	N/A	N/A	N/A	N/A	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	120	8	15.6	501	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-2								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	0	N/A	N/A	N/A	N/A	0	0	0
01/18/23	0	N/A	N/A	N/A	N/A	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	0	N/A	N/A	N/A	N/A	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	25	4	16.7	174	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-3								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	0	N/A	N/A	N/A	N/A	0	0	0
01/18/23	0	N/A	N/A	N/A	N/A	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	1.5	1	12.8	239	N/R	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	24	10	14.8	227	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-4								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	0	N/A	N/A	N/A	N/A	0	0	0
01/18/23	0.75	1	10.8	2660	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	9	3	11.7	892	N/R	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	15	6	14.1	N/R	N/	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-5								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
12/19/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	0	N/A	N/A	N/A	N/A	0	0	0
01/18/23	0	N/A	N/A	N/A	N/A	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	0	N/A	N/A	N/A	N/A	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	0	N/A	N/A	N/A	N/A	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-6								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	.015	1	20.2	150	N/R	0	0	0
01/18/23	0	N/A	N/A	N/A	N/A	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	6	2	19.8	558	N/R	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	75	6	15.9	1070	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-7								
11/11/22	3	4	14.2	208	N/R	0	0	0
12/13/22	0.5	7	18.2	116	N/R	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	33	5	17.1	123	N/R	0	0	0
01/11/23	50	8	11.1	46.8	N/R	0	0	0
01/18/23	37.5	7	15.5	60.5	N/R	0	0	0
01/25/23	2.5	3	15.7	140	N/R	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	27	9	18.4	94.3	N/R	0	0	0
03/07/23	13.5	6	23.6	133	N/R	0	0	0
03/14/23	26	5	16.1	145	N/R	0	0	0
03/21/23	50	11	17.6	77.1	N/R	0	0	0
03/28/23	22.5	6	24.2	154	N/R	0	0	0
04/05/23	18	4	23.8	226	N/R	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-8								
11/11/22	4	2	17.1	127	N/R	0	0	0
12/13/22	16	4	16.1	148	N/R	0	0	0
12/20/22	2.25	3	17.4	292	N/R	0	0	0
01/03/23	21	7	17.7	77.7	N/R	0	0	0
01/11/23	16.5	6	11.9	55.7	N/R	0	0	0
01/18/23	24.5	5	16.9	49.2	N/R	0	0	0
01/25/23	6	3	15.9	154	N/R	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	27	6	20.3	N/R	N/R	0	0	0
03/07/23	0.75	3	21.7	192	N/R	0	0	0
03/14/23	4	3	16.6	163	N/R	0	0	0
03/21/23	16	4	20.6	53.8	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-9								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	1.5	1	18.4	30	N/R	0	0	0
01/11/23	4	3	15.0	791	N/R	0	0	0
01/18/23	1	2	18.0	76.8	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	2	2	21.4	38.8	N/R	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	4	4	21.5	35.3	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-10								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	8	3	18.9	117	N/R	0	0	0
01/03/23	8	3	18.9	N/R	N/R	0	0	0
01/11/23	8	N/R	N/R	N/R	N/R	0	0	0
01/18/23	12	4	18.0	76.2	N/R	0	0	0
01/25/23	0.5	1.5	16.6	207	N/R	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	8	6	17.0	260	N/R	0	0	0
03/07/23	7.5	5	23.8	121	N/R	0	0	0
03/14/23	4	4	15.9	89	N/R	0	0	0
03/21/23	16	4	18.4	41.1	N/R	0	0	0
03/28/23	1.5	3	21.2	167	N/R	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-11								
11/11/22	1	1	16.5	475	N/R	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	5.5	3	19.1	268	N/R	0	0	0
01/11/23	15	3	14.2	108	N/R	0	0	0
01/18/23	N/R	N/R	N/R	N/R	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	10	5	19.7	113	N/R	0	0	0
03/07/23	0.7	2	24.1	300	N/R	0	0	0
03/14/23	0	N/A	N/A	N/A	N/A	0	0	0
03/21/23	15	3	20.6	66	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/R	0	0	0
04/05/23	0	N/A	N/A	N/A	N/R	0	0	0
04/12/23	0	N/A	N/A	N/A	N/R	0	0	0
05/06/23	0	N/A	N/A	N/A	N/R	0	0	0
05/13/23	0	N/A	N/A	N/A	N/R	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-12								
11/11/22	4	3	17.3	66.9	N/R	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	12	4	19.1	67	N/R	0	0	0
01/11/23	9	5	14.4	65.3	N/R	0	0	0
01/18/23	12	7	16.6	52.8	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	13.5	5	20.5	71.5	N/R	0	0	0
03/07/23	1	2	25.4	85.6	N/R	0	0	0
03/14/23	12	5	16.4	125	N/R	0	0	0
03/21/23	15	5	19.6	51.4	N/R	0	0	0
03/28/23	4	4	24.1	124	N/R	0	0	0
04/05/23	3	3	23.7	165	N/R	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	5	7	23.2	78.5	N/R	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-13								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	3	8	19.1	67	N/R	0	0	0
01/11/23	3	13	13.7	61.1	N/R	0	0	0
01/18/23	4	10	16.5	54.6	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	5	10	20.0	52.9	N/R	0	0	0
03/07/23	0.25	2	25.7	136	N/R	0	0	0
03/14/23	5	7	16.3	81	N/R	0	0	0
03/21/23	7.5	14	17.6	62.4	N/R	0	0	0
03/28/23	2	5	26.3	102	N/R	0	0	0
04/05/23	1	3	26.0	134	N/R	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	3	7	25.7	143	N/R	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-14								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	33	6	14.1	91.1	N/R	0	0	0
01/18/23	30	10	14.6	51.1	N/R	0	0	0
01/25/23	10	4	16.0	170	N/R	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	40	9	19.2	85	N/R	0	0	0
03/07/23	21	7	22.5	103	N/R	0	0	0
03/14/23	27	7	16.7	118	N/R	0	0	0
03/21/23	56	10	18.3	53.4	N/R	0	0	0
03/28/23	18	5	25.1	133	N/R	0	0	+
04/05/23	18	4	25.0	213	N/R	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	24	6	20.0	141	N/R	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-15								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	24	4	14.7	88.2	N/R	0	0	0
01/18/23	15	4	15.0	60.2	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	25	6	18.9	82.6	N/R	0	0	0
03/07/23	.03	1	24.1	80.4	N/R	0	0	0
03/14/23	23	4	16.4	108	N/R	0	0	0
03/21/23	240	6	20.7	32.7	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-16								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	28	4	16.3	72.5	N/R	0	0	0
01/18/23	23	3	16.8	68.3	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	32	5	19.6	77.7	N/R	0	0	0
03/07/23	1	2	25.8	115	N/R	0	0	0
03/14/23	24	5	16.3	88.7	N/R	0	0	0
03/21/23	240	6	20.7	32.7	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-17								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	37	4	17.4	50.7	N/R	0	0	0
01/18/23	22	2	17.3	87.6	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	30	4	17.2	72.7	N/R	0	0	0
03/07/23	0	N/A	N/A	N/A	N/A	0	0	0
03/14/23	6	3	16.2	87.8	N/R	0	0	0
03/21/23	240	6	20.7	32.7	N/R	0	0	0
03/28/23	0	N/A	N/A	N/A	N/A	0	0	0
04/05/23	0	N/A	N/A	N/A	N/A	0	0	0
04/12/23	0	N/A	N/A	N/A	N/A	0	0	0
05/06/23	0	N/A	N/A	N/A	N/A	0	0	0
05/13/23	0	N/A	N/A	N/A	N/A	0	0	0

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-18								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	10	2	16.8	48.8	N/R	0	0	0
01/18/23	1	1.5	17.2	87.8	N/R	0	0	0
01/25/23	0	N/A	N/A	N/A	N/A	0	0	0
01/31/23	0	N/A	N/A	N/A	N/A	0	0	0
02/28/23	N/A	N/A	N/A	N/A	N/A	0	0	0
03/07/23	N/A	N/A	N/A	N/A	N/A	0	0	0
03/14/23	N/A	N/A	N/A	N/A	N/A	0	0	0
03/21/23	N/A	N/A	N/A	N/A	N/A	0	0	0
03/28/23	N/A	N/A	N/A	N/A	N/A	0	0	0
04/05/23	N/A	N/A	N/A	N/A	N/A	0	0	0
04/12/23	N/A	N/A	N/A	N/A	N/A	0	0	0
05/06/23	N/A	N/A	N/A	N/A	N/A	0	0	0
05/13/23	N/A	N/A	N/A	N/A	N/A	0	0	0

Note: N/A = not applicable; N/R = not recorded; N/S = not sampled; +/0 = presence/absence

Survey Dates	Surface Area (m^2)	Depth (cm)	H_20 Temp. (°C)	Dissolved Solids (PPM)	pH	Anostracans Species & Magnitude	Cladocera	Ostracods
SD-19								
11/11/22	0	N/A	N/A	N/A	N/A	0	0	0
12/13/22	0	N/A	N/A	N/A	N/A	0	0	0
12/20/22	0	N/A	N/A	N/A	N/A	0	0	0
01/03/23	0	N/A	N/A	N/A	N/A	0	0	0
01/11/23	18	5	16.3	59.9	N/R	0	0	0
01/18/23	N/A	N/A	N/A	N/A	N/A	0	0	0
01/25/23	N/A	N/A	N/A	N/A	N/R	0	0	0
01/31/23	N/A	N/A	N/A	N/A	N/R	0	0	0
02/28/23	N/A	N/A	N/A	N/A	N/R	0	0	0
03/07/23	N/A	N/A	N/A	N/A	N/R	0	0	0
03/14/23	N/A	N/A	N/A	N/A	N/R	0	0	0
03/21/23	N/A	N/A	N/A	N/A	N/R	0	0	0
03/28/23	N/A	N/A	N/A	N/A	N/R	0	0	0
04/05/23	N/A	N/A	N/A	N/A	N/R	0	0	0
04/12/23	N/A	N/A	N/A	N/A	N/R	0	0	0
05/06/23	N/A	N/A	N/A	N/A	N/R	0	0	0
05/13/23	N/A	N/A	N/A	N/A	N/R	0	0	0