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February 18, 2020 **Job No. 3-418-1060**

Mr. Oscar Etemadian
Fuel Express, LLC
10995 Indiana Avenue
Riverside, CA 92503

Subject: **BIOLOGICAL HABITAT ASSESSMENT & FOCUSED BURROWING OWL SURVEY WITH MSHCP CONSISTENCY**
Proposed Commercial Development
SEC Chicago Avenue and Iris Avenue
Riverside, California

Dear Mr. Etemadian:

At your request and authorization, a Biological Habitat Assessment and Focused Burrowing Owl Survey with MSHCP Consistency Analysis for the above-referenced project (Riverside County Assessor Parcel Number [APN] 266-020-001) in Riverside, California (subject property) has been conducted. The Biological Habitat Assessment/ Focused Burrowing Owl Survey was conducted to identify potential biological resources located on the subject property including burrowing owls.

During the course of the biological habitat assessment, suitable burrowing owl habitat was observed on-site. As such, a focused burrowing owl survey was conducted to determine if any of the on-site debris piles contained evidence of burrowing owls. Based on the results of the focused burrowing owl survey, numerous debris piles of wood and trash was observed throughout the site. All debris piles were thoroughly checked for evidence of burrowing owls (including molting feathers, prey remains, cast pellets, eggshell fragments, and excrement) and no owl burrows or burrowing owls were found to be located on-site or adjacent.

Additionally, please review the following report in detail regarding the MSHCP Consistency and let us know if you have any questions. We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (909) 980-6455.

Respectfully submitted,

SALEM Engineering Group, Inc.

Maria G. Ruvalcaba, EP
Project Manager

HABITAT ASSESSMENT INCLUDING THE RESULTS OF A FOCUSED BURROWING OWL SURVEY AND OVERVIEW MSHCP CONSISTENCY
APN 266-020-001
In the Sphere of Influence of City of Riverside, Riverside County, California
USGS 7.5-minute topographic Riverside East Quadrangle
Township 3 South, Range 4 West, Section 30

Prepared By:

GONZALES
ENVIRONMENTAL CONSULTING, LLC

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Report Date: February 18, 2020

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

Date: February 18, 2020 Signed: Teresa Gonzales

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

Permit #: TE060175-5 Signed: Teresa Gonzales

TITLE PAGE

A. Date report prepared: February 18, 2020

B. Report Title: HABITAT ASSESSMENT INCLUDING THE RESULTS OF A FOCUSED BURROWING OWL SURVEY AND OVERVIEW MSHCP CONSISTENCY For APN 266-020-001 In the Sphere of Influence of City of Riverside, Riverside County, California

C. Project site location: USGS 7.5-minute topographic Riverside East Quadrangle Township 3 South, Range 4 West, portions of Section 30

D. Owner/Applicant:
Salem Engineering Group, Inc
13355 Noel Road, Suite 1100
Dallas, TX 75240

E. Principal Investigator(s): Teresa Gonzales and Paul Gonzales
Address: 358 Crystal Drive
San Jacinto, CA 92583
Phone: 760.777-1621

G. Name and phone number of person preparing report and of all persons who performed fieldwork on the site

Name of Person	Role on project
Teresa Gonzales	Prepared report and performed fieldwork
Paul Gonzales	Performed fieldwork
Justin Palmer	GIS

This document should be cited as:
Gonzales Environmental Consulting, LLC. 2020. Habitat Assessment Including the Results of Focused Burrowing Owl and Overview MSHCP Consistency for APN 266-020-001 In the Sphere of Influence of City of Riverside, Riverside County, California; USGS 7.5-minute topographic Riverside East Quadrangle Township 3 South, Range 4 West, portions of Section 30. February 18, 2030. San Jacinto, California. Prepared for Salem Engineering Group, Inc.

ACRONYMS AND ABBREVIATIONS

BMPs	best management practices
BUOW	burrowing owl
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
DEIR	Draft Environmental Impact Report
ESA	Endangered Species Act
° F	degrees Fahrenheit
FEIR	Final Environmental Impact Report
Ft^2	square feet
GEC	Gonzales Environmental Consulting, LLC
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HMMP	Habitat Mitigation and Monitoring Plan
JD	Jurisdictional Determination
MBTA	Migratory Bird Treaty Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
Plan	Western Riverside County Multiple Species Habitat Conservation Plan
PQP	Public/Quasi-Public
RCA	Regional Conservation Authority
RCFCD	Riverside County Flood Control District
RWQCB	Regional Water Quality Control Board
SKR	Stephens' kangaroo rat
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
UWIG	Urban/Wildlands Interface Guidelines

WOS	Waters of the State
WQMP	Water Quality Management Plan
WUS	Waters of the U.S.

SUMMARY

In January, March, April, May, and June 2019 and February 2020, Teresa Gonzales and Paul Gonzales of Gonzales Environmental Consulting, LLC (GEC) conducted biological resources assessment of the project site (site). The purpose of our assessment was to characterize biological resources on the site, and to identify any biological constraints to land-use changes.

Western Riverside Multiple Species Habitat Conservation Plan

The site is in within Lake Mathews/Woodcrest Area Plan of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). **No Criteria cell, Core and Linkage are located in or around the project area**. Habitat assessments are required for burrowing owl as it is MSHCP Burrowing Owl Survey Area.

Based on biological resource assessments, Western Riverside County Regional Conservation Authority (RCA) document library and maps of MSHCP survey areas, it was determined that the following studies would be required for the proposed Project's consistency with the MSHCP:

- Focused surveys for the burrowing owl (*Athene cunicularia*).

Vegetation

The vegetation communities within the project area are streambed, *Avena barbata* (Slender oat) Alliance, *Baccharis salicifolia* (Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site. The entire site has been subject to anthropogenic disturbances.

Endangered, Threatened and Sensitive Species

No special-status plant and animal species have the potential to occur on site. None were found on the site.

Streambed Resources

There are seasonal watercourses on site which are MSHCP 6.1.2 riparian/riverine resources on the project site. USACE waters of the U.S. (0.039 acres) and CDFW streambed (0.169 acres) and Mulefat scrub alliance (0.169 acres) are found on the site.

Summary of Project Effects

Participation in the MSHCP, seasonal restrictions, compliance with local tree ordinances, implementation of mitigation measures, and compliance with local, state, and federal laws will allow the proposed project to proceed as proposed without significant impacts to biological resources.

The project area supports a low-moderate diversity of wildlife species due to the high level of disturbance and development in the vicinity. Many of the wildlife species observed or detected in the project area are commonly found in the urban interface or in disturbed habitat.

There is suitable habitat for occupation by burrowing owl (BUOW) present in the project area. A general habitat assessment and focused surveys were conducted in 2019. No BUOWs, sign or burrows were observed. A pre-construction survey of all suitable habitats will be conducted 30 days or less prior to the initiation of construction to ensure that no BUOW have occupied the project area. If active burrows are detected, avoidance and minimization measures will be implemented including, but not limited to, establishing avoidance buffers and use of biological monitors during construction activities.

Increases in noise, construction traffic, and human activities during construction activities may temporarily deter movement of wildlife within the project vicinity. However, significant impacts to wildlife corridors or nursery sites are not expected from construction or operational activities of the proposed project.

During construction, as with any project, there is the possibility that sensitive species, including those Adequately Conserved or those with additional mitigation requirements, could be encountered. In this event, the project proponent will coordinate directly with RCA and resource agencies (if appropriate) to determine any additional processing and mitigation as needed.

The proposed project is consistent with the MSHCP Reserve Assembly goals and project relationship for Criteria Areas/Cells in the Lake Mathews/Woodcrest Area Plan. **No Criteria cell, Core and Linkage are located in or around the project area.** The proposed project would not impede the functions and values nor the goals and objectives of the MSHCP.

I. INTRODUCTION

This report was prepared by Gonzales Environmental Consulting, LLC (GEC) for Salem Engineering Group, Inc. The project is located in the Sphere of Influence of the City of Riverside of Riverside County, California.

The report summarizes results of literature review to determine the potential presence or absence of species of concern within the project vicinity and the results of the 2019/2020 general biological survey as well as the 2019/2020 field investigations conducted by GEC. In addition, the report provides an assessment of the potential impacts of the project on the biological resources on the project site.

GEC conducted biological surveys of the project site in 2019 and 2020. This report documents the results of the surveys, provides a summary of the technical studies (attached as Technical Appendices), analyzes the effects of the proposed project on the identified biological resources and recommends mitigation measures for identified impacts.

Project Location

The project site (site) discussed in this report is located north of Van Buren Boulevard, east of Chicago Avenue, and south of Iris Avenue in the sphere of influence of the City of Riverside, Riverside County, California. See Figures 1 and 2.

The site is located within San Bernardino Meridian in a portion of Section 30, Township 3 South, Range 4 West in Riverside County, California (Figures 3.1, 3.2, 3.3 and 3.4). This location is shown on the Riverside East, California 7.5-minute U.S. Geological Survey (USGS) quadrangle (Riverside East Photorevised 1980); page 746 Block B3 of the Riverside County Street Guide and Directory (Thomas Brothers Maps Design 2016). The approximate center of the site is located at the center of the project area is 33.886836°N/-117.347965°W.

The proposed project site is sloping to the north and northwest, depending on the location in the landscape. It occurs at an elevation between 1,560 and 1,584 feet above mean sea level.

The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.

The primary vegetation communities in the project area are streambed, *Avena barbata* (Slender oat) Alliance, *Baccharis salicifolia* (Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site.

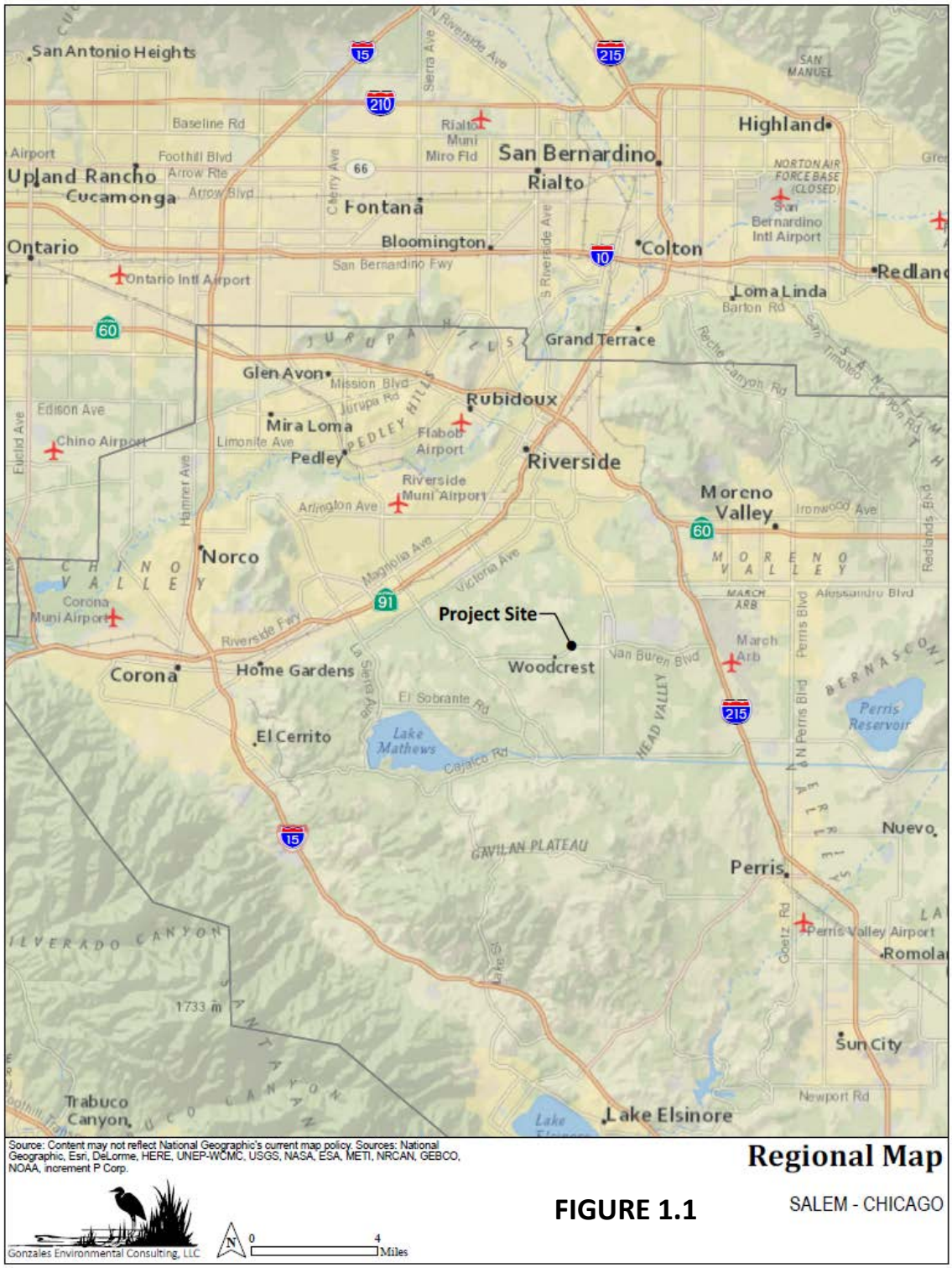
PROJECT DESCRIPTION

The site is comprised of 2.84 acres of undeveloped property situated in the Sphere of Influence of the City of Riverside in Riverside County, California.

The project consists of the installation of a gas station which includes an AM/PM store, fueling station, carwash, associated parking and driveway.

Estimated Duration of Construction:
Estimated duration of construction is 4 months of grading and 1.5-2 years for full build out.

Full Avoidance Infeasibility:
The project, as designed proposes to disturb only where required in order to allow for construction of the project site. Where avoidance was not possible, mitigation of these impacts is being provided offsite as a part of this project.



Source: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

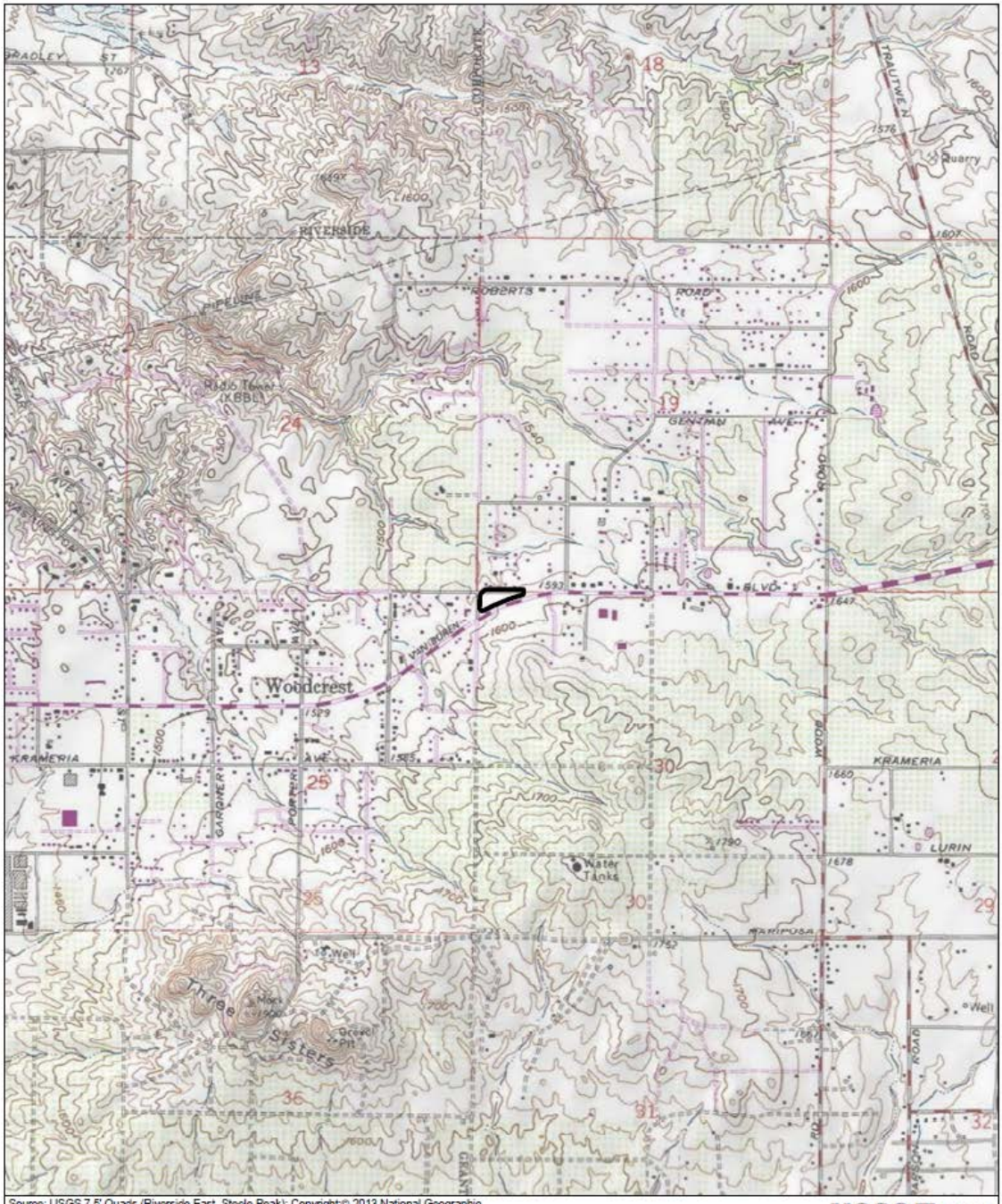
Gonzales Environmental Consulting, LLC

N 0 4 Miles

Regional Map

FIGURE 1.1

SALEM - CHICAGO



Source: USGS 7.5' Quads (Riverside East, Steele Peak); Copyright:© 2013 National Geographic Society, i-cubed

USGS Topo

SALEM - CHICAGO

FIGURE 1.2

Gonzales Environmental Consulting, LLC

N 0 2,000 Feet

Neely Ln
Iris Ave
Chicago Ave
Van Buren Blvd
Project Boundary
Aerial Photograph
SALEM - CHICAGO
Gonzales Environmental Consulting, LLC
0
100
Feet

FIGURE 1.3

II. REGULATORY SETTING

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

REGIONAL LAND USE AND CONSERVATION PLANS

Riverside County Multi-Species Habitat Conservation Plan (MSHCP)

The proposed project area occurs in undeveloped lands within the County of Riverside, Sphere of Influence of the City of Riverside. It contains disturbed lands.

The proposed project is located within the boundaries of the MSHCP. The MSHCP allows for the Permittees within the Plan area to manage local land-use decisions and maintain a strong economic climate while addressing the requirements of the state and federal Endangered Species Acts (ESAs). Rather than address sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 5,000 acres and a mechanism to fund and implement the reserve system (County of Riverside 2003). Take of Stephen's kangaroo rat (*Dipodomys stephensi*; SKR) will be processed directly through the SKR Habitat Conservation Plan (HCP) leaving the MSHCP to cover incidental take, as needed, for 145 species potentially impacted by the proposed project.

The importance of the Plan to the proposed Project and other projects within its boundaries is that it streamlines the environmental review and permitting processes for projects that affect biological resources. This is accomplished by having established survey and analysis requirements that directly support the identified conservation goals and objectives of the Plan. The goals and objectives of the Plan ultimately result in the development of a comprehensive biological resources reserve system providing long-term conservation of biological resources. The overall benefit to a project proponent is the use of existing state and federal take permits for listed species, with built-in mitigation measures, so that individual applicants need not seek their own permits from the USFWS and CDFW in accordance with the Federal ESA and California ESA take authorizations.

MSHCP RESERVE ASSEMBLY ANALYSIS

Area Plans, Subunits and Criteria Cells

The project area is located in MSHCP Lake Mathews/Woodcrest Area Plan. The Area Plan is further divided into Subunits that contain Criteria Cells that are targeted for conservation. Target conservation acreages have been established along with a description of the planning species, biological issues and considerations, and criteria for each Subunit within the MSHCP. In some areas, Cells that have a common habitat goal are combined forming a Cell Group. The design for conservation involves core areas of

habitat, blocks of habitat, and linkages between the core and block areas. The project area is not in a Subunit or Criteria Cell. The following specific target planning species and conservation goals are included within the biological considerations for Mead Valley Area Plan:

Planning Species:

- Bell's sage sparrow
- Burrowing owl
- Cactus wren
- coastal California gnatcatcher
- Cooper's hawk
- grasshopper sparrow
- loggerhead shrike
- northern harrier
- Southern California rufous-crowned sparrow
- White-tailed kite
- Yellow-breasted chat
- Yellow warbler
- Quino checkerspot butterfly
- Bobcat
- Mountain lion
- Stephens' kangaroo rat
- Western pond turtle
- long-spined spine flower
- many-stemmed dudleya
- Munz's onion
- Palmer's grapplinghook
- Small-flowered microseris
- Small-flowered morning-glory

Biological Issues and Considerations:

- Conserve clay soils supporting long-spined spine flower.
- Conserve existing intact upland Habitat in the La Sierra Hills augmenting Lake Mathews/Estelle Mountain Reserve.
- Provide for and maintain a connection from the eastern edge of Temescal Wash to the existing Lake Mathews/Estelle Mountain Reserve.
- Conserve clay soils supporting sensitive plant species known to occur in the Lake Mathews Area Plan, including Palmer's grapplinghook, small-flowered morning- glory, long-spined spine flower, and small-flowered microseris.
- Conserve existing wetlands along Cajalco Wash.
- Conserve existing populations of Bell's sage sparrow and coastal California gnatcatcher.
- Maintain Core Area for bobcat.
- Maintain Core Area for mountain lion.
- Maintain Core Area for Stephens' kangaroo rat.
- Maintain Core and Linkage Habitat for western pond turtle.
- Maintain opportunities for Core and Linkage Habitat for Quino checkerspot butterfly.

- Conserve existing upland Habitat in Dawson Canyon area augmenting the existing Estelle Mountain Reserve.
- Conserve existing populations of the coastal California gnatcatcher and Bell's sage sparrow.
- Maintain linkage area for mountain lion.
- Maintain Core Area for Stephens' kangaroo rat.
- Conserve upland Habitat to form connections between Harford Springs Reserve, Steele Peak Reserve, and BLM parcels in the area.
- Conserve clay soils supporting sensitive plant species known to occur in this Subunit, including Munz's onion, Palmer's grapplinghook, small-flowered morning glory, long-spined spine flower, small-flowered microseris, and many-stemmed dudleya.
- Conserve existing populations of Bell's sage sparrow.
- Provide opportunities for reintroduction of Quino checkerspot butterfly. This includes areas within the Northwest Riverside County Recovery Unit and the Gavilan Hills habitat complex as identified in the January 2001 U.S. Fish and Wildlife Service Draft Recovery Plan for the Quino Checkerspot Butterfly (U.S. Fish and Wildlife Service, 2001). This focus area generally extends west from the Steele Peak Reserve to Lake Mathews and includes areas identified for Conservation between the unnamed BLM parcels north of the Steele Peak Reserve and the Motte-Rimrock Reserve.
- Maintain linkage area for bobcat.
- Maintain linkage area for Stephens' kangaroo rat.
- Conserve upland Habitat to form connections between North Peak Reserve, Steele Peak Reserve, and BLM parcels in the area.
- Conserve existing populations of Bell's sage sparrow.
- Conserve existing wetlands with a focus on Conservation of existing riparian, woodland, coastal sage scrub, alluvial fan scrub and open water habitats.
- Maintain Core and Linkage Habitat for bobcat.
- Maintain linkage area for Stephens' kangaroo rat.
- Maintain opportunities for Core and Linkage Habitat for Quino checkerspot butterfly.
-

Cores and Linkages within Conservation Area

MSHCP Conservation Area is comprised of a variety of existing and proposed cores, extensions of existing cores, linkages, constrained linkages and non-contiguous habitat blocks. These features are generally referenced as cores and linkages. A Core is a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species. Although a more typical definition is population-related and refers to a single species, in the MSHCP this term is habitat-related because of the multi-species nature of the MSHCP Plan. An MSHCP linkage is defined as a connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for "live-in" habitat and/or provide for genetic flow for identified planning species. A constrained linkage is a constricted connection expected to provide for movement of identified planning species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use. Areas identified as linkages in MSHCP may provide movement

habitat but not live-in habitat for some species, thereby functioning more as movement corridors.

Project site is not in a Criteria Cell. There are no proposed cores or linkages within the project area.

PUBLIC/QUASI PUBLIC CONSERVED LANDS

The project site is outside of PQP lands. There are no Public/Quasi Public (PQP) land(s) within the immediate area.

MSHCP SURVEY REQUIREMENTS

MSHCP survey areas for the proposed project were identified by conducting an initial search of the RCA MSHCP Information Map (RCA 2019, 2020). As a result, the study area was identified to be located within the burrowing owl survey area.

TABLE 2.1

MSHCP PROJECT REVIEW CHECKLIST

Checklist	Yes	No
Is the project located in a Criteria Area or Public/Quasi-Public Land?		✓
Is the project located in Criteria Area Plant Survey Area?		✓
Is the project located in Criteria Area Amphibian Survey Area?		✓
Is the project located in Criteria Area Mammal Survey Area?		✓
Is the project located in Narrow Endemic Plant Species Survey Area?		✓
Are riverine/riparian/wetland habitats or vernal pools present?	✓	
Is the project located in Burrowing Owl Survey Area?	✓	
Is the project located in a Special Linkage Area?		✓

MSHCP SECTION 6

Section 6 of the MSHCP provides provision for MSHCP implementation. Two particular subsections of this section are relevant to the proposed project:

- *6.1.2 Protection of Species Associated with Riparian/Riverine areas and Vernal Pools*
- *6.1.3 Protection of Narrow Endemic Plant Species*
- *6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface (relevant)*
- *6.3.2 Additional Survey Needs (relevant)*

The MSHCP covers 146 species, 38 of which require additional surveys if the proposed project occurs in the specific survey area for a species. As noted in Table 4 the proposed project occurs within the burrowing owl survey areas. The project area does not traverse *Riparian/Riverine* and *Vernal Pool* habitats as defined by the MSHCP. Based on biological resource assessments, the RCIP Conservation Report Generator, and maps of MSHCP survey areas, it was determined that surveys for *Riparian/Riverine* habitats,

Vernal Pools, and associated species are not required pursuant to *Sections 6.1.2, 6.1.3, and 6.3.2* of the MSHCP.

Section 6.1.3 of the MSHCP describes the 14 Narrow Endemic Plant Species and the procedures necessary for surveying, mapping and documenting these species. In addition to the Narrow Endemic Plant Species listed in *Section 6.1.3*, additional surveys may be needed for certain species listed in *Section 6.3.2* in conjunction with Plan implementation in order to achieve coverage for these species. These species are referred to as "Criteria Area Species". Furthermore, per *Section 6.1.2* of the MSHCP, if potential *Riparian/Riverine*, and/or *Vernal Pool* habitat (as defined by the MSHCP) occurs within the project area, additional surveys are necessary for specific species that have potential to occur within these habitats.

The MSHCP does not supersede existing federal and state regulations covering lakes, streams, vernal pools, and other wetland areas. Thus, projects must comply with existing regulations for these aquatic resources pursuant to Clean Water Act (CWA) and California Fish and Game Code (CFGC). However, pursuant to the MSHCP, an assessment of the potentially significant effects of projects on Riparian/Riverine areas, and Vernal Pools as it relates to habitat functions and values for MSHCP-covered species is required. If an avoidance alternative is not feasible and a more practicable alternative is selected instead, a DBESP would be provided to ensure replacement of any lost functions and values of habitat as it relates to the needs of Covered Species that rely on that habitat.
Section 6.1.2 of the MSHCP defines *Riparian/Riverine* and *Vernal Pool* habitats as follows:

Riparian/Riverine Areas: are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or unvegetated, ephemerals that transport water supporting downstream resources in the MSHCP Conservation Area.

Vernal Pools: are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season, but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate and facultative wetland plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season.

In addition to mapping *Vernal Pools*, the MSHCP requires mapping of stock ponds, ephemeral pools, and other features which may be suitable habitat for Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Brachinecta lynchi*), and Santa Rosa fairy shrimp (*Linderiella santarosae).*

The MSHCP describes a strategy of impact avoidance, minimization, and mitigation for these resources and further requires that long-term conservation of these areas is assured, and recommends that indirect impacts be reviewed to provide protection for these areas.

Section 6.1.4 of the MSHCP describes a process to ensure that projects located outside of, but adjacent to, the Conservation Area do not undermine conservation planning objectives of the MSHCP. This process is called the Urban/Wildlands Interface Guidelines (UWIG).

"Future Development in proximity to the MSHCP Conservation Area may result in Edge Effects that will adversely affect biological resources within the MSHCP Conservation Area. To minimize such Edge Effects, the following guidelines shall be implemented in conjunction with review of individual public and private Development projects in proximity to the MSHCP Conservation Area."

Specific elements to be considered in UWIG compliance include:

- Drainage
- Toxics
- Lighting
- Noise
- Invasives
- Barriers
- Grading and land development

As stated in the MSHCP:*"Existing local regulations are generally in place that address the issues presented in this section. Specifically, the County of Riverside and the 18 Cities within the MSHCP Plan Area have approved general plans, zoning ordinances and policies that include mechanisms to regulate the development of land. In addition, project review and impact mitigation that are currently provided through the CEQA process address these issues."* UWIG compliance, therefore, relies heavily on the application of Standard Best Management Practices (BMPs) during site development and project operation. These BMPs can be found in *Appendix C* of the MSHCP. Projects must accordingly demonstrate that they will not adversely affect any Conservation Area and must adequately consider the elements listed above per the UWIG.

MSHCP 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 146 Covered Species addressed in the MSHCP, 118 species are considered to be Adequately Conserved. The remaining 28 Covered Species will be considered to be adequately conserved when certain conservation requirements are met (by RCA) as identified in the species-specific conservation objectives for those species. For 16 of the 28 species, particular species-specific conservation objectives, which are identified in *Table 9-3* of the MSHCP, must be satisfied to shift those particular species to the list of Covered Species Adequately Conserved.

TABLE 2.2

MSHCP SECTION 6 SPECIES LIST

MSHCP Section	Species
Section 6.1.2 Riparian/ Riverine and Vernal Pools	***Plants:*** Brand's phacelia, California orcutt grass, California black walnut, coulter's Matilija poppy, Engelmann oak, fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, orcutt's brodiaea, parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crownscale, San Miguel savory, Santa Ana river woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, and vernal barley. ***Invertebrates:*** Riverside fairy shrimp and vernal pool fairy shrimp ***Fish:*** Santa Ana sucker
Section 6.1.3 Narrow Endemic Plant Species	Brand's phacelia, California Orcutt grass, Hammitt's clay-cress, Johnston's rockcress, many-stemmed dudleya, Munz's mariposa lily, Munz's onion, San Diego ambrosia, San Jacinto Mountains bedstraw, San Miguel savory (Santa Rosa Plateau, Steele Rock), slender-horned spine flower, spreading navarretia, Wright's trichocoronis, and Yucaipa onion.
Section 6.3.2 Additional Survey Needs and Procedures	***Plants*:*** Coulter's goldfields, Davidson's saltscale, heart-leaved pitcher sage, little mud nama, Nevin's barberry, Parish's brittlescale, prostrate navarretia, round-leaved filaree, San Jacinto Valley crownscale, smooth tarplant, thread-leaved, and Vail Lakeceanothus. ***Amphibians*:***arroyo toad, mountain yellow-legged frog, and California red-legged frog ***Birds:*** burrowing owl ***Mammals*:*** Aguanga kangaroo rat, San Bernardino kangaroo rat, Los Angeles pocket mouse

*Note: Project does not occur within the plants, amphibian, fish and mammal species survey areas.

MSHCP Consistency Analysis has been added as an appendix to this report.

III. SURVEY METHODS

For the development of this document, a systematic approach was taken to identify and characterize biological resources, including vegetation community types, and special status plant and animal species in the project area. The biological resource study area is defined as the area either directly or indirectly impacted by the project. Records of known occurrences were reviewed to identify those plant and wildlife species that may occur in the project area. Those records were then compared with federal or state listed threatened, endangered, or special status species. General biological surveys; vegetation mapping; and surveys for special status wildlife and plant species for the project were conducted. Methods that were used during these surveys are summarized by resource type in the following sections.

Records Search

Preliminary investigations included review of information obtained from the USFWS, and CDFW; literature searches; examination of aerial photographs; and database searches including California Native Plant Society (CNPS), the California Natural Diversity Data Base (CNDDB) records, and sensitive species accounts for Riverside County. Reviewed environmental documents included Environmental Impact Reports prepared for other projects in the vicinity. The following resources were used in background research and during field surveys:

- Topographic maps (USGS 7.5 minute quadrangle)
- Aerial photos
- California Natural Diversity Database (CDFW 2020)
- USFWS sensitive species occurrence database (USFWS 2020)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2020)
- Western Riverside Area, California Soil Survey (U.S. Department of Agriculture [USDA] 1971)
- Volume 1, Parts I and II of the MSHCP (County of Riverside 2003)
- County of Riverside Conservation Summary Report Generator (County of Riverside 2017)

A list of special status species was compiled, including all species in the project area that were:

Listed as endangered or threatened, proposed for listing, or candidates for listing under the Federal Endangered Species Act (FESA);

Listed as endangered or threatened, or candidates for listing under the California Endangered Species Act (CESA);

Included in one of the CDFW publications on species of special concern;

“Fully protected” by the State of California;

Included in the CNPS compilation; or

Identified as plants meeting the definition of rare or endangered under CEQA.

The information provided by these agencies included both regional and site-specific data on sensitive species. These species are listed in Table 3.4.
Appendix F presents a list of special-status species that were determined to have potential to occur within the project area based on literature and database review, as well as initial habitat assessments.

FIELD SURVEY OVERVIEW

The general biological study area consisted of the proposed project area with some focused surveys out to 500 feet on either side of the proposed project area. A number of biological resources assessments and focused surveys have been performed within the project area to date. General and focused biological surveys and habitat assessments were conducted in order to assess the following:

- General biological characteristics of the project area;
- Presence or potential presence of any listed, special-status, or MSHCP species;
- Vegetation communities;
- Flora and fauna species inventories;
- Habitat suitability for burrowing owls (*Athene cunicularia*) within MSHCP survey area;
- Presence or potential presence of species not covered by the MSHCP;
- Presence or potential presence of MSHCP defined fairy shrimp, *Vernal Pool*, and *Riparian/Riverine* habitats; and
- Presence or potential presence of waters and wetlands under U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW) jurisdiction.

Data was collected in the field by numerous techniques including the use of field notes, hand-held Global Positioning System (GPS) devices, standardized data forms, photographs, and field maps. Field maps with an aerial view of the project area included CNDDB, USFWS, and MSHCP sensitive species data points. Potentially occurring habitats for special-status species were identified prior to field investigations through aerial photo-interpretation. Initial reconnaissance level wildlife and botanical surveys were conducted in conjunction with vegetation mapping. The project area was traversed on foot and by vehicles as needed to gain 100 percent access of the survey area.

Focused surveys were scheduled based on the results of the initial assessments. Lists of all vertebrate wildlife species and all plant species encountered within the entire project area are included in Appendix D. Table 3.2 identifies all field work conducted within the project area in 2019 and 2020.

Vegetation Methods

Aerial photography and digital vegetation maps were reviewed to determine potential community types within the project area. Preliminary ground-truthing surveys concurred with digital vegetation maps, and additional surveys were performed to accurately define the community types and boundaries.

Wetlands and Aquatic Resources Methods

General wetland and streambed assessments of the proposed project site were conducted in 2019 by GEC, which included general mapping of habitat(s) that may be subject to jurisdiction of CDFW pursuant to sections 1600-12 of the California Fish and Game Code, ACOE and MSHCP Section 6.1.2. Potential MSHCP Section 6.1.2 seasonal watercourses were found on the project site. Streambed/wetland delineation and MSHCP Section 6.1.2 areas were conducted in 2019.

A brief assessment of the wetland/riparian jurisdictional communities encountered (if they were encountered) was also conducted which described the dominant and associate plant species of each community and the presence and/or absence of visual field indicators (e.g., dominance of hydrophytic species, presence of drift lines).

Streambed/wetland delineation and MSHCP Section 6.1.2 areas were conducted in January 2019 and January 2020. Please see attached Jurisdictional Delineation Report (Appendix G).

Wildlife Survey and Habitat Assessment Methods

General reconnaissance and habitat assessment surveys were completed to determine habitat suitability for listed species and special status plant, wildlife, and aquatic species. Suitable habitat for listed species and special status species was determined by the presence of specific habitat elements. The surveys coincided with the period during which many wildlife species, including migratory species, would have been most detectable. A faunal inventory of all species observed during the course of the surveys was also prepared.

SPECIAL STATUS SPECIES METHODS

Special Status Rare Plant Species Survey Methods

Information on special status rare plant species within the project area was gathered from several sources including California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2020), CNDDB (CNDDB 2020), and CalFlora (CalFlora 2020). Maps depicting all known sensitive plant species locations within the project area were produced to aid in determining the target species for survey. General reconnaissance and habitat assessment surveys were completed in 2017 to determine habitat suitability for listed species and special status plants. Suitable habitat for listed species and special status species was determined by the presence of specific habitat elements.

Plant surveys of the project area were conducted in March-June 2020. This time period corresponds to the time during which most ephemeral spring annuals and herbaceous perennials, especially sensitive plant species, in Riverside County would be most detectable. No sensitive plant species were located. The likelihood of these species occurrence (expected, high, moderate, low, or not expected) was also assessed. A floral inventory of all species observed during the course of the surveys was also documented.

Special Status Wildlife Species Survey Methods

Prior to conducting habitat assessment surveys, CNDDB and other sources were reviewed for the records of special status wildlife species potentially occurring in the project area. General reconnaissance and habitat assessment surveys were conducted to assess the presence of special status wildlife species habitats within the project area. Maps depicting all known sensitive wildlife species locations within the regional vicinity of the project were produced to aid in determining the target species to survey. All wildlife species encountered during surveys were documented. Any specific areas (e.g., potential nesting, breeding, and foraging habitat) encountered during the surveys that have a high probability for supporting sensitive wildlife were documented. The likelihood of these species occurrence (not expected, low, moderate, high, expected) was also assessed. General habitat assessments and focused protocol-level surveys for other species including, but not limited to, burrowing owl (*Athene cunicularia*), were also conducted. General habitat assessments involved evaluating the specific vegetation communities encountered and their potential to support these sensitive species (expected, high, moderate, low, not expected).

Surveys

Based on the findings of the biological surveys, focused habitat assessment and species-specific surveys were scheduled for burrowing owl (*Athene cunicularia*) to determine presence of sensitive, listed, and covered species within the project area. A complete floristic survey of the project area, as required in a complete CEQA analysis, was conducted in 2019 and again in 2020 to determine whether listed or special status plant species or sensitive plant communities occur. Burrowing owl surveys were also conducted in the spring of 2019. All plants encountered were identified to a level necessary to ensure detection of covered or special status species. Streambed/wetland jurisdictional/MSHCP 6.1.2 studies was also conducted in 2019 and 2020 .

The following table identifies the sensitive species for which protocol-level surveys were required for the project.

TABLE 3.1
PROTOCOL SURVEYS

Protocol Surveys			
Species		**Survey Protocol**	**Location**
Scientific Name	**Common Name**		
Athene cunicularia	burrowing owl	A minimum of four surveys are required between March 1 and August 31 (County of Riverside).	Grasslands, debris piles, disturbed areas

Transects for general reconnaissance and habitat assessment surveys were conducted to assess the presence of special status wildlife and plant species habitats within the project area. Please see Figure 3.1. Surveys were conducted in March-June 2019.

TABLE 3.2
SURVEY LOCATIONS, PERSONNEL, DATES, AND PURPOSE

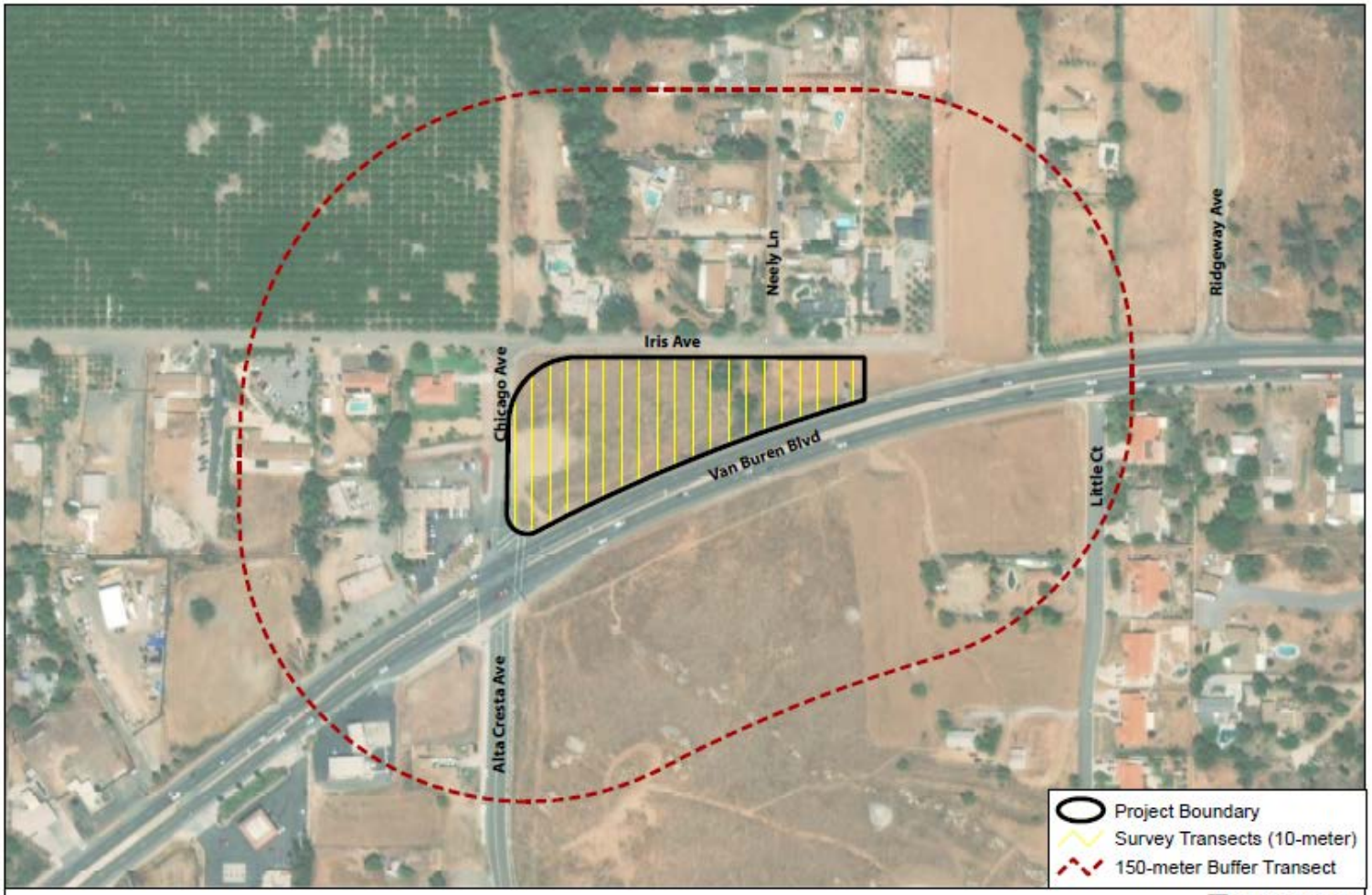
Surveyor(s)	Date(s)		Purpose
	2019	2020	
TG, PG	March 15, March 20, April 3, May 18, June 15	January 10, 17, February 6	General Biological Survey (Plant and Wildlife Habitat Assessments)
TG, PG	March 20, April 3, May 18, June 15		Focused Burrowing Owl Surveys
TG, PG	March 15, March 20	January 10, 17, February 6	MSHCP Habitat Assessment
TG, PG, JP	March 15, March 20	January 10, 17, February 6	Jurisdictional Delineation/ 6.1.2
TG, JP	April 3, May 18, June 15	January 10, 17, February 6	Vegetation Mapping
TG, JP	March 20, April 3, May 18, June 15	January 10, 17, February 6	Various Assessments, Vegetation Mapping

LEGEND:
TG=Teresa Gonzales, GEC Biologist
PG=Paul Gonzales, GEC Biologist
JP= Justin Palmer, AJP GIS

TABLE 3.3
BURROWING OWL SURVEY SUMMARY 2019

Date	Air Temperature (F)	Wind Speed (mph)	Cloud Cover	Precipitation	Sunrise/Sunset Times	Time-Duration*
January 25	45-53	0-7	20% cloud cover	No	0651/1712	0551/0851 3 hrs
March 20	52-58	0-2	30% cloud cover	No	0652/1901	0552/0852 3 hrs
April 10	51-59	0-2	Clear	No	0624/1917	0524/0824 3 hrs
May 10	57-61	0-3	50% cloud cover	No (morning rain)	0551/1940	0451-0751 3 hrs
June 15	61-72	0-3	Marine layer	No	0547/1944	0447-0747 3 hrs

*Approved hours for burrowing owl surveys are one hour prior to sunrise until two hours after and two hours prior to sunset and one hour after sunset.



Transects

SALEM - CHICAGO

FIGURE 3.1

Gonzales Environmental Consulting, LLC

0 250 Feet

BURROWING OWL

Burrowing owl habitat assessment surveys and focused surveys were conducted in 2019 (refer to Table 3.2 for dates and Table 3.3 for 2019 survey information) according to the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (County of Riverside 2006).

GEC biologists knowledgeable in BUOW habitat, ecology, and field identification of the species conducted surveys on the dates shown in Table 3.2 and 3.3. The weather conditions during these surveys were conducive to observing BUOW outside their burrows and detecting BUOW sign. Data was collected by numerous techniques including the use of a hand-held GPS device, standardized data forms, photographs, and aerial field maps. Details regarding each survey method are provided below:

Habitat Assessment (Step 1)

Habitat within the project area was assessed for BUOW presence, use, and potential use. Areas with potential BUOW habitat, including pasture and debris piles were surveyed by GEC for potential burrows and BUOW. Biologists walked areas of potential habitat while searching for BUOW, potential and active burrows, and owl sign, such as feathers, pellets, and prey items. The survey area included a 150-meter (500-foot) buffer zone outside the project site. Transect surveys for burrows, including owl sign, was conducted by walking or being escorted through suitable habitat over the entire survey area (the proposed route and the 150-meter [500-foot] buffer zone). Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines was no more than 10 meters (30 feet) and was reduced when necessary to account for differences in terrain, vegetation density, and ground surface visibility.

Focused Burrow Surveys (Step 2 A)

GEC conducted focused burrow surveys including natural burrows or suitable debris piles. Transect surveys for burrows, including owl sign, was conducted by walking or being escorted through suitable habitat over the entire survey area (the proposed route and the 150-meter [500-foot] buffer zone). Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines was no more than 10 meters (30 feet) and was reduced when necessary to account for differences in terrain, vegetation density, and ground surface visibility. The locations of all potential owl burrows, observed owl sign, and observed BUOW were recorded and mapped with a GPS device.

Focused Owl Surveys (Step 2B)

Focused BUOW surveys consisted of eleven site visits covering all project areas and adjacent areas. Surveys were conducted in the morning 1 hour before sunrise to 2 hours after sunrise and 1 hour before sunset to 2 hours after sunset. Upon arrival at the survey area and prior to initiating the walking surveys, surveyors used binoculars and/or spotting scopes to scan all suitable habitats, location of

mapped burrows, owl sign, and owls, including perch locations to ascertain owl presence. A survey for owls and owl sign was then conducted by walking through suitable habitat over the entire project site and within the adjacent 150-meter (500-foot) buffer zone. These pedestrian surveys followed transects spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines were no more than 10 meters (30 feet) and were reduced to account for differences in terrain, vegetation density, and ground surface visibility. In areas where access was not obtained, the area adjacent to the project site was surveyed using binoculars and/or spotting scopes to determine if owls are present in areas adjacent to the project site.

JURISDICTIONAL WATERS AND WETLANDS

USACE regulates deposition of fill material into waters of the U.S. (WUS) under Section 404 of the CWA. RWQCB regulates impacts to WUS under Section 401 of the CWA and to waters of the State (WOS) under the Porter Cologne Water Quality Control Act. CDFW regulates impacts to their jurisdiction, which includes lakes and streambeds to the outer extent of the riparian canopy, under Section 1600 of the CFGC.

One federal and state streambed areas was found on the project site.

MSHCP 6.1.2 RIPARIAN/RIVERINE/VERNAL POOLS

An assessment of the potentially significant effects of the proposed project on riparian, riverine and vernal pool areas was conducted. Seasonal watercourses are present and evidence of recent surface water was observed on site. Potential MSHCP 6.1.2 areas were found on the project site. There are no Riparian/Riverine associated species on the project site (i.e. least Bell's vireo, southwestern willow flycatcher, blue grosbeak, etc.) as the drainage areas are seasonal watercourses with lack of appropriate habitat.

There is no appropriate habitat on site for vernal pools.

FAIRY SHRIMP

An assessment of the potentially significant effects of the proposed project on fairy shrimp was conducted. Fairy shrimp can occasionally be found in habitats other than vernal pools, such as artificial pools created by roadside ditches, shallow depressions and road ruts. Suitable habitat for fairy shrimp would require features that would be able to hold water long enough to support fairy shrimp.

SECTION 6.1.2 RIPARIAN, RIVERINE, AND VERNAL POOL RESOURCES

The lack of appropriate vegetation means that the site is not suitable for riparian bird species including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax trailii extimus*), and yellow-billed cuckoo (*Coccyzus americanus*). No vernal pool plants or appropriate soils were observed on the project site. One 6.1.2 riverine area was found on the project site.

TABLE 3.4

CNDDB RARE, THREATENED OR ENDANGERED SPECIES AND HABITATS IN RIVERSIDE EAST QUADRANGLE[1]

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFW	CNPS LIST
Rana draytonii	California red-legged frog	Threatened	None	SSC	-
Spea hammondii	western spadefoot	None	None	SSC	-
Accipiter cooperii	Cooper's hawk	None	None	WL	-
Accipiter striatus	sharp-shinned hawk	None	None	WL	-
Aquila chrysaetos	golden eagle	None	None	FP ; WL	-
Buteo regalis	ferruginous hawk	None	None	WL	-
Buteo swainsoni	Swainson's hawk	None	Threatened	-	-
Circus hudsonius	northern harrier	None	None	SSC	-
Eremophila alpestris actia	California horned lark	None	None	WL	-
Chaetura vauxi	Vaux's swift	None	None	SSC	-
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened	Endangered	-	-
Falco columbarius	merlin	None	None	WL	-
Falco mexicanus	prairie falcon	None	None	WL	-
Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	-
Spinus lawrencei	Lawrence's goldfinch	None	None	-	-
Agelaius tricolor	tricolored blackbird	None	Threatened	SSC	-
Icteria virens	yellow-breasted chat	None	None	SSC	-
Lanius ludovicianus	loggerhead shrike	None	None	SSC	-
Setophaga petechia	yellow warbler	None	None	SSC	-
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None	None	WL	-
Ammodramus savannarum	grasshopper sparrow	None	None	SSC	-
Artemisiospiza belli belli	Bell's sage sparrow	None	None	WL	-
Phalacrocorax auritus	double-crested cormorant	None	None	WL	-
Polioptila californica californica	coastal California gnatcatcher	Threatened	None	SSC	-
Laterallus jamaicensis coturniculus	California black rail	None	Threatened	FP	-
Asio flammeus	short-eared owl	None	None	SSC	-
Athene cunicularia	burrowing owl	None	None	SSC	-
Calypte costae	Costa's hummingbird	None	None	-	-
Empidonax traillii	willow flycatcher	None	Endangered	-	-
Empidonax traillii extimus	southwestern willow flycatcher	Endangered	Endangered	-	-
Vireo bellii pusillus	least Bell's vireo	Endangered	Endangered	-	-
Streptocephalus woottoni	Riverside fairy shrimp	Endangered	None	-	-
Gila orcuttii	arroyo chub	None	None	SSC	-
Bombus crotchii	Crotch bumble bee	None	None	-	-
Ceratochrysis longimala	Desert cuckoo wasp	None	None	-	-
Lynx rufus pallescens	pallid bobcat	None	None	-	-
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	None	SSC	-
Dipodomys merriami parvus	San Bernardino kangaroo rat	Endangered	None	SSC	-
Dipodomys simulans	Dulzura kangaroo rat	None	None	-	-
Dipodomys stephensi	Stephens' kangaroo rat	Endangered	Threatened	-	-
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None	None	SSC	-
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	None	SSC	-
Nyctinomops femorosaccus	pocketed free-tailed bat	None	None	SSC	-
Neotoma lepida intermedia	San Diego desert woodrat	None	None	SSC	-
Onychomys torridus ramona	southern grasshopper mouse	None	None	SSC	-
Taxidea taxus	American badger	None	None	SSC	-
Lasiurus xanthinus	western yellow bat	None	None	SSC	-
Anniella stebbinsi	southern California legless lizard	None	None	SSC	-
Arizona elegans occidentalis	California glossy snake	None	None	SSC	-
Diadophis punctatus modestus	San Bernardino ringneck snake	None	None	-	-

[1] NDDB 2016

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CALIF STATUS	CDFW	CNPS LIST
Diadophis punctatus similis	San Diego ringneck snake	None	None	-	-
Lampropeltis zonata (parvirubra)	California mountain kingsnake (San Bernardino population)	None	None	WL	-
Salvadora hexalepis virgultea	coast patch-nosed snake	None	None	SSC	-
Coleonyx variegatus abbotti	San Diego banded gecko	None	None	SSC	-
Thamnophis hammondii	two-striped gartersnake	None	None	SSC	-
Phrynosoma blainvillii	coast horned lizard	None	None	SSC	-
Aspidoscelis hyperythra	orange-throated whiptail	None	None	WL	-
Aspidoscelis tigris stejnegeri	coastal whiptail	None	None	SSC	-
Crotalus ruber	red-diamond rattlesnake	None	None	SSC	-
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None	None	-	-
Centromadia pungens ssp. *laevis*	smooth tarplant	None	None	-	1B.1
Deinandra paniculata	paniculate tarplant	None	None	-	4.2
Senecio aphanactis	chaparral ragwort	None	None	-	2B.2
Berberis nevinii	Nevin's barberry	Endangered	Endangered	-	1B.1
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None	None	-	4.3
Arenaria paludicola	marsh sandwort	Endangered	Endangered	-	1B.1
Phacelia stellaris	Brand's star phacelia	None	None	-	1B.1
Juglans californica	southern California black walnut	None	None	-	4.2
Calochortus plummerae	Plummer's mariposa-lily	None	None	-	4.2
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	Endangered	Endangered	-	1B.2
Romneya coulteri	Coulter's matilija poppy	None	None	-	4.2
Chorizanthe parryi var. *parryi*	Parry's spineflower	None	None	-	1B.1

Legend:
Candidate= Candidate for listing
CNDDB=California Natural Diversity Database
CDFW=California Department of Fish and Wildlife
FP=Fully Protected
SSC=Species of Concern
CNPS List= California Native Plant Society
CNPS 1B= Rare or Endangered In California and Elsewhere
CNPS 2= Rare or Endangered in California, More Common Elsewhere
CNPS 3= Need More Information
CNPS 4= Plants of Limited Distribution
CNPS New Threat Code extensions and their meanings:
.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

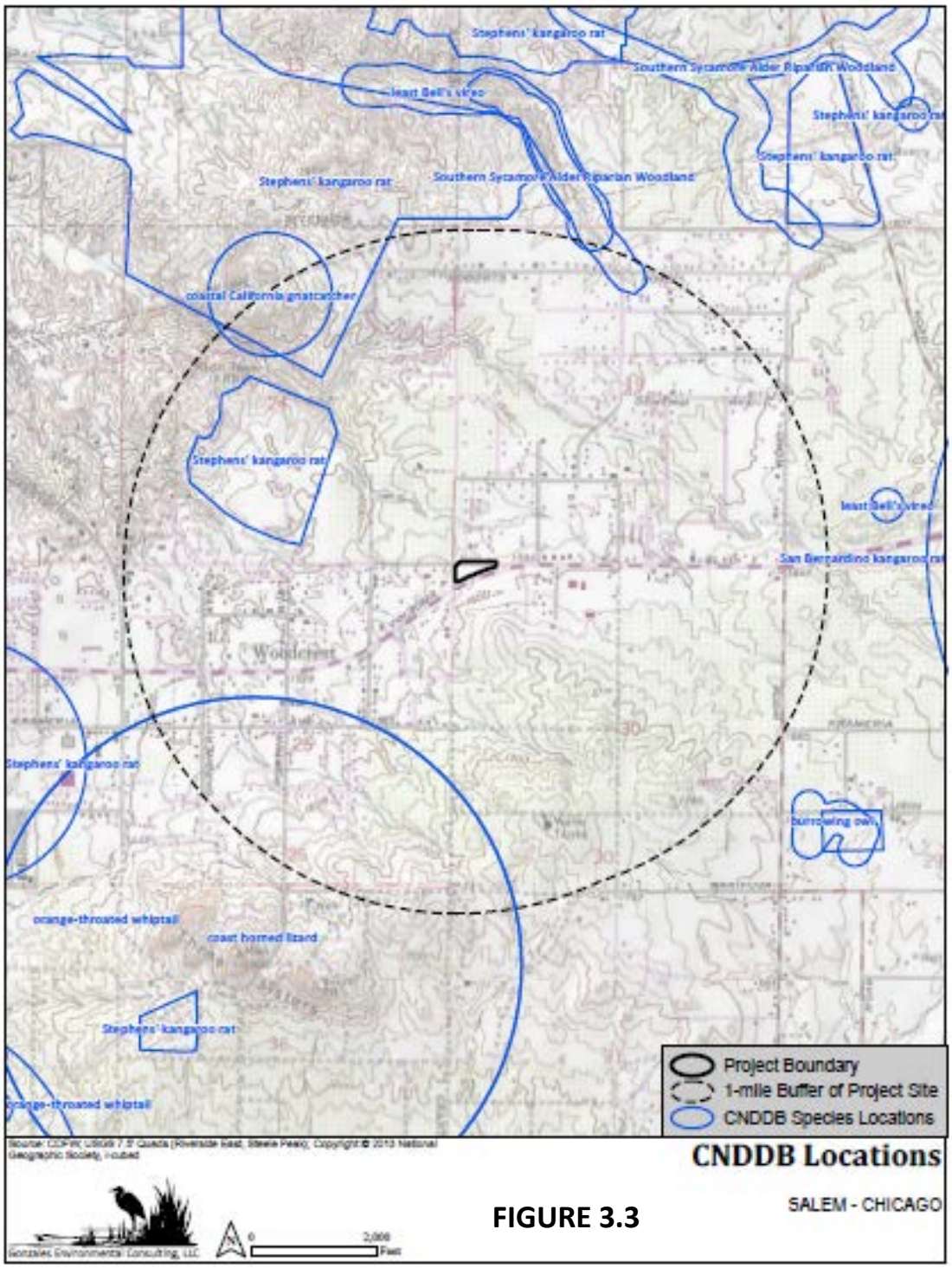

Stephens' kangaroo rat
Southern Sycamore/Alder Riparian Woodland
least Bell's vireo
Stephens' kangaroo rat
Stephens' kangaroo rat
Southern Sycamore/Alder Riparian Woodland
coastal California gnatcatcher
Stephens' kangaroo rat
least Bell's vireo
San Bernardino kangaroo rat
Wonderland
Stephens' kangaroo rat
burrowing owl
orange-throated whiptail
coast horned lizard
Stephens' kangaroo rat
orange-throated whiptail
Project Boundary
1-mile Buffer of Project Site
CNDDB Species Locations
CNDDB Locations
SALEM - CHICAGO
Gonzales Environmental Consulting, LLC
0
2,000
Feet

FIGURE 3.3

TABLE 3.5
CNDDB RARE, THREATENED OR ENDANGERED SPECIES AND HABITATS IN RIVERSIDE EAST QUADRANGLE AND SURROUNDING NINE QUADRANGLES

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CA STATUS	CDFW	CNPS LIST
Rana draytonii	California red-legged frog	T	None	SSC	-
Taricha torosa	Coast Range newt	None	None	SSC	-
Rana muscosa	southern mountain yellow-legged frog	E	E	WL	-
Spea hammondii	western spadefoot	None	None	SSC	-
Botaurus lentiginosus	American bittern	None	None	-	-
Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	-
Pelecanus erythrorhynchos	American white pelican	None	None	SSC	-
Pelecanus erythrorhynchos	American white pelican	None	None	SSC	-
Haliaeetus leucocephalus	bald eagle	Delisted	E	FP	-
Artemisiospiza belli belli	Bell's sage sparrow	None	None	WL	-
Nycticorax nycticorax	black-crowned night heron	None	None	-	-
Polioptila melanura	black-tailed gnatcatcher	None	None	WL	-
Spizella breweri	Brewer's sparrow	None	None	-	-
Athene cunicularia	burrowing owl	None	None	SSC	-
Laterallus jamaicensis coturniculus	California black rail	None	T	FP	-
Pelecanus occidentalis californicus	California brown pelican	Delisted	Delisted	FP	-
Gymnogyps californianus	California condor	E	E	FP	-
Larus californicus	California gull	None	None	WL	-
Eremophila alpestris actia	California horned lark	None	None	WL	-
Aythya valisineria	canvasback	None	None	-	-
Hydroprogne caspia	Caspian tern	None	None	-	-
Polioptila californica californica	coastal California gnatcatcher	T	None	SSC	-
Accipiter cooperii	Cooper's hawk	None	None	WL	-
Calypte costae	Costa's hummingbird	None	None	-	-
Phalacrocorax auritus	double-crested cormorant	None	None	WL	-
Buteo regalis	ferruginous hawk	None	None	WL	-
Aquila chrysaetos	golden eagle	None	None	FP ; WL	-
Ammodramus savannarum	grasshopper sparrow	None	None	SSC	-
Ardea herodias	great blue heron	None	None	-	-
Ardea alba	great egret	None	None	-	-
Spinus lawrencei	Lawrence's goldfinch	None	None	-	-
Vireo bellii pusillus	least Bell's vireo	E	E	-	-
Lanius ludovicianus	loggerhead shrike	None	None	SSC	-
Numenius americanus	long-billed curlew	None	None	WL	-
Asio otus	long-eared owl	None	None	SSC	-
Falco columbarius	merlin	None	None	WL	-

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CA STATUS	CDFW	CNPS LIST
Charadrius montanus	mountain plover	None	None	SSC	-
Accipiter gentilis	northern goshawk	None	None	SSC	-
Circus hudsonius	northern harrier	None	None	SSC	-
Baeolophus inornatus	oak titmouse	None	None	-	-
Contopus cooperi	olive-sided flycatcher	None	None	SSC	-
Pandion haliaetus	osprey	None	None	WL	-
Falco mexicanus	prairie falcon	None	None	WL	-
Progne subis	purple martin	None	None	SSC	-
Sphyrapicus ruber	red-breasted sapsucker	None	None	-	-
Aythya americana	redhead	None	None	SSC	-
Selasphorus rufus	rufous hummingbird	None	None	-	-
Accipiter striatus	sharp-shinned hawk	None	None	WL	-
Asio flammeus	short-eared owl	None	None	SSC	-
Egretta thula	snowy egret	None	None	-	-
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None	None	WL	-
Empidonax traillii extimus	southwestern willow flycatcher	E	E	-	-
Buteo swainsoni	Swainson's hawk	None	T	-	-
Agelaius tricolor	tricolored blackbird	None	T	SSC	-
Chaetura vauxi	Vaux's swift	None	None	SSC	-
Coccyzus americanus occidentalis	western yellow-billed cuckoo	T	E	-	-
Plegadis chihi	white-faced ibis	None	None	WL	-
Elanus leucurus	white-tailed kite	None	None	FP	-
Empidonax traillii	willow flycatcher	None	E	-	-
Coturnicops noveboracensis	yellow rail	None	None	SSC	-
Setophaga petechia	yellow warbler	None	None	SSC	-
Icteria virens	yellow-breasted chat	None	None	SSC	-
Xanthocephalus xanthocephalus	yellow-headed blackbird	None	None	SSC	-
Streptocephalus woottoni	Riverside fairy shrimp	E	None	-	-
Gila orcuttii	arroyo chub	None	None	SSC	-
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None	None	SSC	-
Catostomus santaanae	Santa Ana sucker	T	None	-	-
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	E	None	-	-
Carolella busckana	Busck's gallmoth	None	None	-	-
Bombus crotchii	Crotch bumble bee	None	Candidate E	-	-
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	E	None	-	-
Ceratochrysis longimala	Desert cuckoo wasp	None	None	-	-
Cicindela tranquebarica viridissima	greenest tiger beetle	None	None	-	-
Euphydryas editha quino	quino checkerspot butterfly	E	None	-	-
Taxidea taxus	American badger	None	None	SSC	-
Dipodomys simulans	Dulzura kangaroo rat	None	None	-	-

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CA STATUS	CDFW	CNPS LIST
Chaetodipus californicus femoralis	Dulzura pocket mouse	None	None	SSC	-
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None	None	SSC	-
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None	None	SSC	-
Perognathus longimembris pacificus	Pacific pocket mouse	E	None	SSC	-
Antrozous pallidus	pallid bat	None	None	SSC	-
Lynx rufus pallescens	pallid bobcat	None	None	-	-
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None	None	SSC	-
Nyctinomops femorosaccus	pocketed free-tailed bat	None	None	SSC	-
Glaucomys oregonensis californicus	San Bernardino flying squirrel	None	None	SSC	-
Dipodomys merriami parvus	San Bernardino kangaroo rat	E	Candidate E	SSC	-
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None	None	SSC	-
Neotoma lepida intermedia	San Diego desert woodrat	None	None	SSC	-
Onychomys torridus ramona	southern grasshopper mouse	None	None	SSC	-
Dipodomys stephensi	Stephens' kangaroo rat	E	T	-	-
Eumops perotis californicus	western mastiff bat	None	None	SSC	-
Myotis ciliolabrum	western small-footed myotis	None	None	-	-
Lasiurus xanthinus	western yellow bat	None	None	SSC	-
Myotis yumanensis	Yuma myotis	None	None	-	-
Anodonta californiensis	California floater	None	None	-	-
Arizona elegans occidentalis	California glossy snake	None	None	SSC	-
Phrynosoma blainvillii	coast horned lizard	None	None	SSC	-
Salvadora hexalepis virgultea	coast patch-nosed snake	None	None	SSC	-
Aspidoscelis tigris stejnegeri	coastal whiptail	None	None	SSC	-
Anniella pulchra	northern California legless lizard	None	None	SSC	-
Aspidoscelis hyperythra	orange-throated whiptail	None	None	WL	-
Crotalus ruber	red-diamond rattlesnake	None	None	SSC	-
Diadophis punctatus modestus	San Bernardino ringneck snake	None	None	-	-
Coleonyx variegatus abbotti	San Diego banded gecko	None	None	SSC	-
Diadophis punctatus similis	San Diego ringneck snake	None	None	-	-
Thamnophis sirtalis pop. 1	south coast gartersnake	None	None	SSC	-
Anniella stebbinsi	southern California legless lizard	None	None	SSC	-
Thamnophis hammondii	two-striped gartersnake	None	None	SSC	-
Emys marmorata	western pond turtle	None	None	SSC	-
Galium californicum ssp. *primum*	Alvin Meadow bedstraw	None	None	-	1B.2
Phacelia stellaris	Brand's star phacelia	None	None	-	1B.1
Carex comosa	bristly sedge	None	None	-	2B.1
Imperata brevifolia	California satintail	None	None	-	2B.1
Tortula californica	California screw moss	None	None	-	1B.2
Senecio aphanactis	chaparral ragwort	None	None	-	2B.2

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CA STATUS	CDFW	CNPS LIST
Abronia villosa var. *aurita*	chaparral sand-verbena	None	None	-	1B.1
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None	None	-	1B.1
Romneya coulteri	Coulter's matilija poppy	None	None	-	4.2
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None	None	-	1B.2
Pseudorontium cyathiferum	Deep Canyon snapdragon	None	None	-	2B.3
Quercus engelmannii	Engelmann oak	None	None	-	4.2
Nasturtium gambelii	Gambel's water cress	E	T	-	1B.1
Astragalus hornii var. *hornii*	Horn's milk-vetch	None	None	-	1B.1
Myosurus minimus ssp. *apus*	little mousetail	None	None	-	3.1
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None	None	-	1B.2
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None	None	-	1A
Dudleya multicaulis	many-stemmed dudleya	None	None	-	1B.2
Arenaria paludicola	marsh sandwort	E	E	-	1B.1
Horkelia cuneata var. *puberula*	mesa horkelia	None	None	-	1B.1
Allium munzii	Munz's onion	E	T	-	1B.1
Berberis nevinii	Nevin's barberry	E	E	-	1B.1
Harpagonella palmeri	Palmer's grapplinghook	None	None	-	4.2
Deinandra paniculata	paniculate tarplant	None	None	-	4.2
Atriplex parishii	Parish's brittlescale	None	None	-	1B.1
Malacothamnus parishii	Parish's bush-mallow	None	None	-	1A
Lycium parishii	Parish's desert-thorn	None	None	-	2B.3
Ribes divaricatum var. *parishii*	Parish's gooseberry	None	None	-	1A
Chorizanthe parryi var. *parryi*	Parry's spineflower	None	None	-	1B.1
Caulanthus simulans	Payson's jewelflower	None	None	-	4.2
Chorizanthe leptotheca	Peninsular spineflower	None	None	-	4.2
Cuscuta obtusiflora var. *glandulosa*	Peruvian dodder	None	None	-	2B.2
Calochortus plummerae	Plummer's mariposa-lily	None	None	-	4.2
Sphenopholis obtusata	prairie wedge grass	None	None	-	2B.2
Monardella pringlei	Pringle's monardella	None	None	-	1A
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None	None	-	4.3
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	E	E	-	1B.2
Symphyotrichum defoliatum	San Bernardino aster	None	None	-	1B.2
Ambrosia pumila	San Diego ambrosia	E	None	-	1B.1
Artemisia palmeri	San Diego sagewort	None	None	-	4.2
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	E	None	-	1B.1
Eriastrum densifolium ssp. *sanctorum*	Santa Ana River woollystar	E	E	-	1B.1
Dodecahema leptoceras	slender-horned spineflower	E	E	-	1B.1
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None	None	-	4.2
Convolvulus simulans	small-flowered morning-glory	None	None	-	4.2
Centromadia pungens ssp. *laevis*	smooth tarplant	None	None	-	1B.1
Juglans californica	southern California black walnut	None	None	-	4.2

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	CA STATUS	CDFW	CNPS LIST
Navarretia fossalis	spreading navarretia	T	None	-	1B.1
Brodiaea filifolia	thread-leaved brodiaea	T	E	-	1B.1
Bouteloua trifida	three-awned grama	None	None	-	2B.3
Hordeum intercedens	vernal barley	None	None	-	3.2
Asplenium vespertinum	western spleenwort	None	None	-	4.2
Pseudognaphalium leucocephalum	white rabbit-tobacco	None	None	-	2B.2
Chorizanthe xanti var. *leucotheca*	white-bracted spineflower	None	None	-	1B.2
Texosporium sancti-jacobi	woven-spored lichen	None	None	-	3
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	None	None	-	2B.1

Legend:

Candidate= Candidate for listing
CNDDB=California Natural Diversity Database
CDFW=California Department of Fish and Wildlife
FP=Fully Protected
SSC=Species of Concern
CNPS List= California Native Plant Society
CNPS 1B= Rare or Endangered In California and Elsewhere
CNPS 2= Rare or Endangered in California, More Common Elsewhere
CNPS 3= Need More Information
CNPS 4= Plants of Limited Distribution
CNPS New Threat Code extensions and their meanings:
.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

IV. EXISTING CONDITIONS

This section provides the existing conditions of the study area, including the general description of the site, hydrological resources, soil types, and vegetation communities.

GENERAL DESCRIPTION OF THE SITE

The project area is in the interior basin of western Riverside County. To the north is the Santa Ana River basin; east are the San Bernardino Mountains and Little San Bernardino Mountains. To the west are the badlands. Slopes range from 0-25%. The project area is on short alluvial fans. The average annual rainfall for the area ranges from 9-18 inches. The average annual temperature is 59-64 degrees, with 200-280 frost-free days.

The project site itself is bordered by Van Buren Boulevard, Chicago Avenue and Iris Avenue. Van Buren Boulevard forms the southern boundary for the project. Chicago Avenue forms the western boundary and Iris Avenue forms the northern boundary. The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.

HYDROLOGICAL RESOURCES

The entire project site falls within the Santa Ana River watershed (18070203). The waters of the U.S. found on the project site are eventually tributary to Santa Ana River. The hydrology in the project area has been altered. The unnamed drainage and tributary are dry most of the year.

SOILS OF THE SITE

The soil associations mapped for the area are Cieneba-Rock Land-Fallbrook association. Cieneba-Rock Land-Fallbrook association: Well-drained and somewhat excessively drained, undulating to steep, very shallow to moderately deep soils that have a surface layer of sandy loam and fine sandy loam; on granitic rock. The soil series mapped for the area are described in Table 4.1. The soils found are similar in texture and color to those mapped, but were highly disturbed from anthropogenic activities. The soils were compacted and unstratified over the majority of the project site. The soils at soil pit locations did not meet the criteria for hydric soils within project boundaries.

TABLE 4.1
SOIL SERIES MAPPED FOR THE AREA

Name	Description
Bonsall fine sandy loam 2-8% slopes	Developed in material deeply weathered from granodiorite or tonalite. These moderately well-drained soils occur on uplands and have slopes 2-8%. Elevations range from 1,000-1,800 feet. The average annual rainfall ranges from 10-14 inches, the average annual temperature from 62-65 degrees F, and the average frost-free season from 240-300 days. Vegetation is chiefly annual grasses, forbs and chamise.
Cieneba rocky sandy loam, 15-50% slopes, eroded	Somewhat excessively drained soils on uplands. Slopes of 15-50%. These soils formed in coarse-grained igneous rock. Elevations range from 900-3,500 feet. The average annual rainfall ranges from 9-16 inches, the average annual temperature from 59-65 degrees F, and the average frost-free season from 220-300 days. Vegetation is chiefly annual grasses, chamise, and flat-top buckwheat.
Fallbrook sandy loam, 8-15% slopes, eroded	Well-drained soils that lie on uplands and have slopes of 8-15%. These soils developed on granodiorite and tonalite. Elevations range from 700-3,500 feet. The average annual rainfall ranges from 10-14 inches, the average annual temperature from 59-65 degrees F, and the average frost-free season from 200-280 days. Vegetation is chiefly annual grasses, oaks, flat-topped buckwheat and chaparral.
Monserate sandy loam, 0-5% slopes	Well-drained soils that developed in alluvium from predominately granitic materials and have slopes of 0-5%. These soils are on terraces and on old alluvial fans. Elevations range from 700-2,500 feet. The average annual rainfall ranges from 9-14 inches, the average annual temperature from 61-64 degrees F, and the average frost-free season from 220-280 days. Vegetation is chiefly annual grasses, forbs, salvia and chamise.
Vista coarse sandy loam, 8-15% slopes, eroded	Well-drained soils of uplands. These soils have slopes of 8-15%. Developed on weathered granite and granodiorite. Elevations range from 1,000-3,500 feet. The average annual rainfall ranges from 10-15 inches, the average annual temperature from 59-64 degrees F, and the average frost-free season from 200-260 days. Vegetation is chiefly annual grasses, forbs and chaparral.

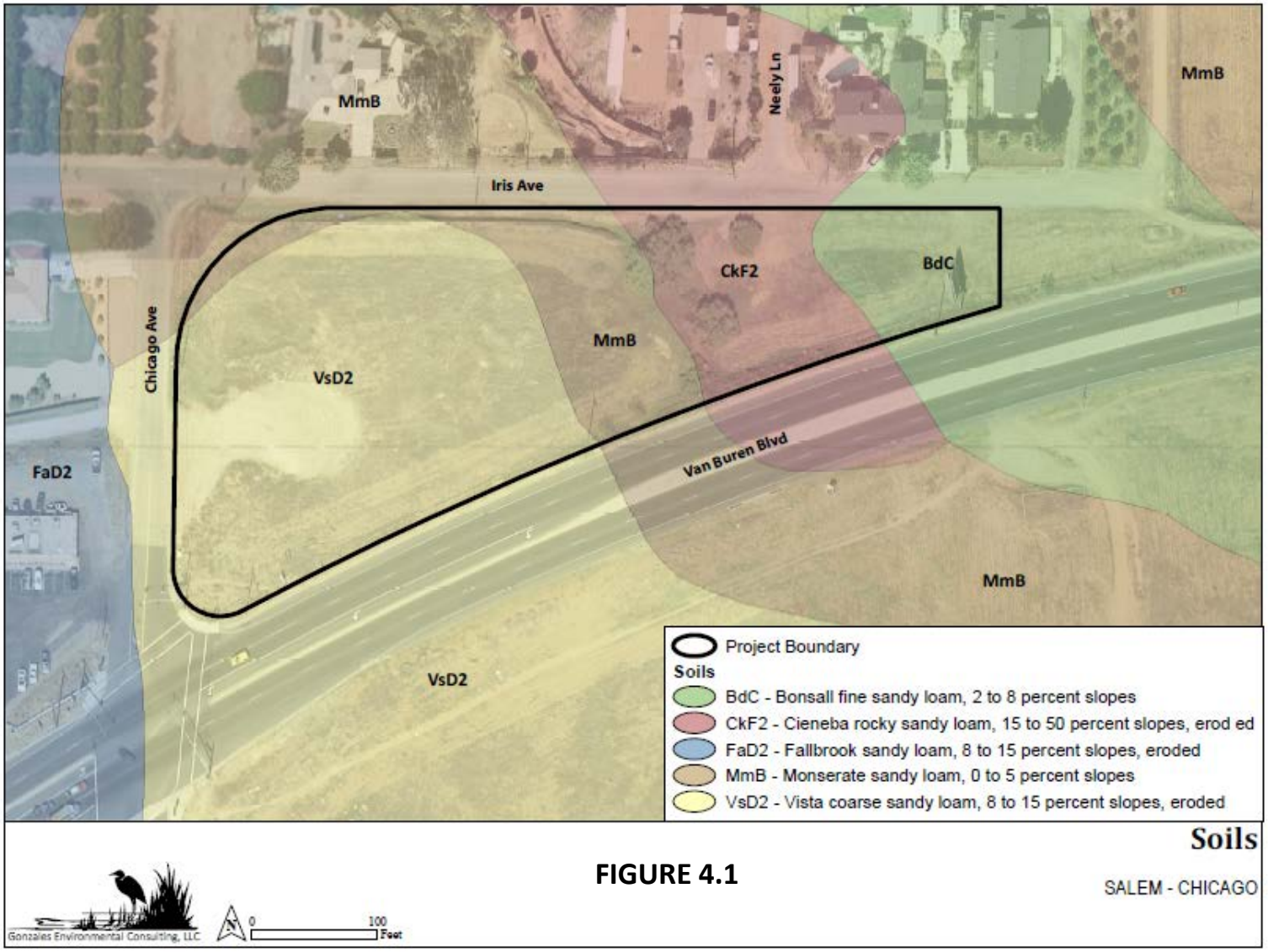


FIGURE 4.1

Soils

SALEM - CHICAGO

PLANT COMMUNITIES

Sensitive Vegetation Communities

Sensitive vegetation communities are those that are: considered sensitive pursuant to the State of California NCCP program; are under the jurisdiction of the ACOE pursuant to Section 404 of the CWA; are under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the California Fish and Game Code; are known or believed to be of high priority for inventory in the California Natural Diversity Data Base (CNDDB 2020); are considered regionally rare in southern California; have undergone a large- scale reduction from their Pre-European coverage in southern California due to increased urban and agricultural encroachment; and/or support sensitive plant and animal species.

Sensitive vegetation communities listed for the surrounding project area are: Southern California Arroyo Chub/Santa Ana Sucker Stream , Riversidian Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub.

Vegetation Communities on the Project Site

The project encompasses seven vegetation community types. Vegetation communities currently present are characterized as streambed, *Avena barbata* (Slender oat) Alliance, *Baccharis salicifolia* (Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site. The existing plant communities are described in more detail below.

Streambed

Streambed on the project site consists of *Avena barbata* (Slender oat) Alliance and bare earth.

PICTURE 1
Streambed

***Avena barbata* (Slender oat) Alliance (Grasslands – Disturbed)**

Stands of *Avena barbata* (Slender oat) Alliance form a dense herbaceous layer (75%) at 0-0.5m tall. Shrub and tree layers are absent. Total vegetation cover is 75%.

PICTURE 2
***Avena barbata* (Slender oat) Alliance**

Mule Fat Scrub (*Baccharis salicifolia*) Alliance

An individual mulefat was observed in the drainage between two pepper trees. Wide grass covered space between mulefat and pepper trees was observed.

Landscape

Landscape habitat on site consists of non-native California Pepper tree (*Schinus molle*).

California juniper

A single California Juniper (*Juniperus californica*) was found on the project site.

Disturbed/Developed

Disturbed areas are characterized by predominantly non-native species introduced and established through human action. Disturbed or barren areas are areas that either completely lack vegetation or have a predominance of non-native species.

TABLE 4.2
ACREAGE OF HABITAT TYPES

Vegetation	Boundary	Impacts
Avena barbata alliance	2.458	1.159
Disturbed habitat	0.320	0.320
Juniper	0.018	
Mulefat scrub alliance	0.004	
Pepper trees	0.101	
TOTAL (acres)	**2.900**	**1.479**

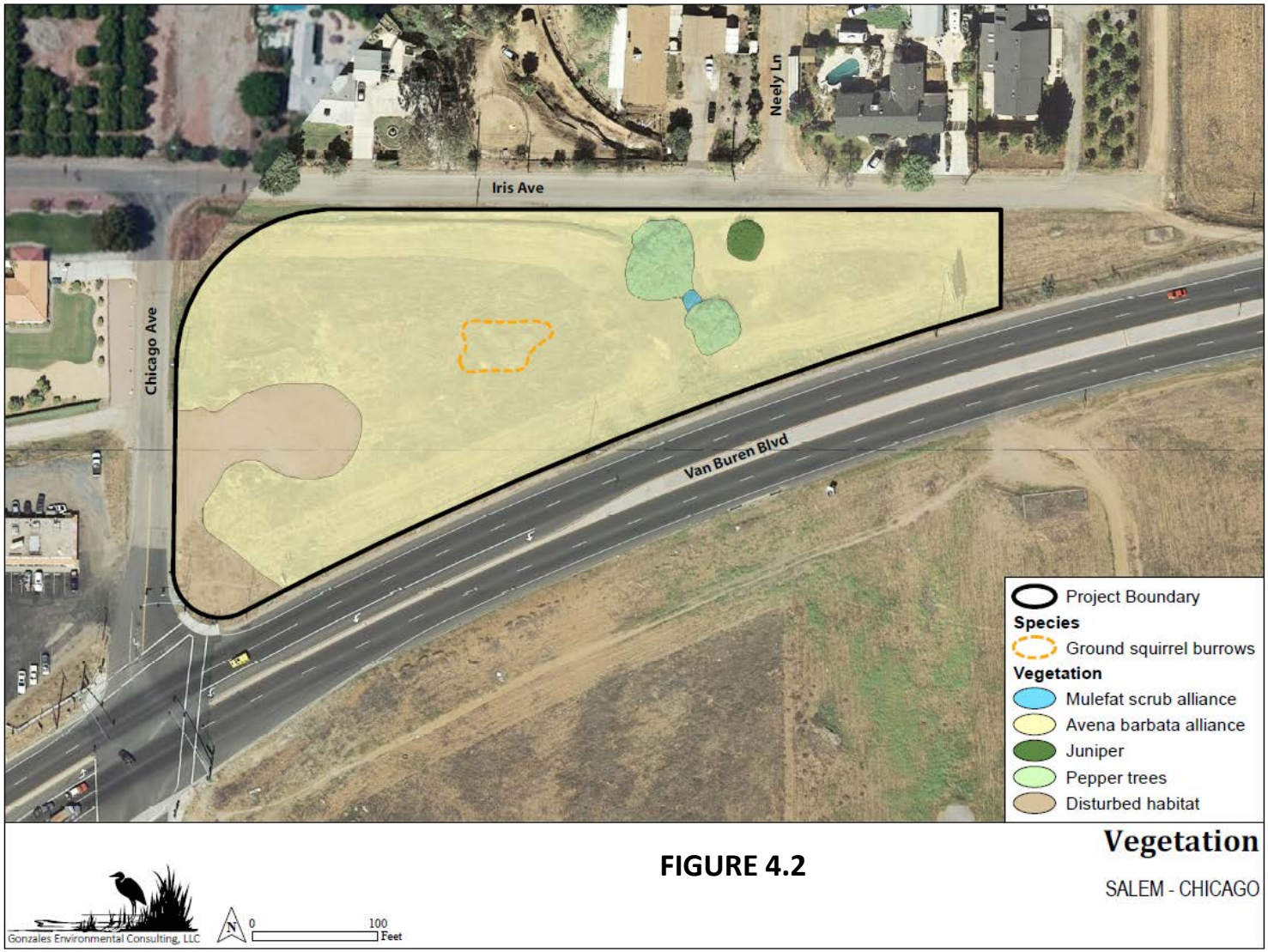


FIGURE 4.2

Vegetation

SALEM - CHICAGO

V. RESULTS

This section presents the result of habitat assessments and focused surveys that were conducted within the study area. Regarding how the survey results relate to potential impacts to sensitive biological resources and MSHCP consistency, refer to Section 6 and Section 7, respectively, of this report.

SENSITIVE HABITATS

A list of special status habitats was created based on published literature and literature readily available on the internet and CNDDB records searches. Riversidian Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub are sensitive habitats listed for the surrounding area. **We found none of the sensitive habitats on the project site.**

MSHCP RIPARIAN/RIVERINE AND VERNAL POOL HABITATS

RIPARIAN/RIVERINE

We found a seasonal watercourse and potential 6.1.2 riverine vegetation present on site. This project will impact riverine and riparian habitat. Delineation studies found 0.039 acre waters of the U.S. (WOUS) on the project. Delineation studies found 0.169 acres of streambed and 0.004 acre of Mulefat scrub alliance (State jurisdictional) on the project site. Delineation studies found 6.1.2 habitat [0.165 acres of streambed (riverine) and 0.004 acres of mulefat alliance (riparian)] on the project site.

VERNAL POOLS

An assessment of the potentially significant effects of the proposed project on vernal pools was conducted. Vernal pools, also called vernal ponds or ephemeral pools, are temporary pools of water that provide habitat for distinctive plants and animals. We found none of those features on the project site. There are no clay soils or areas which has compacted soils that would allow water to stand for any length of time No vernal pools are present on the project site.

FAIRY SHRIMP

An assessment of the potentially significant effects of the proposed project on fairy shrimp was conducted. Fairy shrimp can occasionally be found in habitats other than vernal pools, such as artificial pools created by roadside ditches, shallow depressions and road ruts. Suitable habitat for fairy shrimp would require features that would be able to hold water long enough to support fairy shrimp. We found none of those features on the project site. There are no clay soils or areas which has compacted soils that would allow water to stand for any length of time. The site has been anthropogenically impacted and does not have any features necessary to support fairy shrimp in its current condition.

SENSITIVE PLANTS

Several special-status plant and animal species have the potential to occur on site. Table 5.1 documents the special-status plant species that may occur in the Riverside East quadrangle and surrounding nine quadrangles (Rarefind 5-2020).

TABLE 5.1
SPECIAL-STATUS PLANT SPECIES LISTED FOR RIVERSIDE EAST & SURROUNDING NINE QUADRANGLES

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations	Status Onsite or Potential to Occur
Galium californicum ssp. *primum*	Alvin Meadow bedstraw	None	1B.2	Chaparral and yellow pine forests ~5,000 ft.	No habitat; No potential
Phacelia stellaris	Brand's star phacelia	None	1B.1	Sage Scrub	No habitat; No potential
Carex comosa	bristly sedge	None	2B.1	Lake-margins and edges between 0 and 1400 feet	No habitat; No potential
Imperata brevifolia	California satintail	None	2B.1	Wet springs, meadows, streambanks, floodplains in wet or dry soil of Chaparral, Coastal Sage Scrub, and Creosote Bush Scrub	No habitat; No potential
Tortula californica	California screw moss	None	1B.2	Sandy soils within chenopod scrub and valley and foothill grasslands from 30 to 4,800 feet elevation	Habitat present; No potential was not observed during surveys
Senecio aphanactis	chaparral ragwort	None	2B.2	Dry alkaline flats	No habitat; No potential
Abronia villosa var. *aurita*	chaparral sand-verbena	None	1B.1	Sandy places in coastal-sage scrub, chaparral at less than 1600 meters	No habitat; No potential
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None	1B.1	Alkaline coastal salt marshes, alkali playas, valley and foothill grasslands, and vernal pools	Habitat present; No potential
Romneya coulteri	Coulter's matilija poppy	None	4.2	Sage scrub and chaparral	No habitat; No potential
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None	1B.2	Coastal sage scrub, wetlands.	No habitat; No potential
Pseudorontium cyathiferum	Deep Canyon snapdragon	None	2B.3	Washes, rocky slopes in creosote bush scrub	No habitat; No potential
Quercus engelmannii	Engelmann oak	None	4.2	Slopes, foothills, woodland at an elevation less than 1300 meters	No habitat; No potential
Nasturtium gambelii	Gambel's water cress	E/T	1B.1	Freshwater marsh, coastal sage scrub and chaparral	No habitat; No potential
Astragalus hornii var. *hornii*	Horn's milk-vetch	None	1B.1	Salty flats and lakeshores	No habitat; No potential
Myosurus minimus ssp. *apus*	little mousetail	None	3.1	Vernal Pools	No habitat; No potential
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None	1B.2	Southern needle grass grassland, and openings in coastal sage scrub and chaparral	No habitat; No potential
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None	1A	Coastal salt marsh	No habitat; No potential
Dudleya multicaulis	many-stemmed dudleya	None	1B.2	Coastal Sage Scrub, Chaparral and Needle Grass	No habitat; No potential
Arenaria paludicola	marsh sandwort	E/E	1B.1	Freshwater-marsh	No habitat; No potential
Horkelia cuneata var. *puberula*	mesa horkelia	None	1B.1	Vernal pools, depressions and ditches	No habitat; No potential
Allium munzii	Munz's onion	E/T	1B.1	Grassy openings in coastal sage scrub, chaparral, juniper woodland, valley and foothill grasslands in clay soils. Found on mesic exposures or seasonally moist microsites	Habitat present; No potential as soils are not appropriate
Berberis nevinii	Nevin's barberry	E/E	1B.1	Chaparral, Foothill Woodland, Coastal Sage Scrub	No habitat; No potential
Harpagonella palmeri	Palmer's grapplinghook	None	4.2	Clay slopes and in burned areas at lower elevations	No habitat; No potential
Deinandra paniculata	paniculate tarplant	None	4.2	Grassland, open chaparral and woodland, disturbed areas, often in sandy soils up to 1320 meter	No habitat; No potential
Atriplex parishii	Parish's brittlescale	None	1B.1	Shadscale Scrub, Alkali Sink, Freshwater Wetlands, wetland-riparian;playas, vernal-pools	No habitat; No potential
Malacothamnus parishii	Parish's bush-mallow	None	1A	Chaparral and coastal sage scrub	No habitat; No potential

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations	Status Onsite or Potential to Occur
Lycium parishii	Parish's desert-thorn	None	2B.3	Creosote Brush Scrub and Coastal Sage Scrub	No habitat; No potential
Ribes divaricatum var. *parishii*	Parish's gooseberry	None	1A	Moist woodland	No habitat; No potential
Chorizanthe parryi var. *parryi*	Parry's spineflower	None	1B.1	Chaparral, sage scrub, alluvial fan sage scrub and Juniper woodland	No habitat; No potential
Caulanthus simulans	Payson's jewelflower	None	4.2	Chaparral, Coastal Sage Scrub	No habitat; No potential
Chorizanthe leptotheca	Peninsular spineflower	None	4.2	Sand or gravel, between (300)600–1600 meters	No habitat; No potential
Cuscuta obtusiflora var. *glandulosa*	Peruvian dodder	None	2B.2	Found on herbs including Alternanthera, Dalea, Lythrum, Polygonum and Xanthium at an elevation of less than 500 meters	No habitat; No potential
Calochortus plummerae	Plummer's mariposa-lily	None	4.2	Dry, rocky slopes, brushy areas and openings in chaparral below 5000 feet	No habitat; No potential
Sphenopholis obtusata	prairie wedge grass	None	2B.2	Wet meadows, streambanks, ponds	No habitat; No potential
Monardella pringlei	Pringle's monardella	None	1A	Interior sand dunes in sandy soils	No habitat; No potential
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None	4.3	Coastal sage scrub, chaparral, dry soils up to 1,500 foot elevation	No habitat; No potential
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	E/E	1B.2	Coastal Strand and Coastal Salt Marsh and under natural conditions in wetlands	No habitat; No potential
Sidalcea neomexicana	salt spring checkerbloom	None	2B.2	Creosote Bush Scrub, Chaparral, Yellow Pine Forest, Coastal Sage Scrub and Alkali Sink	No habitat; No potential
Symphyotrichum defoliatum	San Bernardino aster	None	1B.2	Cismontane woodlands, coastal sage scrub, lower montane coniferous forests, meadows, seeps, marshes, swamps, valleys and foothill grasslands	Habitat present; No potential
Ambrosia pumila	San Diego ambrosia	Endangered/None	1B.1	Chaparral, coastal sage scrub, valley and foothill grassland and vernal pools	Habitat present; No potential
Artemisia palmeri	San Diego sagewort	None	4.2	Riparian in chaparral, Coastal Sage Scrub	No habitat; No potential
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	E/None	1B.1	Playas, vernal-pools in Alkali Sink, Freshwater Wetlands, wetland-riparian	No habitat; No potential
Eriastrum densifolium ssp. *sanctorum*	Santa Ana River woollystar	E/E	1B.1	Santa Ana River and Lytle and Cajon Creek flood plains	No habitat; No potential
Dodecahema leptoceras	slender-horned spineflower	E/E	1B.1	Alluvial washes. It is usually restricted to old bench habitats in Riversidian alluvial fan sage scrub	No habitat; No potential
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None	4.2	Clay soils, in grassland habitat, often near vernal pools or serpentine outcrops	No habitat; No potential
Convolvulus simulans	small-flowered morning-glory	None	4.2	Coastal sage scrub, valley grassland	Habitat present; No potential
Centromadia pungens ssp. *laevis*	smooth tarplant	None	1B.1	Alkaline soils at the edges of marshes and swamps	No habitat; No potential
Juglans californica	southern California black walnut	None	4.2	Hillsides and canyons at 30–900 meters	No habitat; No potential
Navarretia fossalis	spreading navarretia	T/None	1B.1	Freshwater-marsh, vernal-pools in Shadscale Scrub, Freshwater Wetlands, wetland-riparian	Habitat present; No potential
Brodiaea filifolia	thread-leaved brodiaea	T/E	1B.1	Vernal pools in Valley Grassland, Foothill Woodland, Coastal Sage Scrub, Freshwater Wetlands, wetland-riparian	Habitat present; No potential
Bouteloua trifida	three-awned grama	None	2B.3	Dry, rocky, generally calcareous slopes, crevices, washes, scrub in creosote bush scrub	No habitat; No potential
Hordeum intercedens	vernal barley	None	3.2	Vernal pools, dry, saline streambeds and alkaline flats at an elevation below 500 meters	No habitat; No potential

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations	Status Onsite or Potential to Occur
Asplenium vespertinum	western spleenwort	None	4.2	Moist, shady, rocky places, such as the shadows beneath cliff overhangs	No habitat; No potential
Pseudognaphalium leucocephalum	white rabbit-tobacco	None	2B.2	Chaparral, Cismontane woodland, Coastal scrub, and Riparian woodland	No habitat; No potential
Chorizanthe xanti var. *leucotheca*	white-bracted spineflower	None	1B.2	Saltbush, pinyon-juniper, and pine-oak woodlands	No habitat; No potential
Texosporium sancti-jacobi	woven-spored lichen	None	3	Arid to semi-arid shrub-steppe, grassland or savannah communities	Habitat present; No potential
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	None	2B.1	Riparian, meadows, marsh, vernal-pools in Freshwater Wetlands, wetland-riparian	No habitat; No potential

Legend

FE: Federally-listed as endangered
FT: Federally-listed as threatened
SCE: State candidate for listing as endangered
FC: Federal Candidate
SE: State-listed as endangered
ST: State-listed as threatened
SR: State rare

CNPS List= California Native Plant Society
CNPS 1B= Rare or Endangered In California and Elsewhere
CNPS 2= Rare or Endangered in California, More Common Elsewhere
CNPS 3= Need More Information
CNPS 4= Plants of Limited Distribution
CNPS New Threat Code extensions and their meanings:
.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

OAK TREES

There are no oak trees on or adjacent to the project site.

FAUNA

The project study area supports a moderate-high diversity of wildlife species due to the moderate level of disturbance and development in the vicinity. Many of the wildlife species observed or detected in the project study area are commonly found in the urban interface or on disturbed habitat Wildlife is generally specific to disturbed sage scrub habitat. While a few wildlife species are entirely dependent on a single vegetative community, the entire mosaic of the site and adjoining areas constitutes a functional ecosystem for a variety of wildlife species. The habitat on the site provides foraging habitat for year-round residents, seasonal residents, and migrating song birds. In addition, the site encompasses raptor foraging and perching habitat. A list of observed wildlife is attached as Appendix D. Wildlife usage of the project site tends to be focused around the margins of the project site, away from the eastern development. Characteristic avian species detected include Red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), western kingbird (*Tyrannus verticalis*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), European starling (*Sturnus vulgaris*), song sparrow (*Melospiza melodia*), Savannah sparrow (*Passerculus sandwichensis*), house finch (*Haemorhous mexicanus*) and lesser goldfinch (*Spinus psaltria*).

SENSITIVE WILDLIFE

No sensitive wildlife was detected within the project study area during wildlife field studies. Additional species are discussed in Appendix F. One (1) species is assumed to be present Table 5.2 provides the listing status of the species.

TABLE 5.2

MSHCP ADEQUATELY CONSERVED WILDLIFE SPECIES

Species	Listing Status
Stephens' kangaroo rat (*Dipodomys stephensi*)	Federal: Endangered State: Threatened MSHCP: Covered Species

MSHCP ADEQUATELY CONSERVED SPECIES

Wildlife species that are covered and Adequately Conserved by the MSHCP does not include Stephens Kangaroo rat. Stephens Kangaroo rat (SKR) is covered under a separate Habitat Conservation Plan. As a Covered species, participation in the HCP would provide "take" for SKR species and no additional mitigation except a fee, would be required. Although SKR is Adequately Conserved, the intent of the proposed project is to avoid and/or minimize impacts to all biological resources that occur within its boundaries.

MSHCP SECTION 6.1.2 SPECIES

No MSHCP Section 6.1.2 species (LBV, southwestern Willow flycatcher and other

riparian species) were observed on the project site or within the 500 foot buffer.

MSHCP SECTION 6.3.2 CRITERIA AREA SPECIES

Burrowing owl (*Athene cunicularia*) is a state species of special concern and MSHCP Group 3 species that is found in open, dry grasslands, agricultural and range lands, as well as desert habitats with low-growing vegetation. The BUOW resides in burrows primarily created, then abandoned, by species such as California ground squirrels (*Spermophilus beecheyi*) and coyotes (*Canis latrans*). Although several potential debris piles were mapped within the project area during habitat assessments for this species, focused surveys did not identify BUOW or active burrows during surveys on the property.

VI. IMPACT ANALYSIS AND MITIGATION MEASURES

This section provides an analysis of impacts to biological resources expected to occur from the construction of the proposed p roject. Both direct and indirect impacts are anticipated as a result of construction activities. Impacts are defined as activities that destroy, damage, alter, or otherwise affect biological resources in a project area. Impacts are described below.

PROJECT EFFECTS

The number of individuals of each sensitive species inhabiting the habitat areas was not determined, for the following reasons: (a) many species are amphibians or reptiles, which are difficult to detect during routine field surveys, (b) intensive population studies of small mammals inhabiting the various habitats were not conducted due to the excessive time required to complete such investigations, and (c) some of the bird species known from habitats immediately adjacent to the project area were not observed during field surveys but, due to their capacity of flight, could inhabit the area any time in the future.

Direct and Indirect Impacts to Wildlife

This section addresses direct, indirect, and cumulative impacts to biological resources that may result from implementation of the proposed project.

Direct impacts generally consist of the loss of habitat and the plant and wildlife species that it contains within the area impacted by the proposed project. For the purposes of this assessment, all biological resources within the grading impact area are considered 100 percent lost.

Indirect Impacts are difficult to quantify but, in some cases, they may be as significant as direct impacts. In general, indirect impacts primarily result from adverse "edge effects," either short-term indirect impacts related to construction or long-term, chronic indirect impacts associated with the location of development in proximity to biological resources within natural open space.

Short-term indirect impacts that may potentially result from any project construction include dust production, which could affect plant growth and insect activity; noise, which could disrupt wildlife communication, including bird breeding behavior; lighting, which could disrupt behavior of nocturnal reptiles, mammals, and raptors; sedimentation, siltation, and erosion, which could affect water quality of onsite streams; and pollutant runoff, including chemicals used during construction and machinery maintenance, which could contaminate soil and water.

Cumulative Impacts refer to incremental individual environmental effects of the proposed project and other past, present, and reasonably foreseeable future projects when combined together. These impacts taken individually may be minor, but collectively may be significant as they occur over a period of time.

THRESHOLDS FOR DETERMINING POTENTIAL SIGNIFICANCE

Guidelines under California Environmental Quality Act (CEQA) provide guidance and interpretation for implementing CEQA statutes. CEQA significance entails any impact to plant and wildlife species listed by federal or state agencies as threatened or endangered, or of regional or local significance. A significant impact to listed or sensitive species could be direct or indirect, with impacts to rare or sensitive habitats also considered significant.

In general, the proposed project could result in a potentially significant impact to the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW, USACE, RWQCB, or USFWS.
- 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;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.
- Introduce land use within an area immediately adjacent to the MSHCP Conservation Area that would result in substantial edge effects; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Mitigation and conservation recommendations to address each impact to biological resources are identified below.

Participation in the MSHCP and implementation of conservation and additional mitigation measures would compensate for impacts that would occur as a result of project implementation.

DIRECT IMPACTS

Direct impacts consist of any ground-disturbing activities (i.e., vegetation removal, grading, paving, building of structures, installing landscaping, etc.). Impacts will occur to all of the habitat on the site. These impacts will occur in the grading for the buildings and roadways by removal of habitat. No state or federal listed plant species will be impacted by the proposed project. The habitat on the project site supports common native wildlife species that would be directly affected by the removal of the habitat.

The more mobile wildlife species, such as birds that utilize the affected area will be displaced during clearing activities to adjacent areas. These animals may move to open

adjacent properties. The less mobile species will probably be lost during the habitat clearing and grading. Construction of the project will probably limit the future use of the area except for common reptile, bird and small mammal species that can be found in urban neighborhoods.

Anticipated impacts to most sensitive wildlife species would be relatively minor, for the following reasons: (a) most of the potentially impacted species are common, and (b) the project area is already disturbed by anthropogenic activities.

Construction Related Land Disturbance

Land disturbance calculations that would result from construction activities (i.e. grading, staging areas etc.) are provided in Table 6.1 below. Implementation of the proposed project would result in the estimated direct permanent loss of approximately 26.951 acres of habitat.

TABLE 6.1

ACREAGE OF HABITAT TYPES RELATED TO LAND DISTURBANCE

Vegetation	Boundary	Impacts
Avena barbata alliance	2.458	1.159
Disturbed habitat	0.320	0.320
Juniper	0.018	
Mulefat scrub alliance	0.004	
Pepper trees	0.101	
TOTAL (acres)	**2.900**	**1.479**

Vegetation Communities

Permanent impacts to vegetation communities that occur within the project footprint would result from disturbance associated with permanent roads and structures.

Clearing and grading associated with construction of the project may result in the alteration of soil conditions, including the loss of native seed bank and changes to the topography and drainage of a site such that the capability of the habitat to support current vegetation is impaired. Table 6.1 describes impacts to habitat types.

RIPARIAN, STREAMBED, MSHCP SECTION 6.12 AND WATERS OF THE U.S.

There are state or federal streambed resources on the project site. MSHCP Section 6.12 riverine resources are located on the project site. Delineation studies found 0.039 acre waters of the U.S. (WOUS) on the project. Delineation studies found 0.169 acres of streambed and 0.004 acre of Mulefat scrub alliance (State jurisdictional (dripline/MESA) on the project site. Delineation studies found 6.1.2 habitat [0.165 acres of streambed (riverine) and 0.004 acres of mulefat alliance (riparian)] on the project site.

SENSITIVE PLANT SPECIES

There are no sensitive plant species in the project area, and none were observed on the project site.

OAK TREES

There are no oak trees on the project site.

COMMON AND SENSITIVE WILDLIFE SPECIES

Although the intent of the proposed project is to protect biological resources to the maximum extent possible, construction and implementation of the proposed project could potentially impact common wildlife species, species Covered by the MSHCP and associated habitats for these species as identified within the study area. The following avoidance and minimization measures will be incorporated during project implementation for the protection of these species.

COMMON AND MSHCP ADEQUATELY CONSERVED SPECIES

No wildlife species, that are Covered Species and Adequately Conserved by the MSHCP, were detected within the study area during habitat assessment and focused surveys. The following measures will be implemented in order to avoid and/or minimize potential impacts to common and Adequately Conserved MSHCP wildlife species resources.

Construction Minimization Measures (Section 7.5.3 of the MSHCP)

The following construction minimization measures shall be implemented during project construction to minimize impacts on biological resources during construction:

- Timing of construction activities shall consider seasonal requirements for breeding birds and migratory non-resident species covered under the Migratory Bird Treaty Act. Habitat clearing shall be avoided during species active breeding season, defined as February 1 to September 15. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to the project site shall occur on pre-existing access routes to the greatest extent possible.
- Equipment storage, fueling and staging areas shall be sited on non-sensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types. The limits of disturbance, including the upstream, downstream and lateral extents, shall be clearly defined and marked in the field. Mitigation Monitoring Program personnel shall review the limits of disturbance prior to initiation of construction activities.

- Exotic species removed during construction shall be properly handled to prevent sprouting or regrowth.
- Training of construction personnel shall be provided.
- Ongoing monitoring and reporting shall occur for the duration of the construction activity to ensure implementation of best management practices (BMPs).
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
- Waste, dirt, rubble, or trash shall not be deposited in a Conservation Area or on native habitat.

SENSITIVE SPECIES RELATED TO SECTION 6.1.2 OF THE MSHCP

There are no sensitive species related to Section 6.1.2 of the MSHCP on the project site.

MSHCP SECTION 6.3.2 CRITERIA AREA SPECIES

Burrowing Owl-Focused surveys for BUOW were completed in accordance with the applicable survey protocol as discussed above in Section 3.0 Survey Methods. This species has been determined absent from the project study area at this time. Although no impacts to this species are anticipated as a result of construction activities, implementation of avoidance and minimization measures described below would be implemented to minimize potential for impact to the species should BUOW come into the project area.

Pursuant to the MSHCP Objective 6, for burrowing owl, a preconstruction burrowing owl survey shall be conducted prior to issuance of a grading permit to verify the presence/absence of the owl on the Project site. Within thirty days of the onset of construction activities, a qualified biologist shall survey within 500 feet of the Project site for the presence of any active owl burrows. Any active burrow found during survey efforts shall be mapped on the construction plans. If no active burrows are found, no further mitigation would be required. Results of the surveys shall be provided to the County of Riverside, Sphere of Influence of the City of Riverside. If nesting activity is present at an active burrow, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for burrowing owl in the region normally occurs between March and August. To protect the active burrow, the following restrictions to construction activities shall be required until the burrow is no longer active as determined by a qualified biologist: (1) clearing limits shall be established within a 500-foot buffer around any active burrow, unless otherwise determined by a qualified biologist, and (2) access and surveying shall be restricted within 300 feet of any active burrow, unless otherwise determined by a qualified biologist. Any encroachment into the buffer area around the active burrow shall only be allowed if the biologist determines that the proposed activity will not disturb the nest occupants. Construction can proceed when the qualified biologist has determined that fledglings have left the nest. If an active burrow is observed during the non-nesting season, the nest site shall be monitored by a qualified

biologist, and when the raptor is away from the nest, the biologist will either actively or passively relocate the burrowing owl based on direction from the WRC RCA. The biologist shall then remove the burrow so the burrowing owl cannot return to the burrow. Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to BUOW would not be significant.

Stephens' Kangaroo rat (SKR) - This species has been determined absent from the project study area at this time. No impacts to this species are expected. Although no impacts to this species are anticipated as a result of construction activities it is in the SKR habitat area. It is a HCP covered species and a fee is required.

Raptors (Including MSHCP covered and non-covered species)-Seven days prior to the onset of construction activities during the raptor nesting season (February 1 to June 30), a qualified biologist shall survey within 500 feet of the Project impact area for the presence of any active raptor nests (common or special status). Any nest found during survey efforts shall be mapped on the construction plans. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the CDFW. If nesting activity is present at any raptor nest site, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. To protect any nest site, the following restrictions to construction activities are required until nests are no longer active as determined by a qualified biologist: (1) clearing limits shall be established within a 500-foot buffer around any occupied nest, unless otherwise determined by a qualified biologist, and (2) access and surveying shall be restricted within 300 feet of any occupied nest, unless otherwise determined by a qualified biologist. Any encroachment into the buffer area around the known nest shall only be allowed if the biologist determines that the proposed activity will not disturb the nest occupants. Construction can proceed when the qualified biologist has determined that fledglings have left the nest. If an active nest is observed during the non-nesting season, the nest site shall be monitored by a qualified biologist, and when the raptor is away from the nest, the biologist will flush any raptor to open space areas. A qualified biologist, or construction personnel under the direction of the qualified biologist, shall then remove the nest site so raptors cannot return to a nest. Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to raptors would not be significant.

NON-MSHCP COVERED WILDLIFE SPECIES

No non-MSHCP covered special status wildlife species were observed on the project site. Impacts to non-MSHCP covered special status wildlife species would not be considered significant with the implementation of minimization and avoidance measures proposed below in conjunction with other nesting and/or migratory bird species.

MIGRATORY BIRD SPECIES

Project construction may temporarily effect the movement of migratory bird species and their breeding success. Their active nests could be directly or indirectly impacted such that nest abandonment resulting in death of eggs or young occurs. Disturbance

from construction activities, such as noise, human presence, and habitat alteration due to the trimming of trees and clearing of native vegetation, could affect the nesting habits of the special-status and migratory bird species. However, these impacts would not be considered significant with the implementation of avoidance and minimization measures described above and below:

If construction is to occur during the MBTA nesting cycle (February 1-September 15) than a nesting bird survey should be conducted by a qualified biologist. Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered take and is potentially punishable by fines or imprisonment. Active bird nests should be mapped utilizing a hand-held global positioning system (GPS) and a 300' buffer will be flagged around the nest (500' buffer for raptor nests). Construction should not be permitted within the buffer areas while the nest continues to be active (eggs, chicks, etc.). Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to migratory birds would not be significant.

WILDLIFE MOVEMENT

Increases in noise, construction traffic, and human activities during construction activities may temporarily deter movement of wildlife within the project vicinity. Impacts to wildlife species are considered significant if they interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Indirect, adverse, substantial effects on movement of wildlife or impediments to the use of wildlife corridors or nursery sites are not expected from construction or operational activities of the proposed project. However, implementation of avoidance and minimization measures described above would ensure that wildlife movement would not be significantly impacted by the proposed project.

INDIRECT IMPACTS

It is anticipated that there will be some indirect impacts resulting from the proposed project. Potential indirect impacts include increased noise, human activity, and light levels as described below. For each of the indirect impacts described below, an action(s) or measure(s) is described to ensure that these potential indirect impacts can be maintained at less than significant levels.

Runoff, Erosion and Siltation

Siltation and erosion resulting from the proposed activities are potentially significant indirect impacts associated with this proposed project because of the proximity of the proposed work area to natural areas. Surface water quality could be diminished as a result of scraping and grading, and material laydown. As such, erosion from these activities can remove topsoil necessary for plant growth both in the graded areas and in lower areas affected by increased runoff. The eroded soil can be deposited as silt and alluvium off of the project site. Siltation from these activities can damage wetlands and aquatic habitats and bury vegetation or topsoil. Implementation of avoidance and minimization measures described above under direct impacts is proposed. These measures include implementation of an effective

SWPPP or WQMP that employs appropriate BMPs to avoid or limit runoff, erosion, and siltation. With these measures, project related runoff, erosion, and siltation would not result in significant impacts to any offsite water features or sensitive habitats.

Nonnative Weed Establishment

The loss of topsoil from grading or as a result of overland flow may increase the likelihood of exotic plant establishment in offsite native communities. Nonnatives may out-compete native species, suppress native recruitment, alter community structure, degrade or eliminate habitat for native wildlife, and provide food and cover for undesirable nonnative wildlife. The introduction of nonnative plant species into a community as a result of soil disturbance and erosion can increase the competition for resources such as water, minerals, and nutrients between native and nonnative species as well as alter the hydrology and sedimentation rates. In addition, if the nonnative plants form a continuous ground cover, an increase in the natural fire regime may occur, further eliminating any remaining native vegetation, and causing a type conversion to a disturbed/nonnative habitat type. The establishment of nonnative weeds could affect endangered species associated with offsite habitat and could therefore be considered potentially significant if not mitigated. Implementation of avoidance and minimization measures described under direct impacts will reduce potential impacts from project related impacts due to nonnative species.

Toxic Substances

Toxic substances can kill wildlife and plants or prevent new growth where soils or water are contaminated. Toxic substances can be released into the environment through several scenarios including planned or accidental releases, leaching from stored materials, pesticide or herbicide use, or fires, among others. No intentional releases of toxic substances are planned as part of the proposed project. Accidental releases could occur from several sources such as leaking equipment, or fuel spills during the course of the construction. The implementation of BMPs during construction will reduce the risk of leaks and fuel spills below a level of significance.

A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction activities. The project would result in the additional use of hazardous materials in limited quantities associated with normal residential use such as cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations will reduce the potential risk of hazardous material exposure to a level that is less than significant. An information pamphlet will be prepared for each homeowner regarding the use of toxics.

Fugitive Dust

Trenching, grading, and vehicle operations associated with the construction of the proposed project may produce fugitive dust. Excessive dust can damage or degrade vegetation by blocking leaf exposure to sunlight. Implementation of dust control measures, as part of BMPs during construction, will reduce fugitive dust emissions to below a level of significance. Dust control measures can include spraying work or driving areas with water and careful operation of equipment.

CUMULATIVE IMPACTS

Construction of the proposed project will alter 1.479 acres of habitat. To determine if this impact is significant on a cumulative basis, it needs to be considered in the context of existing and future surrounding developments within this area of the County of Riverside, Sphere of Influence of the City of Riverside. Cumulative impacts could also result from the marginalization of quality of the habitat in close proximity to the future project by increased human activities associated with the development of the proposed project site.

- Riverside County is expected to experience a dramatic increase in residential and commercial development over the next twenty years. Such development will involve many large scale construction projects which may encroach on biological resources, potentially impacting sensitive communities, special status species, and biological diversity.
- For the purpose of this analysis, the geographic scope will comprise the habitat areas directly and indirectly affected by the construction and operation of the project. Urbanization and development in the area impact the ability of certain plant and animal species to forage, breed, and develop in their natural habitat. A cumulative impact would occur if the proposed project substantially contributed to the cumulative degradation of biological resources caused by recent, current, and planned development.
- The proposed project is located within the coverage area of the MSHCP. This conservation planning effort with the overall goal of maintaining biological diversity in rapidly urbanizing areas provides a Conservation Area for 146 special status species, requiring incidental take permits for projects impacting these species. The proposed project would contribute to significant cumulative impacts to biological resources if it violated a conservation plan such as the MSHCP. The proposed project will comply with all MSHCP regulations, including but not limited to the payment of relevant fees, compliance with acquisition processes, and compliance with policies protecting various plants and animals. In following all the regulations set forth by the MSHCP, the proposed project would not substantially contribute to cumulative impacts to biological resources in violation of conservation plans.
- Construction and operation of the proposed project can potentially result in the permanent loss of or temporary disturbance to habitat through grading, drilling, clearing brush, or other construction activities. To protect sensitive biological resources a biologist will conduct preconstruction surveys and mark sensitive areas so that they might be avoided by construction crews and protected from construction activities. The same measures will be taken to protect special status plant species, special status terrestrial species, and BUOW. Construction activities may also impact avian species by disturbing active nests trimming trees or removing vegetation. Mitigation measures mandates that either construction activities be limited to non-breeding season or a wildlife biologist conduct a preconstruction focused nesting survey. Additionally, construction noise may impact both migratory and nesting birds; mitigation measures regulates ambient noise levels to minimize the impact to birds nesting within or passing through construction areas. With the implementation of mitigation measures, construction of the proposed project would not substantially contribute, either directly

or through habitat modification, to adverse cumulative effects on candidate, sensitive, or special status species.

- Construction of the proposed project will result in permanent and temporary disturbance to natural lands through grading and clearing vegetation, exposing topsoil to weathering, impacting sheetflow, and impeding plant growth. In a rapidly developing area, these impacts would contribute to the cumulative degradation of this habitat. The Applicant will minimize the effects of erosion and the hydrologic impacts through such measures as the installation of sediment control structures and the use of water bars, silt fences, stalked straw bales, and mulching in disturbed areas. By implementing BMP measures, the proposed project will not substantially contribute to the cumulative damage to this habitat.
- The proposed project falls under the jurisdiction of local policies and ordinances regarding trees. In order to construct the proposed project the removal of vegetation at will permanently and directly damage trees. By complying with the County of Riverside, Sphere of Influence of the City of Riverside requirements, the proposed project will not significantly contribute to the cumulative impact on local tree populations.
- Composite development has the potential to interfere with the movement of migratory animals by physically interfering with the migratory corridor. Construction activities, and introduced structures can act as barriers to migration. Construction activities could potentially impact migration patterns but are considered temporary. Given the distribution of the structures and the volume of traffic associated with the proposed project, the project may significantly contribute to cumulative obstacles to migratory wildlife.

The cumulative effects of the proposed project on biological resources are considered insignificant for the following reasons:

The proposed project site totals approximately 1.479 acres, of which approximately all of it will be disturbed.

1. The proposed best management practices (BMP's) are part of the requirement for the proposed project by the Santa Ana Regional Water Quality Control Board for protection of surface water quality from sediments in the proposed project runoff.

2. The habitat present is contiguous with blocks of habitat to the east. Preserving the proposed project site would provide biological value because of the nesting target species that already occur on the project site.

3. If the proposed project is not constructed, impacts to the existing area would still occur as a result of populater of invasive species and anthropogenic activities.

Anticipated impacts to sensitive wildlife species would be relatively minor, for the following reasons: (a) most of the potentially impacted species are common species and not threatened/endangered, and (b) the project area is already disturbed by the existing anthropogenic activities and surrounding developments. Appendix C-Riverside County Attachment E-4 of this document includes CEQA checklist (impacts to sensitive

habitat/riparian habitat, wetlands/jurisdictional features, wildlife movement, and local ordinances).

VII. MSHCP CONSISTENCY OVERVIEW

This section provides an overview of MSHCP consistency of the proposed Project with the MSHCP. Appendix I, attached, provides a stand alone MSHCP Consistency Determination Report. The proposed Project must comply with the following MSHCP requirements:

- Project Consistency with MSHCP Reserve Assembly (MSHCP *Section 3.2.3* and *Section 3.3*)
- Guidelines for facilities within the PQP Lands (MSHCP *Section 7.5*)
- Species Associated with Riparian/Riverine Areas and Vernal Pool guidelines (MSHCP *Section 6.1.2*)
- Narrow Endemic Plant Species guidelines (MSHCP *Section 6.1.3*)
- Additional Survey Needs and Procedures (MSHCP *Section 6.3.2*)
- Urban Wildlands Interface Guidelines (MSHCP *Section 6.1.4*)
- Requirements To Be Met For 28 Species Prior To Including Those Species On The List Of Covered Species Adequately Conserved (MSHCP *Table 9-3*)

PROJECT CONSISTENCY WITH MSHCP AREA PLANS

The project area is located in Lake Mathews/Woodcrest Area Plan. Reserve assembly goals and project relationship for each of these areas are presented in Section 2 of this report.

The project alignment is located within Rough Step 7. Based on the 2018 Annual Report, Rough Step Unit 7 is in "out of Rough Step for Riversidean Alluvial Fan Sage Scrub." Therefore, the project does not affect the Reserve Assembly goals of the MSHCP as there is no Riversidean Alluvial Fan Sage Scrub habitat on the project site.

PROJECT CONSISTENCY WITH CORES AND LINKAGES WITHIN THE CONSERVATION AREA

The MSHCP Conservation Area is comprised of a variety of existing and proposed cores, extensions of existing cores, linkages, constrained linkages and non-contiguous habitat blocks. These features are generally referenced as cores and linkages. There are no proposed cores and linkages located within the project area. There will not be any impacts to key species associated with cores and linkages.

PUBLIC/QUASI-PUBLIC LANDS

There are no public/quasi-public lands adjacent to the project site. There will be no anticipated direct impacts to public/quasi-public lands.

MSHCP SECTION 6.1.2 – PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AND VERNAL POOL RESOURCES

An assessment of the potentially significant effects of the proposed project on riparian, riverine and vernal pool areas was conducted. Seasonal watercourses are present on site. Potential MSHCP 6.1.2 areas were found on the project site. A Determination of

Biologically Equivalent or Superior Preservation (DBESP) Report as required by the MSHCP (Section 6.1.2, pages 6-21 and 6-22) for impacts to Riparian/Riverine Areas/Vernal Pools will be required to be completed. The proposed project is consistent with MSHCP Section 6.1.2, depending on the seasonal watercourses determination.

MSHCP SECTION 6.1.2 – PROTECTION OF NARROW ENDEMIC PLANT SPECIES

There are no narrow endemic plant species on the project site. The proposed project will have no impact on these resources. As such, the proposed project is consistent with MSHCP *Section 6.1.3*.

MSHCP SECTION 6.3.2 - ADDITIONAL SURVEY NEEDS AND PROCEDURES

Criteria Area Plant Surveys

No Criteria Area Plant Surveys have been identified within the project area to date. As such, the proposed project will have no impact on the Criteria Area Plant Surveys and is consistent with MSHCP *Section 6.3.2*.

Burrowing Owl

The proposed project is located within the BUOW survey area of the MSHCP. Focused surveys for BUOWs were completed in accordance with the applicable survey protocol (refer to Table 3.3 for list of survey dates). No BUOW sign and no live individuals were detected in the project study area. As BUOW is a species that is known for its ability to move into and out of areas across seasons and years, avoidance and minimization measures presented in Section 6 above will be implemented for the protection of this species if BUOW is encountered. The proposed project will have no impact on the BUOW. As such, the proposed project is consistent with MSHCP *Section 6.3.2*.

MSHCP TABLE 9-3 REQUIREMENTS TO BE MET FOR 28 SPECIES PRIOR TO INCLUDING THOSE SPECIES ON THE LIST OF COVERED SPECIES ADEQUATELY CONSERVED

Table 9-3 of the MSHCP lists goals for 28 species that must be met before they are considered to be Adequately Conserved. GEC found none of the species listed in Table 9-3 on the proposed project site. As such, the proposed project is consistent with MSHCP *Table 9-3.*

MSHCP SECTION 6.1.4 - URBAN WILDLANDS INTERFACE GUIDELINES

The guidelines presented in *Section 6.1.4* of the MSHCP are intended to address indirect effects associated with development in proximity to the MSHCP Conservation Area (i.e., the portions of the Criteria Cells which will be, or have been, conserved). Below is a summary of the Urban Wildlands Interface Guidelines and their relationship to the proposed project:

Drainage- The proposed project will impact existing runoff conditions. BMPs established in Section 8.0 will be taken to ensure that the quantity and quality of runoff will be comparable to existing conditions.

Toxics- It is not anticipated that this proposed project will use chemicals or generate bi-products that are potentially toxic or may adversely affect wildlife species, habitat or

water quality. If a toxic substance is identified during construction, measures such as those employed to address drainage issues, as presented in Section 8.0, will be implemented to avoid potential for adverse impacts. An information pamphlet will be prepared for each business owner regarding the use of toxics.

Lighting- Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated into project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

Noise- Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards.

Invasives- Project related landscaping within or adjacent to the Conservation Area, will comply with not utilizing the invasive nonnative plant species listed in *Table 6-2* of *Section 6.1.4* of the MSHCP. Minimization and avoidance measures as presented in Section 8.0 of this report will be implemented in order to avoid the spread of invasive species within the project area.

Barriers- Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate, in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping into the MSHCP Conservation Areas.

Grading/Land Development- All manufactured slopes associated with site development will be within the project site.

MIGRATORY BIRD TREATY ACT COMPLIANCE

Pursuant to MSHCP *Section 14.13*, the Section 10(a) Permit issued for the MSHCP constitutes a Special Purpose Permit under 50 Code of Federal Regulations Section 21.27, for the Take of Covered Species Adequately Conserved listed under Federal ESA and which are also listed under the MBTA of 1918, as amended (16 U.S.C. §§ 703-712), in the amount and/or number specified in the MSHCP, subject to the terms and conditions specified in the Section 10(a) Permit. Any such Take will not be in violation of the MBTA. The MBTA Special Purpose Permit will extend to Covered Species Adequately Conserved listed under Federal ESA and also under the MBTA, valid for a period of three (3) years from its Effective Date, provided the Section 10(a) Permit remains in effect for such period. The Special Purpose Permit shall be renewed pursuant to the requirements of the MBTA if needed valid for a period of three (3) additional years.

The period from approximately 15 February to 15 September covers the breeding season for most birds in the project area, but unseasonal active nests must also be avoided if encountered. Although minimal direct impacts are anticipated in habitats for nesting birds, nesting in adjacent areas may suffer indirect impacts from project activity,

such as disturbance related nest abandonment. In these areas, work should be conducted in the non-breeding season when possible. If project activity must be conducted during the breeding season, a qualified biologist should check for nesting birds prior to such activity. Implementation of avoidance/minimization measures presented in Section 8.0 would ensure that migratory and/or nesting bird species would not be impacted by the proposed project. As it relates to nesting birds covered under MSHCP *Section 14.13*, the proposed project is consistent with the MSHCP.

VIII. SUMMARY OF MITIGATION MEASURES AND BMPS

This section provided a comprehensive list of avoidance, minimization and compensation measures. Implementation of these measures, as proposed, ensures compliance and consistency with the MSHCP.

MSHCP BMPs AND MITIGATION MEASURES

Table 8.1 presents MSHCP BMPs (Appendix C of the MSHCP), Construction Guidelines (*Section 7.5.*3 of the MSHCP), and species specific mitigation measures that have been incorporated in the MSHCP and will be implemented as part of the project.

TABLE 8.1

MSHCP BMPS AND SPECIES SPECIFIC MITIGATION MEASURES

MSHCP BMPs (MSHCP Vol. I, Appendix C)	
MSHCP BMP-1	Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
MSHCP BMP-2	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, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
MSHCP BMP-3	Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
MSHCP BMP-4	To avoid attracting predators of the species of concern, the project site 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).
MSHCP BMP-5	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.
MSHCP Construction Guidelines (MSHCP Section 7.5.3)	
	Plans for water pollution and erosion control will be prepared for all Discretionary Projects

MSHCP CONST-1	involving the movement of earth in excess of 50 cubic yards. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control. Plans will be reviewed and approved by the City of Lake Elsinore and participating jurisdiction prior to construction.
MSHCP CONST-2	Timing of construction activities will consider seasonal requirements for breeding birds and migratory non- resident species. Habitat clearing will be avoided during species active breeding season defined as February 15-September 15
MSHCP CONST-3	Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
MSHCP CONST-4	Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
MSHCP CONST-5	Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
MSHCP CONST-6	No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
MSHCP CONST-7	The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
MSHCP CONST-8	Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.
MSHCP CONST-9	The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
MSHCP CONST-10	During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland Habitats occupied by Covered Species that are outside of the project footprint will be avoided.
MSHCP CONST-11	Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
MSHCP CONST-12	Training of construction personnel will be provided.
MSHCP CONST-13	Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.

MSHCP CONST-14	Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
MSHCP CONST-15	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
MSHCP CONST-16	Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.
MSHCP CONST-17	Wildlife Biologist required to be present during construction of the project.
MSHCP Species/Habitat Specific Measures	
MSHCP-BUOW	A 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (including but not limited to vegetation clearing, clearing and grubbing, tree removal, site watering) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies, and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure burrowing owl has not colonized the site since it was last disturbed. If burrow owl is found, the same coordination described above will be necessary.

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X. APPENDICES

Appendix A: Project Site Photos and Photo Location Key

Appendix B: Riverside County Attachment E-3

Appendix C: Riverside County Attachment E-4

Appendix D: Plant and Animal Compendium

Appendix E: Burrowing Owl Report

Appendix F: List of special-status species that were determined to have potential to occur within the project area

Appendix G: Jurisdictional Delineation

Appendix H: Consistency Analysis

Appendix A

Photo key & Photos

Figure 1: Picture Locations

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 100 Feet

Figure 2
Picture 1
View North

Figure 3
Picture 2
View South

Figure 4
Picture 3
View North

Figure 5
Picture 4
View West

Figure 6
Picture 5
View East

Figure 7
Picture 6
View Northeast

Figure 8
Picture 7
View South

Figure 9
Picture 8
View South

Figure 10
Picture 9
View East

Appendix B

Riverside County Attachment E-3

BIOLOGICAL REPORT SUMMARY SHEET

(Submit two copies to the County)

Applicant Name: Salem Engineering Group

Assessor's Parcel Number (APN): APN 266-020-001

Site Location: Section 30 Township: 3S Range: 4W Riverside East Quadrangle
Site Address: NA

Related Case Number(s): ---------- **PDB Number:** ----------

CHECK SPECIES SURVEYED FOR	SPECIESorENVIRONMENTAL ISSUEOFCONCERN	(Circle Yes, No or N/A regarding species findings on the referenced site)		
		Yes	No	N/A
XXX	MSHCP 6.1.2 riparian	X		
XXX	Blueline Stream(s)		X	
XXX	California red-legged frog			X
XXX	Coast Range newt			X
XXX	southern mountain yellow-legged frog			X
XXX	western spadefoot			X
XXX	American bittern			X
XXX	American peregrine falcon		X	
XXX	American white pelican			X
XXX	bald eagle		X	
XXX	Bell's sage sparrow		X	
XXX	black-crowned night heron			X

XXX	black-tailed gnatcatcher			X
XXX	Brewer's sparrow			X
XXX	burrowing owl		X	
XXX	California black rail			X
XXX	California brown pelican			X
XXX	California condor			X
XXX	California gull			X
XXX	California horned lark			X
XXX	canvasback			X
XXX	Caspian tern			X
XXX	coastal California gnatcatcher			X
XXX	Cooper's hawk		X	
XXX	Costa's hummingbird		X	
XXX	double-crested cormorant			X
XXX	ferruginous hawk		X	
XXX	golden eagle		X	
XXX	grasshopper sparrow			X
XXX	great blue heron			X
XXX	great egret			X
XXX	Lawrence's goldfinch		X	
XXX	least Bell's vireo			X
XXX	loggerhead shrike			X
XXX	long-billed curlew			X
XXX	long-eared owl			X
XXX	merlin			X
XXX	mountain plover			X

XXX	northern goshawk			X
XXX	northern harrier			X
XXX	oak titmouse			X
XXX	olive-sided flycatcher			X
XXX	osprey			X
XXX	prairie falcon			X
XXX	purple martin			X
XXX	red-breasted sapsucker			X
XXX	redhead			X
XXX	rufous hummingbird			X
XXX	sharp-shinned hawk		X	
XXX	short-eared owl		X	
XXX	snowy egret			X
XXX	southern California rufous-crowned sparrow			X
XXX	southwestern willow flycatcher			X
XXX	Swainson's hawk			X
XXX	tricolored blackbird			X
XXX	Vaux's swift			X
XXX	western yellow-billed cuckoo			X
XXX	white-faced ibis			X
XXX	white-tailed kite			X
XXX	willow flycatcher			X
XXX	yellow rail			X
XXX	yellow warbler			X
XXX	yellow-breasted chat			X
XXX	yellow-headed blackbird			X

XXX	Riverside fairy shrimp			X
XXX	arroyo chub			X
XXX	Santa Ana speckled dace			X
XXX	Santa Ana sucker			X
XXX	steelhead - southern California DPS			X
XXX	Busck's gallmoth			X
XXX	Crotch bumble bee		X	
XXX	Delhi Sands flower-loving fly		X	
XXX	Desert cuckoo wasp		X	
XXX	greenest tiger beetle		X	
XXX	quino checkerspot butterfly		X	
XXX	American badger		X	
XXX	Dulzura kangaroo rat		X	
XXX	Dulzura pocket mouse		X	
XXX	Los Angeles pocket mouse		X	
XXX	northwestern San Diego pocket mouse		X	
XXX	Pacific pocket mouse		X	
XXX	pallid bat		X	
XXX	pallid bobcat			X
XXX	pallid San Diego pocket mouse		X	
XXX	pocketed free-tailed bat		X	
XXX	San Bernardino flying squirrel			X
XXX	San Bernardino kangaroo rat			X
XXX	San Diego black-tailed jackrabbit		X	
XXX	San Diego desert woodrat		X	
XXX	southern grasshopper mouse		X	

XXX	Stephens' kangaroo rat	X–within fee area		X
XXX	western mastiff bat		X	
XXX	western small-footed myotis		X	
XXX	western yellow bat		X	
XXX	Yuma myotis		X	
XXX	California floater		X	
XXX	California glossy snake		X	
XXX	coast horned lizard		X	
XXX	coast patch-nosed snake		X	
XXX	coastal whiptail		X	
XXX	northern California legless lizard		X	
XXX	orange-throated whiptail		X	
XXX	red-diamond rattlesnake		X	
XXX	San Bernardino ringneck snake		X	
XXX	San Diego banded gecko		X	
XXX	San Diego ringneck snake		X	
XXX	south coast gartersnake		X	
XXX	southern California legless lizard		X	
XXX	two-striped gartersnake			X
XXX	western pond turtle			X
XXX	Alvin Meadow bedstraw			X
XXX	Brand's star phacelia			X
XXX	bristly sedge			X
XXX	California satintail			X
XXX	California screw moss			X
XXX	chaparral ragwort			X

XXX	chaparral sand-verbena			X
XXX	Coulter's goldfields			X
XXX	Coulter's matilija poppy			X
XXX	Davidson's saltscale			X
XXX	Deep Canyon snapdragon			X
XXX	Engelmann oak			X
XXX	Gambel's water cress			X
XXX	Horn's milk-vetch			X
XXX	little mousetail			X
XXX	long-spined spineflower			X
XXX	Los Angeles sunflower			X
XXX	many-stemmed dudleya			X
XXX	marsh sandwort			X
XXX	mesa horkelia			X
XXX	Munz's onion			X
XXX	Nevin's barberry			X
XXX	Palmer's grapplinghook			X
XXX	paniculate tarplant			X
XXX	Parish's brittlescale			X
XXX	Parish's bush-mallow			X
XXX	Parish's desert-thorn			X
XXX	Parish's gooseberry			X
XXX	Parry's spineflower			X
XXX	Payson's jewelflower			X
XXX	Peninsular spineflower			X
XXX	Peruvian dodder			X

XXX	Plummer's mariposa-lily			X
XXX	prairie wedge grass			X
XXX	Pringle's monardella			X
XXX	Robinson's pepper-grass			X
XXX	salt marsh bird's-beak			X
XXX	salt spring checkerbloom			X
XXX	San Bernardino aster			X
XXX	San Diego ambrosia			X
XXX	San Diego sagewort			X
XXX	San Jacinto Valley crownscale			X
XXX	Santa Ana River woollystar			X
XXX	slender-horned spineflower			X
XXX	small-flowered microseris			X
XXX	small-flowered morning-glory			X
XXX	smooth tarplant			X
XXX	southern California black walnut			X
XXX	spreading navarretia			X
XXX	thread-leaved brodiaea			X
XXX	three-awned grama			X
XXX	vernal barley			X
XXX	western spleenwort			X
XXX	white rabbit-tobacco			X
XXX	white-bracted spineflower			X
XXX	woven-spored lichen			X
XXX	Wright's trichocoronis			X

Species of concern shall be any unique, rare, endangered, or threatened species. It shall include species used to delineate wetlands and riparian corridors. It shall also include any hosts, perching, or food plants used by any animals listed as rare, endangered, threatened or candidate species by either State, or Federal regulations, or for Riverside County as listed by the California Department of Fish and Game Natural Diversity Data Base (NDDB).

I declare under penalty of perjury that the information provided on this summary sheet is in accordance with the information provided in the biological report.

Teresa Gonzales-Gonzales Environmental Consulting LLC

Signature and Company Name Report Date February 18, 2020

10(a) Permit Number (if applicable) TE060175-5 Permit Expiration Date

County Use Only

Received by:

Date:

PD-B#

Appendix C

Riverside County Attachment E-4

LEVEL OF SIGNIFICANCECHECKLIST

For Biological Resources

(Submit Two Copies)

Case Number: _____ Lot/Parcel No.: APN 266-020-001

EA Number ----------

Wildlife & Vegetation

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

(Check the level of impact the applies to the following questions)

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

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
		X	

b) Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
		X	

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

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
		X	

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

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
		X	

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

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	X		

f) 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?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
			X

No wetlands are present.

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

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
			X

Source: CGP Fig. VI.36-VI.40

Findings of Fact: The number of individuals of each sensitive species inhabiting the habitat areas was not determined, for the following reasons: (a) many species are amphibians or reptiles, which are difficult to detect during routine field surveys, (b) intensive population studies of small mammals inhabiting the various habitats were not conducted due to the excessive time required to complete such investigations, and (c) some of the bird species known from habitats immediately adjacent to the project area were not observed during field surveys but, due to their capacity of flight, could inhabit the area any time in the future.

Direct and Indirect Impacts to Wildlife

This section addresses direct, indirect, and cumulative impacts to biological resources that may result from implementation of the proposed project.

Direct impacts generally consist of the loss of habitat and the plant and wildlife species that it contains within the area impacted by the proposed project. For the purposes of this assessment, all biological resources within the grading impact area are considered 100 percent lost.

Indirect Impacts are difficult to quantify but, in some cases, they may be as significant as direct impacts. In general, indirect impacts primarily result from adverse "edge effects," either short-term indirect impacts related to construction or long-term, chronic indirect impacts associated with the location of development in proximity to biological resources within natural open space.

Short-term indirect impacts that may potentially result from any project construction include dust production, which could affect plant growth and insect activity; noise, which could disrupt wildlife communication, including bird breeding behavior; lighting, which could disrupt behavior of nocturnal reptiles, mammals, and raptors; sedimentation, siltation, and erosion, which could affect water quality of onsite streams; and pollutant runoff, including chemicals used during

construction and machinery maintenance, which could contaminate soil and water.

Cumulative Impacts refer to incremental individual environmental effects of the proposed project and other past, present, and reasonably foreseeable future projects when combined together. These impacts taken individually may be minor, but collectively may be significant as they occur over a period of time.

THRESHOLDS FOR DETERMINING POTENTIAL SIGNIFICANCE

Guidelines under California Environmental Quality Act (CEQA) provide guidance and interpretation for implementing CEQA statutes. CEQA significance entails any impact to plant and wildlife species listed by federal or state agencies as threatened or endangered, or of regional or local significance. A significant impact to listed or sensitive species could be direct or indirect, with impacts to rare or sensitive habitats also considered significant.

In general, the proposed project could result in a potentially significant impact to the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW, USACE, RWQCB, or USFWS.
- 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;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.
- Introduce land use within an area immediately adjacent to the MSHCP Conservation Area that would result in substantial edge effects; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Mitigation and conservation recommendations to address each impact to biological resources are identified below.

Participation in the MSHCP and implementation of conservation and additional mitigation measures would compensate for impacts that would occur as a result of project implementation.

DIRECT IMPACTS

Direct impacts consist of any ground-disturbing activities (i.e., vegetation removal, grading, paving, building of structures, installing landscaping, etc.). Impacts will occur to all of the habitat on the site. These impacts will occur in the grading for the buildings and roadways by removal of habitat. No state or federal listed plant species will be impacted by the proposed project. The habitat on the project site supports common native wildlife species that would be directly affected by the removal of the habitat.

The more mobile wildlife species, such as birds that utilize the affected area will be displaced

during clearing activities to adjacent areas. These animals may move to open adjacent properties. The less mobile species will probably be lost during the habitat clearing and grading. Construction of the project will probably limit the future use of the area except for common reptile, bird and small mammal species that can be found in urban neighborhoods.

Anticipated impacts to most sensitive wildlife species would be relatively minor, for the following reasons: (a) most of the potentially impacted species are common, and (b) the project area is already disturbed by anthropogenic activities.

Construction Related Land Disturbance

Land disturbance calculations that would result from construction activities (i.e. grading, staging areas etc.) are provided in Table 1 below. Implementation of the proposed project would result in the estimated direct permanent loss of approximately 26.951 acres of habitat.

TABLE 1

ACREAGE OF HABITAT TYPES RELATED TO LAND DISTURBANCE

Vegetation	Boundary	Impacts
Avena barbata alliance	2.458	1.159
Disturbed habitat	0.320	0.320
Juniper	0.018	
Mulefat scrub alliance	0.004	
Pepper trees	0.101	
TOTAL (acres)	**2.900**	**1.479**

Vegetation Communities

Permanent impacts to vegetation communities that occur within the project footprint would result from disturbance associated with permanent roads and structures.

Clearing and grading associated with construction of the project may result in the alteration of soil conditions, including the loss of native seed bank and changes to the topography and drainage of a site such that the capability of the habitat to support current vegetation is impaired. Table 1 describes impacts to habitat types.

RIPARIAN, STREAMBED, MSHCP SECTION 6.12 AND WATERS OF THE U.S.

There are state or federal streambed resources on the project site. MSHCP Section 6.12 riverine resources are located on the project site. Delineation studies found 0.039 acre waters of the U.S. (WOUS) on the project. Delineation studies found 0.169 acres of streambed and 0.004 acre of Mulefat scrub alliance (State jurisdictional (dripline/MESA) on the project site. Delineation studies found 6.1.2 habitat [0.165 acres of streambed (riverine) and 0.004 acres of mulefat alliance (riparian)] on the project site.

SENSITIVE PLANT SPECIES

There are no sensitive plant species in the project area, and none were observed on the project site.

OAK TREES

There are no oak trees on the project site.

COMMON AND SENSITIVE WILDLIFE SPECIES

Although the intent of the proposed project is to protect biological resources to the maximum extent possible, construction and implementation of the proposed project could potentially impact common wildlife species, species Covered by the MSHCP and associated habitats for these species as identified within the study area. The following avoidance and minimization measures will be incorporated during project implementation for the protection of these species.

COMMON AND MSHCP ADEQUATELY CONSERVED SPECIES

No wildlife species, that are Covered Species and Adequately Conserved by the MSHCP, were detected within the study area during habitat assessment and focused surveys. The following measures will be implemented in order to avoid and/or minimize potential impacts to common and Adequately Conserved MSHCP wildlife species resources.

Construction Minimization Measures (Section 7.5.3 of the MSHCP)

The following construction minimization measures shall be implemented during project construction to minimize impacts on biological resources during construction:

- Timing of construction activities shall consider seasonal requirements for breeding birds and migratory non-resident species covered under the Migratory Bird Treaty Act. Habitat clearing shall be avoided during species active breeding season, defined as February 1 to September 15. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to the project site shall occur on pre-existing access routes to the greatest extent possible.
- Equipment storage, fueling and staging areas shall be sited on non-sensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types. The limits of disturbance, including the upstream, downstream and lateral extents, shall be clearly defined and marked in the field. Mitigation Monitoring Program personnel shall review the limits of disturbance prior to initiation of construction activities.
- Exotic species removed during construction shall be properly handled to prevent sprouting or regrowth.
- Training of construction personnel shall be provided.

- Ongoing monitoring and reporting shall occur for the duration of the construction activity to ensure implementation of best management practices (BMPs).
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
- Waste, dirt, rubble, or trash shall not be deposited in a Conservation Area or on native habitat.

SENSITIVE SPECIES RELATED TO SECTION 6.1.2 OF THE MSHCP

There are no sensitive species related to Section 6.1.2 of the MSHCP on the project site.

MSHCP SECTION 6.3.2 CRITERIA AREA SPECIES

Burrowing Owl-Focused surveys for BUOW were completed in accordance with the applicable survey protocol as discussed above in Section 3.0 Survey Methods. This species has been determined absent from the project study area at this time. Although no impacts to this species are anticipated as a result of construction activities, implementation of avoidance and minimization measures described below would be implemented to minimize potential for impact to the species should BUOW come into the project area.

Pursuant to the MSHCP Objective 6, for burrowing owl, a preconstruction burrowing owl survey shall be conducted prior to issuance of a grading permit to verify the presence/absence of the owl on the Project site. Within thirty days of the onset of construction activities, a qualified biologist shall survey within 500 feet of the Project site for the presence of any active owl burrows. Any active burrow found during survey efforts shall be mapped on the construction plans. If no active burrows are found, no further mitigation would be required. Results of the surveys shall be provided to the County of Riverside, Sphere of Influence of the City of Riverside. If nesting activity is present at an active burrow, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for burrowing owl in the region normally occurs between March and August. To protect the active burrow, the following restrictions to construction activities shall be required until the burrow is no longer active as determined by a qualified biologist: (1) clearing limits shall be established within a 500-foot buffer around any active burrow, unless otherwise determined by a qualified biologist, and (2) access and surveying shall be restricted within 300 feet of any active burrow, unless otherwise determined by a qualified biologist. Any encroachment into the buffer area around the active burrow shall only be allowed if the biologist determines that the proposed activity will not disturb the nest occupants. Construction can proceed when the qualified biologist has determined that fledglings have left the nest. If an active burrow is observed during the non-nesting season, the nest site shall be monitored by a qualified biologist, and when the raptor is away from the nest, the biologist will either actively or passively relocate the burrowing owl based on direction from the WRC RCA. The biologist shall then remove the burrow so the burrowing owl cannot return to the burrow. Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to BUOW would not be significant.

Stephens' Kangaroo rat (SKR) - This species has been determined absent from the project study area at this time. No impacts to this species are expected. Although no impacts to this species are anticipated as a result of construction activities it is in the SKR habitat area. It is a HCP covered species and a fee is required.

Raptors (Including MSHCP covered and non-covered species)-Seven days prior to the onset of construction activities during the raptor nesting season (February 1 to June 30), a qualified

biologist shall survey within 500 feet of the Project impact area for the presence of any active raptor nests (common or special status). Any nest found during survey efforts shall be mapped on the construction plans. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the CDFW. If nesting activity is present at any raptor nest site, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. To protect any nest site, the following restrictions to construction activities are required until nests are no longer active as determined by a qualified biologist: (1) clearing limits shall be established within a 500-foot buffer around any occupied nest, unless otherwise determined by a qualified biologist, and (2) access and surveying shall be restricted within 300 feet of any occupied nest, unless otherwise determined by a qualified biologist. Any encroachment into the buffer area around the known nest shall only be allowed if the biologist determines that the proposed activity will not disturb the nest occupants. Construction can proceed when the qualified biologist has determined that fledglings have left the nest. If an active nest is observed during the non-nesting season, the nest site shall be monitored by a qualified biologist, and when the raptor is away from the nest, the biologist will flush any raptor to open space areas. A qualified biologist, or construction personnel under the direction of the qualified biologist, shall then remove the nest site so raptors cannot return to a nest. Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to raptors would not be significant.

NON-MSHCP COVERED WILDLIFE SPECIES

No non-MSHCP covered special status wildlife species were observed on the project site. Impacts to non-MSHCP covered special status wildlife species would not be considered significant with the implementation of minimization and avoidance measures proposed below in conjunction with other nesting and/or migratory bird species.

MIGRATORY BIRD SPECIES

Project construction may temporarily effect the movement of migratory bird species and their breeding success. Their active nests could be directly or indirectly impacted such that nest abandonment resulting in death of eggs or young occurs. Disturbance from construction activities, such as noise, human presence, and habitat alteration due to the trimming of trees and clearing of native vegetation, could affect the nesting habits of the special-status and migratory bird species. However, these impacts would not be considered significant with the implementation of avoidance and minimization measures described above and below:

If construction is to occur during the MBTA nesting cycle (February 1-September 15) than a nesting bird survey should be conducted by a qualified biologist. Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered take and is potentially punishable by fines or imprisonment. Active bird nests should be mapped utilizing a hand-held global positioning system (GPS) and a 300’ buffer will be flagged around the nest (500’ buffer for raptor nests). Construction should not be permitted within the buffer areas while the nest continues to be active (eggs, chicks, etc.). Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to migratory birds would not be significant.

WILDLIFE MOVEMENT

Increases in noise, construction traffic, and human activities during construction activities may temporarily deter movement of wildlife within the project vicinity. Impacts to wildlife species are considered significant if they interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Indirect, adverse, substantial effects

on movement of wildlife or impediments to the use of wildlife corridors or nursery sites are not expected from construction or operational activities of the proposed project. However, implementation of avoidance and minimization measures described above would ensure that wildlife movement would not be significantly impacted by the proposed project.

INDIRECT IMPACTS

It is anticipated that there will be some indirect impacts resulting from the proposed project. Potential indirect impacts include increased noise, human activity, and light levels as described below. For each of the indirect impacts described below, an action(s) or measure(s) is described to ensure that these potential indirect impacts can be maintained at less than significant levels.

Runoff, Erosion and Siltation

Siltation and erosion resulting from the proposed activities are potentially significant indirect impacts associated with this proposed project because of the proximity of the proposed work area to natural areas. Surface water quality could be diminished as a result of scraping and grading, and material laydown. As such, erosion from these activities can remove topsoil necessary for plant growth both in the graded areas and in lower areas affected by increased runoff. The eroded soil can be deposited as silt and alluvium off of the project site. Siltation from these activities can damage wetlands and aquatic habitats and bury vegetation or topsoil. Implementation of avoidance and minimization measures described above under direct impacts is proposed. These measures include implementation of an effective SWPPP or WQMP that employs appropriate BMPs to avoid or limit runoff, erosion, and siltation. With these measures, project related runoff, erosion, and siltation would not result in significant impacts to any offsite water features or sensitive habitats.

Nonnative Weed Establishment

The loss of topsoil from grading or as a result of overland flow may increase the likelihood of exotic plant establishment in offsite native communities. Nonnatives may out-compete native species, suppress native recruitment, alter community structure, degrade or eliminate habitat for native wildlife, and provide food and cover for undesirable nonnative wildlife. The introduction of nonnative plant species into a community as a result of soil disturbance and erosion can increase the competition for resources such as water, minerals, and nutrients between native and nonnative species as well as alter the hydrology and sedimentation rates. In addition, if the nonnative plants form a continuous ground cover, an increase in the natural fire regime may occur, further eliminating any remaining native vegetation, and causing a type conversion to a disturbed/nonnative habitat type. The establishment of nonnative weeds could affect endangered species associated with offsite habitat and could therefore be considered potentially significant if not mitigated. Implementation of avoidance and minimization measures described under direct impacts will reduce potential impacts from project related impacts due to nonnative species.

Toxic Substances

Toxic substances can kill wildlife and plants or prevent new growth where soils or water are contaminated. Toxic substances can be released into the environment through several scenarios including planned or accidental releases, leaching from stored materials, pesticide or herbicide use, or fires, among others. No intentional releases of toxic substances are planned as part of the

proposed project. Accidental releases could occur from several sources such as leaking equipment, or fuel spills during the course of the construction. The implementation of BMPs during construction will reduce the risk of leaks and fuel spills below a level of significance.

A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction activities. The project would result in the additional use of hazardous materials in limited quantities associated with normal residential use such as cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations will reduce the potential risk of hazardous material exposure to a level that is less than significant. An information pamphlet will be prepared for each homeowner regarding the use of toxics.

Fugitive Dust

Trenching, grading, and vehicle operations associated with the construction of the proposed project may produce fugitive dust. Excessive dust can damage or degrade vegetation by blocking leaf exposure to sunlight. Implementation of dust control measures, as part of BMPs during construction, will reduce fugitive dust emissions to below a level of significance. Dust control measures can include spraying work or driving areas with water and careful operation of equipment.

CUMULATIVE IMPACTS

Construction of the proposed project will alter 1.479 acres of habitat. To determine if this impact is significant on a cumulative basis, it needs to be considered in the context of existing and future surrounding developments within this area of the County of Riverside, Sphere of Influence of the City of Riverside. Cumulative impacts could also result from the marginalization of quality of the habitat in close proximity to the future project by increased human activities associated with the development of the proposed project site.

- Riverside County is expected to experience a dramatic increase in residential and commercial development over the next twenty years. Such development will involve many large scale construction projects which may encroach on biological resources, potentially impacting sensitive communities, special status species, and biological diversity.
- For the purpose of this analysis, the geographic scope will comprise the habitat areas directly and indirectly affected by the construction and operation of the project. Urbanization and development in the area impact the ability of certain plant and animal species to forage, breed, and develop in their natural habitat. A cumulative impact would occur if the proposed project substantially contributed to the cumulative degradation of biological resources caused by recent, current, and planned development.
- The proposed project is located within the coverage area of the MSHCP. This conservation planning effort with the overall goal of maintaining biological diversity in rapidly urbanizing areas provides a Conservation Area for 146 special status species, requiring incidental take permits for projects impacting these species. The proposed project would contribute to significant cumulative impacts to biological resources if it violated a conservation plan such as the MSHCP. The proposed project will comply with all MSHCP regulations, including but not limited to the payment of relevant fees, compliance with acquisition processes, and compliance with policies protecting various plants and animals. In following all the regulations set forth by the MSHCP, the proposed project would not substantially contribute to cumulative impacts to biological resources in violation of conservation plans.

- Construction and operation of the proposed project can potentially result in the permanent loss of or temporary disturbance to habitat through grading, drilling, clearing brush, or other construction activities. To protect sensitive biological resources a biologist will conduct preconstruction surveys and mark sensitive areas so that they might be avoided by construction crews and protected from construction activities. The same measures will be taken to protect special status plant species, special status terrestrial species, and BUOW. Construction activities may also impact avian species by disturbing active nests trimming trees or removing vegetation. Mitigation measures mandates that either construction activities be limited to non-breeding season or a wildlife biologist conduct a preconstruction focused nesting survey. Additionally, construction noise may impact both migratory and nesting birds; mitigation measures regulates ambient noise levels to minimize the impact to birds nesting within or passing through construction areas. With the implementation of mitigation measures, construction of the proposed project would not substantially contribute, either directly or through habitat modification, to adverse cumulative effects on candidate, sensitive, or special status species.
- Construction of the proposed project will result in permanent and temporary disturbance to natural lands through grading and clearing vegetation, exposing topsoil to weathering, impacting sheetflow, and impeding plant growth. In a rapidly developing area, these impacts would contribute to the cumulative degradation of this habitat. The Applicant will minimize the effects of erosion and the hydrologic impacts through such measures as the installation of sediment control structures and the use of water bars, silt fences, stalked straw bales, and mulching in disturbed areas. By implementing BMP measures, the proposed project will not substantially contribute to the cumulative damage to this habitat.
- The proposed project falls under the jurisdiction of local policies and ordinances regarding trees. In order to construct the proposed project the removal of vegetation at will permanently and directly damage trees. By complying with the County of Riverside, Sphere of Influence of the City of Riverside requirements, the proposed project will not significantly contribute to the cumulative impact on local tree populations.
- Composite development has the potential to interfere with the movement of migratory animals by physically interfering with the migratory corridor. Construction activities, and introduced structures can act as barriers to migration. Construction activities could potentially impact migration patterns but are considered temporary. Given the distribution of the structures and the volume of traffic associated with the proposed project, the project may significantly contribute to cumulative obstacles to migratory wildlife.

The cumulative effects of the proposed project on biological resources are considered insignificant for the following reasons:

The proposed project site totals approximately 1.479 acres, of which approximately all of it will be disturbed.

1. The proposed best management practices (BMP's) are part of the requirement for the proposed project by the Santa Ana Regional Water Quality Control Board for protection of surface water quality from sediments in the proposed project runoff.

2. The habitat present is contiguous with blocks of habitat to the east. Preserving the proposed project site would provide biological value because of the nesting target species that already occur on the project site.

3. If the proposed project is not constructed, impacts to the existing area would still occur as a result of populater of invasive species and anthropogenic activities.

Anticipated impacts to sensitive wildlife species would be relatively minor, for the following reasons: (a) most of the potentially impacted species are common species and not

threatened/endangered, and (b) the project area is already disturbed by the existing anthropogenic activities and surrounding developments. Appendix C-Riverside County Attachment E-4 of this document includes CEQA checklist (impacts to sensitive habitat/riparian habitat, wetlands/jurisdictional features, wildlife movement, and local ordinances).

MSHCP CONSISTENCY OVERVIEW

This section provides an overview of MSHCP consistency of the proposed Project with the MSHCP. Appendix I, attached, provides a stand alone MSHCP Consistency Determination Report. The proposed Project must comply with the following MSHCP requirements:

- Project Consistency with MSHCP Reserve Assembly (MSHCP *Section 3.2.3* and *Section 3.3*)
- Guidelines for facilities within the PQP Lands (MSHCP *Section 7.5*)
- Species Associated with Riparian/Riverine Areas and Vernal Pool guidelines (MSHCP *Section 6.1.2*)
- Narrow Endemic Plant Species guidelines (MSHCP *Section 6.1.3*)
- Additional Survey Needs and Procedures (MSHCP *Section 6.3.2*)
- Urban Wildlands Interface Guidelines (MSHCP *Section 6.1.4*)
- Requirements To Be Met For 28 Species Prior To Including Those Species On The List Of Covered Species Adequately Conserved (MSHCP *Table 9-3*)

PROJECT CONSISTENCY WITH MSHCP AREA PLANS

The project area is located in Lake Mathews/Woodcrest Area Plan. Reserve assembly goals and project relationship for each of these areas are presented in Section 2 of this report.

The project alignment is located within Rough Step 7. Based on the 2018 Annual Report, Rough Step Unit 7 is in "out of Rough Step for Riversidean Alluvial Fan Sage Scrub." Therefore, the project does not affect the Reserve Assembly goals of the MSHCP as there is no Riversidean Alluvial Fan Sage Scrub habitat on the project site.

PROJECT CONSISTENCY WITH CORES AND LINKAGES WITHIN THE CONSERVATION AREA

The MSHCP Conservation Area is comprised of a variety of existing and proposed cores, extensions of existing cores, linkages, constrained linkages and non-contiguous habitat blocks. These features are generally referenced as cores and linkages. There are no proposed cores and linkages located within the project area. There will not be any impacts to key species associated with cores and linkages.

PUBLIC/QUASI-PUBLIC LANDS

There are no public/quasi-public lands adjacent to the project site. There will be no anticipated direct impacts to public/quasi-public lands.

MSHCP SECTION 6.1.2 – PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AND VERNAL POOL RESOURCES

An assessment of the potentially significant effects of the proposed project on riparian, riverine and vernal pool areas was conducted. Seasonal watercourses are present on site. Potential MSHCP 6.1.2 areas were found on the project site. A Determination of Biologically Equivalent or Superior Preservation (DBESP) Report as required by the MSHCP (Section 6.1.2, pages 6-21 and 6-22) for impacts to Riparian/Riverine Areas/Vernal Pools will be required to be completed. The proposed project is consistent with MSHCP Section 6.1.2, depending on the seasonal watercourses determination.

MSHCP SECTION 6.1.2 – PROTECTION OF NARROW ENDEMIC PLANT SPECIES

There are no narrow endemic plant species on the project site. The proposed project will have no impact on these resources. As such, the proposed project is consistent with MSHCP *Section 6.1.3*.

MSHCP SECTION 6.3.2 - ADDITIONAL SURVEY NEEDS AND PROCEDURES

Criteria Area Plant Surveys

No Criteria Area Plant Surveys have been identified within the project area to date. As such, the proposed project will have no impact on the Criteria Area Plant Surveys and is consistent with MSHCP *Section 6.3.2*.

Burrowing Owl

The proposed project is located within the BUOW survey area of the MSHCP. Focused surveys for BUOWs were completed in accordance with the applicable survey protocol (refer to Table 3.3 for list of survey dates). No BUOW sign and no live individuals were detected in the project study area. As BUOW is a species that is known for its ability to move into and out of areas across seasons and years, avoidance and minimization measures presented in Section 6 above will be implemented for the protection of this species if BUOW is encountered. The proposed project will have no impact on the BUOW. As such, the proposed project is consistent with MSHCP *Section 6.3.2*.

MSHCP TABLE 9-3 REQUIREMENTS TO BE MET FOR 28 SPECIES PRIOR TO INCLUDING THOSE SPECIES ON THE LIST OF COVERED SPECIES ADEQUATELY CONSERVED

Table 9-3 of the MSHCP lists goals for 28 species that must be met before they are considered to be Adequately Conserved. GEC found none of the species listed in Table 9-3 on the proposed project site. As such, the proposed project is consistent with MSHCP *Table 9-3.*

MSHCP SECTION 6.1.4 - URBAN WILDLANDS INTERFACE GUIDELINES

The guidelines presented in *Section 6.1.4* of the MSHCP are intended to address indirect effects associated with development in proximity to the MSHCP Conservation Area (i.e., the portions of the Criteria Cells which will be, or have been, conserved). Below is a summary of the Urban Wildlands Interface Guidelines and their relationship to the proposed project:

Drainage- The proposed project will impact existing runoff conditions. BMPs established in Section 8.0 will be taken to ensure that the quantity and quality of runoff will be comparable to existing conditions.

Toxics- It is not anticipated that this proposed project will use chemicals or generate bi- products that are potentially toxic or may adversely affect wildlife species, habitat or water quality. If a toxic substance is identified during construction, measures such as those employed to address drainage issues, as presented in Section 8.0, will be implemented to avoid potential for adverse impacts. An information pamphlet will be prepared for each business owner regarding the use of toxics.

Lighting- Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated into project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

Noise- Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards.

Invasives- Project related landscaping within or adjacent to the Conservation Area, will comply with not utilizing the invasive nonnative plant species listed in *Table 6-2* of *Section 6.1.4* of the MSHCP. Minimization and avoidance measures as presented in Section 8.0 of this report will be implemented in order to avoid the spread of invasive species within the project area.

Barriers- Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate, in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping into the MSHCP Conservation Areas.

Grading/Land Development- All manufactured slopes associated with site development will be within the project site.

MIGRATORY BIRD TREATY ACT COMPLIANCE

Pursuant to MSHCP *Section 14.13*, the Section 10(a) Permit issued for the MSHCP constitutes a Special Purpose Permit under 50 Code of Federal Regulations Section 21.27, for the Take of Covered Species Adequately Conserved listed under Federal ESA and which are also listed under the MBTA of 1918, as amended (16 U.S.C. §§ 703-712), in the amount and/or number specified in the MSHCP, subject to the terms and conditions specified in the Section 10(a) Permit. Any such Take will not be in violation of the MBTA. The MBTA Special Purpose Permit will extend to Covered Species Adequately Conserved listed under Federal ESA and also under the MBTA, valid for a period of three (3) years from its Effective Date, provided the Section 10(a) Permit remains in effect for such period. The Special Purpose Permit shall be renewed pursuant to the requirements of the MBTA if needed valid for a period of three (3) additional years.

The period from approximately 15 February to 15 September covers the breeding season for most birds in the project area, but unseasonal active nests must also be avoided if encountered. Although minimal direct impacts are anticipated in habitats for nesting birds, nesting in adjacent areas may suffer indirect impacts from project activity, such as disturbance related nest abandonment. In these areas, work should be conducted in the non-breeding season when possible. If project activity must be conducted during the breeding season, a qualified biologist should check for nesting birds prior to such activity. Implementation of avoidance/minimization measures presented in Section 8.0 would ensure that migratory and/or nesting bird species would not be impacted by the proposed project. As it relates to nesting birds covered under MSHCP *Section 14.13*, the proposed project is consistent with the MSHCP.

SUMMARY OF MITIGATION MEASURES AND BMPS

This section provided a comprehensive list of avoidance, minimization and compensation measures. Implementation of these measures, as proposed, ensures compliance and consistency with the MSHCP.

MSHCP BMPs AND MITIGATION MEASURES

Table 2 presents MSHCP BMPs (Appendix C of the MSHCP), Construction Guidelines (*Section 7.5.*3 of the MSHCP), and species specific mitigation measures that have been incorporated in the MSHCP and will be implemented as part of the project.

TABLE 2

MSHCP BMPS AND SPECIES SPECIFIC MITIGATION MEASURES

MSHCP BMPs (MSHCP Vol. I, Appendix C)	
MSHCP BMP-1	Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
MSHCP BMP-2	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, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
MSHCP BMP-3	Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
MSHCP BMP-4	To avoid attracting predators of the species of concern, the project site 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).
MSHCP BMP-5	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.
MSHCP Construction Guidelines (MSHCP Section 7.5.3)	
MSHCP CONST-1	Plans for water pollution and erosion control will be prepared for all Discretionary Projects involving the movement of earth in excess of 50 cubic yards. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control. Plans will be reviewed and

	approved by the City of Lake Elsinore and participating jurisdiction prior to construction.
MSHCP CONST-2	Timing of construction activities will consider seasonal requirements for breeding birds and migratory non- resident species. Habitat clearing will be avoided during species active breeding season defined as February 15-September 15
MSHCP CONST-3	Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
MSHCP CONST-4	Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sedimentsoff-site.
MSHCP CONST-5	Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
MSHCP CONST-6	No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
MSHCP CONST-7	The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
MSHCP CONST-8	Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.
MSHCP CONST-9	The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
MSHCP CONST-10	During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland Habitats occupied by Covered Species that are outside of the project footprint will be avoided.
MSHCP CONST-11	Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
MSHCP CONST-12	Training of construction personnel will beprovided.
MSHCP CONST-13	Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best managementpractices.
MSHCP CONST-14	Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
MSHCP CONST-15	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
MSHCP CONST-16	Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.
MSHCP CONST-17	Wildlife Biologist required to be present during

	construction of the project.
MSHCP Species/Habitat Specific Measures	
MSHCP-BUOW	A 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (including but not limited to vegetation clearing, clearing and grubbing, tree removal, site watering) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies, and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure burrowing owl has not colonized the site since it was last disturbed. If burrow owl is found, the same coordination described above will be necessary.

Appendix D

Plant & Animal Compendium

Scientific name	Common name	Estimated abundance within project site*	Native/Non-Native
CUPRESSACEACE			
Juniperus californica	California juniper	U	Native
AMARANTHACEAE			
Chenopodium album	Lamb's quarters	U	Non-Native
ANACARDIACEAE			
Schinus molle	California Pepper tree	C	Non-Native
ASTERACEAE			
Ambrosia acanthicarpa	Annual Bur-sage	U	Native
Ambrosia psilostachya	Western Ragweed	U	Native
Baccharis salicifolia	Mule Fat	U	Native
Centaurea melitensis	Tocalote	U	Non-Native
Helianthus annuus	Common Sunflower	U	Native
Heterotheca grandiflora	Telegraph Weed	U	Native
Matricaria discoidea	Pineapple weed	U	Native
Silybum marianum	Milk thistle	C	Non-Native
Sonchus oleraceus	Sow thistle	C	Non-Native
Cirsium vulgare	Bullthistle	C	Non-Native
Taraxicum officionale	Dandelion	C	Non-Native
BORAGINACEAE			
Cryptantha intermedia	Popcorn flower	U	Native
BRASSICACEAE			
Hirschfeldia incana	Short-pod Mustard	C	Non-Native
CACTACEAE			
Opuntia ficus-indica	Tuna	U	Non-Native
CHENOPODIACEAE			
Salsola tragus	Russian thistle	U	Non-native
EUPHORBIACEAE			
Euphorbia albomarginata	Rattlesnake sandmat	C	Native
Croton setigerus	Turkey mullein	C	Native
GERANIACEAE			
Erodium cicutarium	Coastal Heron's Bill	A	Non-Native
LAMIACEAE			
Marrubium vulgare	Horehound	U	Non-Native
SOLANACEAE			
Nicotiana glauca	Tree Tobacco	U	Non-Native
POACEAE			
Avena barbata	Slender Wild Oat	C	Non-Native
Bromus diandrus	Ripgut brome	C	Non-Native
Bromus hordeaceus	Soft Chess	C	Non-Native

Scientific name	Common name	Estimated abundance within project site*	Native/Non-Native
Bromus madritensis ssp. rubens	Foxtail Chess	C	Non-Native

Legend:
* *AbundanceDefinitions*
A=Abundant: observed or expected to occur in substantial numbers (>500 observations) in suitable habitat and in the appropriate season;
C=Common: observed or expected to occur in high numbers (100-500 observations) in suitable habitat and in the appropriate season;
u=Uncommon: observed or expected to occur in low numbers (10-100 observations) in suitable habitat and in the appropriate season; may be restricted to few habitat types;
R=Rare: observed or expected to occur in very low numbers (<10 observations) in suitable habitat and in the appropriate season; restricted to specific habitat types

**Special Status Plant

AVIAN SPECIES OBSERVED ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS/REGIONAL STATUS	NATIVE SPECIES	OBSERVATION TYPE	POPULATION SIZE (OBSERVED #/# OF VISITS)[1]
AVES	**BIRDS**				
ACCIPITRIDAE	**HAWK**				
Buteo jamaicensis	Red-tailed Hawk	No	Yes	Visual	2
COLUMBIDAE	**PIGEONS AND DOVES**				
Streptopelia decaocto	Eurasian Collared Dove	No	No	Visual	3
Zenaida macroura	Mourning Dove	No	No	Visual	8
CORVIDAE	**CROWS & JAYS**				
Corvus corax	Common raven	No	Yes	Visual	6
TROCHILIDAE	**HUMMINGBIRD**				
Calypte anna	Anna's Hummingbird	No	Yes	Visual	4
FRINGILLIDAE	**FINCHES**				
Carpodacus mexicanus	House finch	No	Yes	Visual	5
PTILIOGONATIDAE	**SILKY FLYCATCHERS**				
Phainopepla nitens	Phainopepla	No	Yes	Visual	2
MIMIDAE	**MIMIC THRUSHES, OR MIMIDS**				
Mimus polyglottos	Northern Mockingbird	No	Yes	Visual	4
PASSERELLIDAE	**OLD WORLD SPARROWS**				
Passer domesticus	House Sparrow	No	No	Visual	2
EMBERIZIDAE	**NEW WORLD SPARROWS**				
Zonotrichia leucophrys	White-crowned sparrow	No	Yes	Visual	5

Legend:
CDFW=California Department of Fish and Wildlife
SSC=California Species of Concern
FP=Fully Protected
WL=Audubon watch list

[1] Population size determined by the following formula: number of species divided by number of visits

MAMMAL SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	OBSERVATION TYPE/EXPECTATION TO OCCUR*	Population Size (observed #/# of visits)[2]
FAMILY LEPORIDAE	**RABBITS & HARES**				
Sylvilagus audubonii	Desert cottontail	No	Native	Visual	1
FAMILY SCIURIDAE	**SQUIRRELS**				
Spermophilus beecheyi	California ground squirrel	No	Native	Visual	2
FAMILY GEOMYIDAE	**POCKET GOPHERS**				
Thomomys bottae	Pocket gopher	No	Native	Visual	1
FAMILY CANIDAE	**DOG, WOLF & FOX**				
Canis familiaris	Dog	No	Non-Native	Visual	1
FAMILY FELIDAE	**CAT**				
Felis domesticus	Cat	No	Non-Native	Visual	3
FAMILY HETEROMYIDAE	**POCKET MOUSE & KANGAROO RAT**				
Dipodomys stephensi	Stephen's kangaroo rat	Yes	Native	Assumed	-

[2] Population size determined by the following formula: number of species divided by number of visits

REPTILE & AMPHIBIAN SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	OBSERVATION TYPE/EXPECTATION TO OCCUR*	Population Size (observed #/# of visits)[3]
FAMILY COLUBRIDAE	**COLUBRID SNAKES**				
Pituophis catenifer catenifer	Pacific gopher snake	No	Native	Visual	1
FAMILY IGUANIDAE	**IGUANIDS**				
Uta stansburiana	Side-blotched Lizard	No	Native	Visual	2

[3] Population size determined by the following formula: number of species divided by number of visits

Appendix E

HABITAT ASSESSMENT & FOCUSED SURVEYS FOR
BURROWING OWL

HABITAT ASSESSMENT & FOCUSED SURVEYS FOR BURROWING OWL
APN 266-020-001
Sphere of Influence of City of Riverside, Riverside County, California
USGS 7.5-minute topographic Riverside East Quadrangle
Township 3 South, Range 4 West, Section 30

Prepared By:

GONZALES ENVIRONMENTAL CONSULTING, LLC

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San Jacinto, CA 92583
(760) 777-1621

Report Date: June 16, 2019

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I. TITLE PAGE

A. **Date report prepared**: June 16, 2019

B. **Report Title:** Habitat Assessment and Focused Surveys for Burrowing Owl APN 266-020-001 in the Sphere of Influence of the City of Riverside, Riverside County, CA

C. Project site location: USGS 7.5-minute topographic Riverside East Quadrangle Township 3 South, Range 4 West, Section 30

D. Owner/Applicant:
Salem Engineering Group, Inc
13355 Noel Road, Suite 1100
Dallas, TX 75240

E. Principal Investigator(s): Teresa Gonzales and Paul Gonzales
Address: 358 Crystal Drive
San Jacinto, CA 92583
Phone: 760.777-1621

F. Name and phone number of person preparing report and of all persons who performed fieldwork on the site

Name of Person	Role on project
Teresa Gonzales	Prepared report and performed fieldwork
Paul Gonzales	Performed fieldwork

This document should be cited as:
Gonzales Environmental Consulting, LLC. 2019. HABITAT ASSESSMENT AND FOCUSED SURVEYS FOR BURROWING OWL In the Sphere of Influence of the City of Riverside, Riverside County, CA; USGS 7.5-minute topographic Riverside East Quadrangle Township 3South, Range 4 West, Section 30. June 16, 2019. Prepared for Salem Engineering Group, Inc.

II. EXECUTIVE SUMMARY

The project site is located in the Sphere of Influence in the City of Riverside, Riverside County, California. In January, March, April, May and June 2019, Teresa Gonzales and Paul Gonzales, Biologists for Gonzales Environmental Consulting, LLC (GEC), conducted focused surveys for burrowing owl.

The primary vegetation community is characterized as streambed, *Avena barbata* (Slender oat) Alliance, *Baccharis salicifolia* (Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site. The entire project site has been subject to anthropogenic disturbances.

The proposed project site is within the Western Riverside Multiple Species Habitat Conservation Plan (WRMSHCP)and MSHCP Burrowing Owl Survey Area.

In January, March, April, May and June 2019, Teresa Gonzales, Principal Biologist and Paul Gonzales, Senior Biologist for Gonzales Environmental Consulting, LLC (GEC), conducted focused surveys for Burrowing owl on the proposed project site. No burrowing owl(s) were found during our surveys of the area.

III. PROJECT AND PROPERTY DESCRIPTION

This report summarizes the findings of focused surveys to determine presence or absence of burrowing owl (*Athene cunicularia*) on the project site(site).

PROJECT LOCATION

Property Description

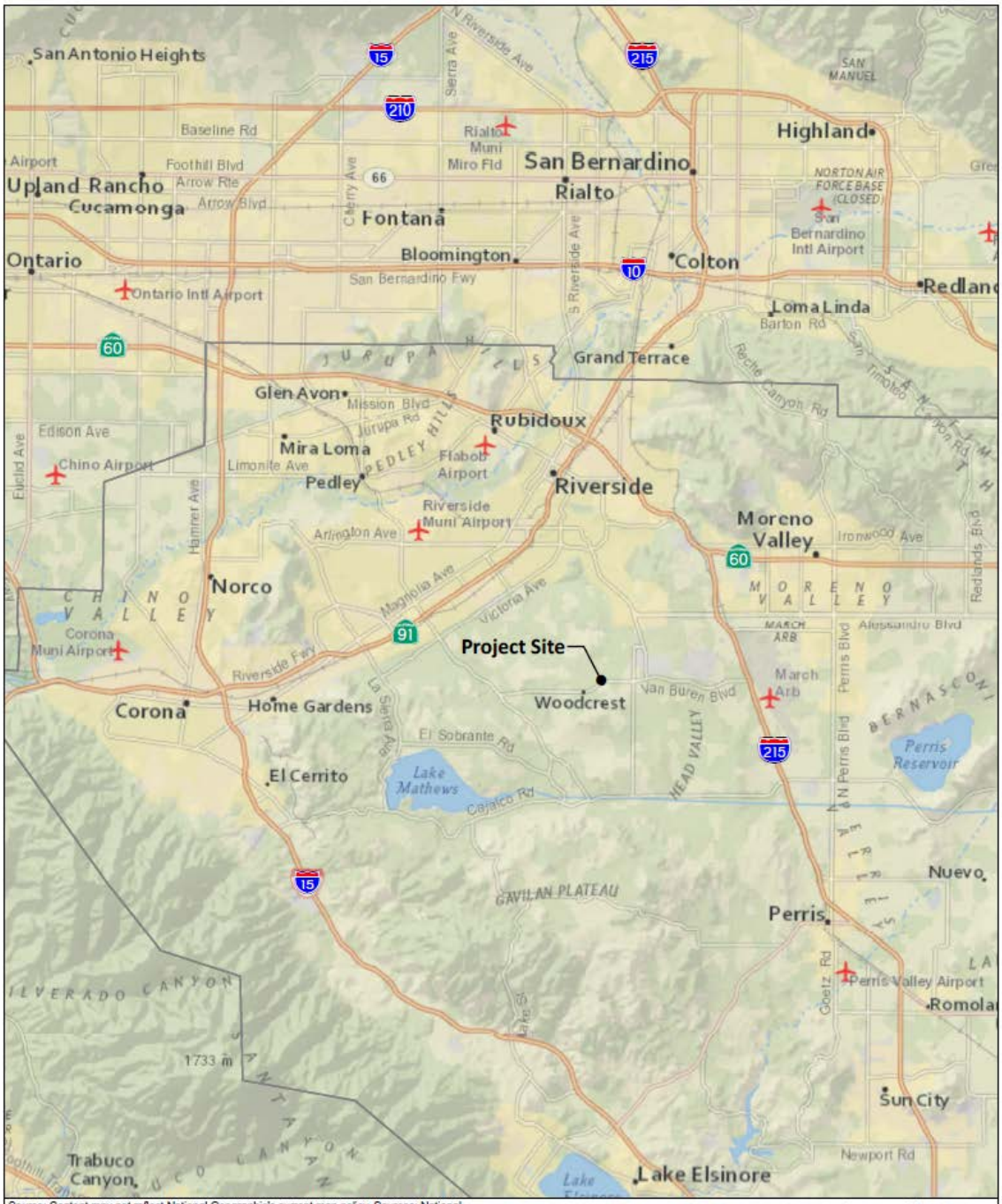
The project site (site) discussed in this report is located north of Van Buren Boulevard, east of Chicago Avenue, and south of Iris Avenue in the sphere of influence of the City of Riverside, Riverside County, California.

The site is located within San Bernardino Meridian in a portion of Section 30, Township 3 South, Range 4 West in Riverside County, California (Figures 3.1, 3.2, 3.3 and 3.4). This location is shown on the Riverside East, California 7.5-minute U.S. Geological Survey (USGS) quadrangle (Riverside East Photorevised 1980); page 746 Block B3 of the Riverside County Street Guide and Directory (Thomas Brothers Maps Design 2016). The approximate center of the site is located at the center of the project area is 33.886836°N/-117.347965°W.

The proposed project site is sloping to the north and northwest, depending on the location in the landscape. It occurs at an elevation between 1,560 and 1,584 feet above mean sea level.

The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.



Source: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO NOAA, increment P Corp.

Gonzales Environmental Consulting, LLC

N

0 4 Miles

FIGURE 3.1

Regional Map

SALEM - CHICAGO

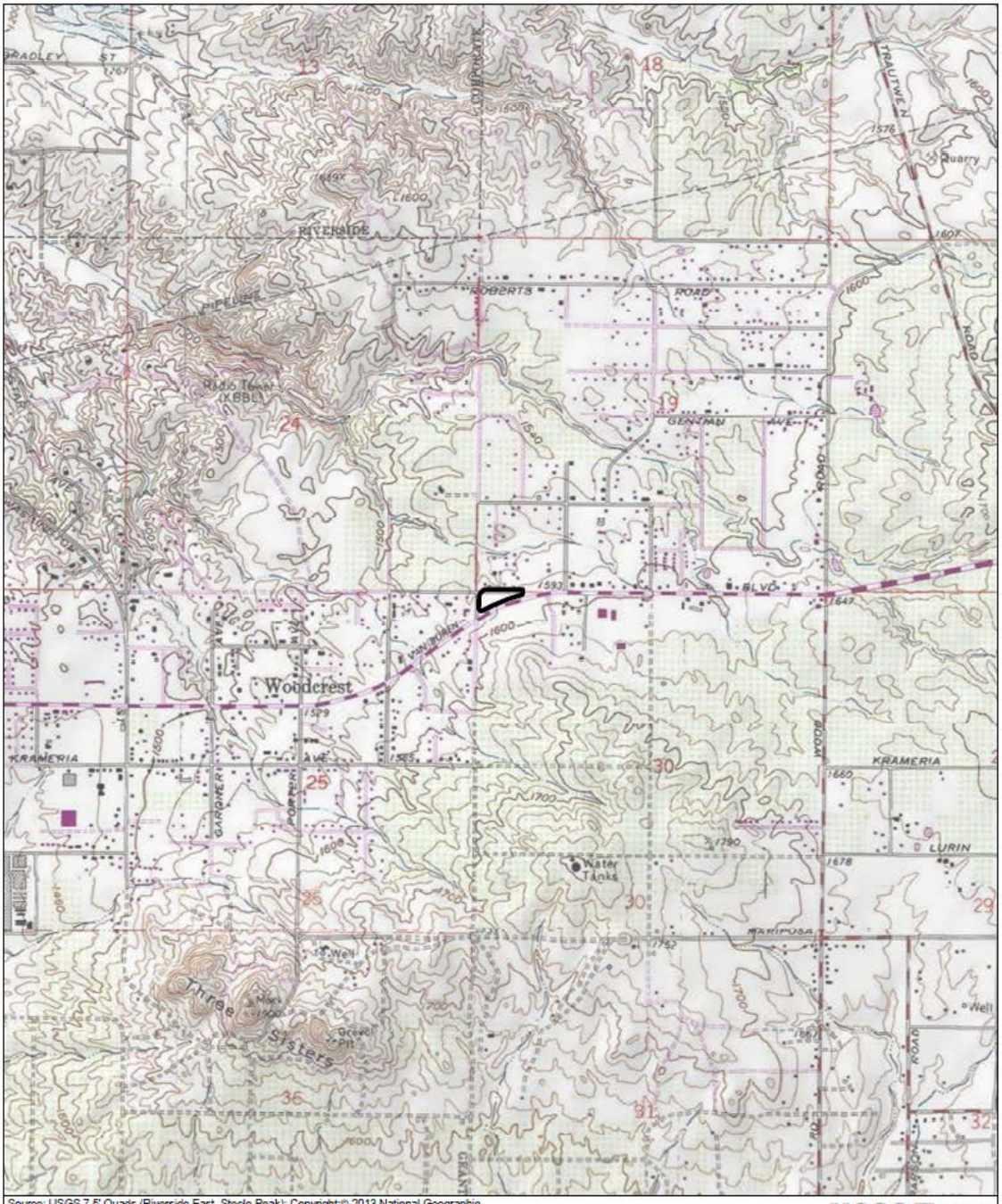


FIGURE 3.2

USGS Topo

SALEM - CHICAGO

Aerial Photograph

FIGURE 3.3

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

0 100 Feet

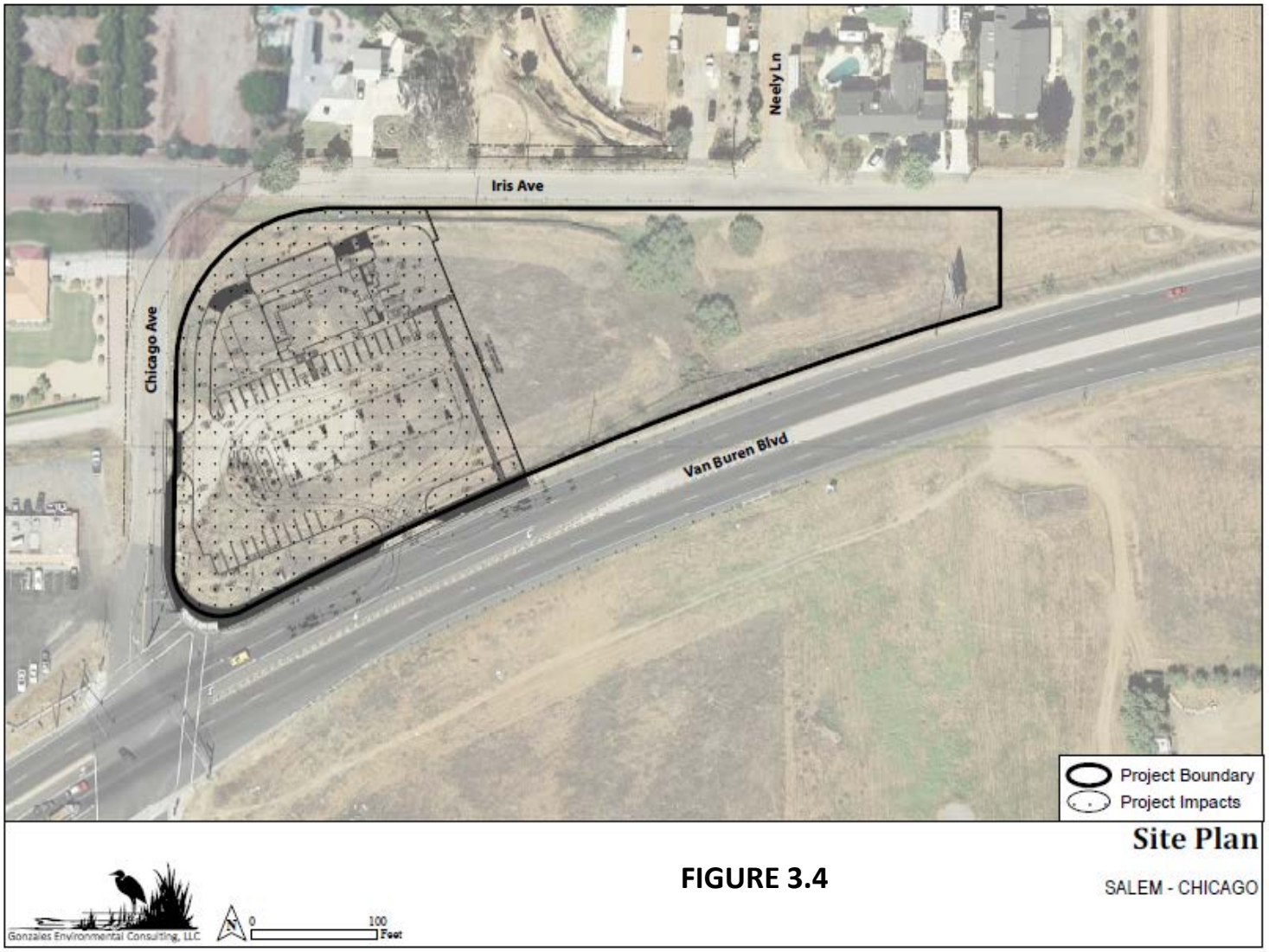

Neely Ln
Iris Ave
Chicago Ave
Van Buren Blvd
Project Boundary
Project Impacts
Site Plan
SALEM - CHICAGO
Gonzales Environmental Consulting, LLC
0
100
Feet

FIGURE 3.4

IV. STUDY AREA CONDITIONS

The following sections summarize the study area conditions. For purposes of this report, the term study area includes the proposed project construction limits and a surrounding 500-foot buffer (Figure 5.1).

Physical Conditions

The project area is in the interior basin of western Riverside County. To the north is the Santa Ana River basin; east are the San Bernardino Mountains and Little San Bernardino Mountains. To the west are the badlands. Slopes range from 0-25%. The project area is on short alluvial fans. The average annual rainfall for the area ranges from 9-18 inches. The average annual temperature is 59-64 degrees, with 200-280 frost-free days.[1]

The project site itself is bordered by Van Buren Boulevard, Chicago Avenue and Iris Avenue. Van Buren Boulevard forms the southern boundary for the project. Chicago Avenue forms the western boundary and Iris Avenue forms the northern boundary. The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.

Definitions

Vegetation Communities

Vegetation habitats or communities are assemblages of plant species that usually coexist in the same area. The classification of vegetation communities is based upon the life form of the dominant species within the community and the associated flora. The nomenclature for vegetation communities follows CDFW Vegetation Alliances of Western Riverside County, California.

Wildlife Habitats

Wildlife habitats differ from vegetation communities in that a wildlife habitat may contain several vegetation communities that are similar in structure but different in the plant species composition, location, and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat to impacts. In addition, the interaction of various

1 United States Department of Agriculture Soil Conservation Service. 1971. Soil Survey Western Riverside Area California. 157 pp.,illus.

wildlife species occurs between many different wildlife habitats. This becomes more evident where these habitats overlap in areas known as ecotones. These ecotones support a combination of species from two or more adjoining habitats that generally increases the number and diversity of species within these areas. Wildlife habitats encountered on the project site approximate the vegetation communities discussed is this report.

Vegetation

The site consists of vegetation communities, characterized as streambed, Baccharis salicifolia (Mulefat) scrub Alliance, *Avena barbata* (Slender oat) Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site. The entire project site has been subject to anthropogenic disturbances. The existing plant communities are described in more detail below.

Streambed

The site contains one drainage, which includes one tributary, on the project site. A culvert outlet from Van Buren Avenue provides flow into the drainage. A small patch of mulefat is found in the drainage. Pepper trees (*Schinus molle*) are located at the junction of the drainage on the culvert outlet from Iris Avenue. The combined flow is in a channel adjacent to Iris Avenue. Vegetation in the drainage contains non-native grasses.

FIGURE 4.1
STREAMBED ON-SITE

***Baccharis salicifolia* Alliance**

A depauperate, tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia*). This early serial community is maintained by frequent flooding. Found in intermittent stream channels with fairly coarse substrate and moderate depth to the water table.

FIGURE 4.2
***BACCHARIS SALICIFOLIA* ON-SITE**

***Avena barbata* (Slender oat) Alliance**

This series is considered California annual grassland series. *Avena barbata* and/or *Avena fatua* is dominant or co-dominant in the herbaceous layer.

FIGURE 4.3
AVENA BARBATA ALLIANCE

Landscape

Non-native landscape species (*Schinus molle*) are located on the project site.

Disturbed

Disturbed or barren areas are areas that either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found onsite includes non-native grasses and a high proportion of weedy species, including tree tobacco, mustard, and thistle species. This includes compacted paved roads and graded lots.

FIGURE 4.5
DISTURBED

TABLE 4.1
ACREAGE OF DIRECT IMPACTS TO HABITAT TYPES ON THE PROJECT SITE

Habitat	Survey Area
Avena barbata alliance	2.458
Disturbed habitat	0.320
Juniper	0.018
Mulefat scrub alliance	0.004
Pepper trees	0.101
TOTAL (acres)	**2.900**

FIGURE 4.5

Vegetation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

0 100 Feet

V. METHODOLOGY

For the development of this document, a systematic approach was taken to identify and characterize biological resources, including vegetation community types, and special status plant and animal species in the project area. The biological resource study area is defined as the area either directly or indirectly impacted by the project. Records of known occurrences were reviewed to identify those plant and wildlife species that may occur in the project area. Those records were then compared with federal or state listed threatened, endangered, or special status species. General biological surveys; vegetation mapping; and surveys for special status wildlife and plant species for the project were conducted. Methods that were used during these surveys are summarized by resource type in the following sections.

Records Search

Preliminary investigations included review of information obtained from the USFWS, and CDFW; literature searches; examination of aerial photographs; and database searches including California Native Plant Society (CNPS), the California Natural Diversity Data Base (CNDDB) records, and sensitive species accounts for Riverside County. Reviewed environmental documents included Environmental Impact Reports prepared for other projects in the vicinity. A list of special status species was compiled, including all species in the project area that were:

Listed as endangered or threatened, proposed for listing, or candidates for listing under the Federal Endangered Species Act (FESA);
Listed as endangered or threatened, or candidates for listing under the California Endangered Species Act (CESA);
Included in one of the CDFW publications on species of special concern;
"Fully protected" by the State of California;
Included in the CNPS compilation ; or
Identified as plants meeting the definition of rare or endangered under CEQA.

The information provided by these agencies included both regional and site-specific data on sensitive species.

Biological Surveys

Baseline biological studies of the proposed project were conducted in January 2019. Existing biological data was collected using Personal Computers (PCs) and Geographic Positioning System (GPS). This allowed for data to be collected in real time. Data layers uploaded onto these PCs included recent aerial photography, and topographic contours. Biological data was mapped onto the aerial photograph layers as polygon, line, and point attributes.

Checklists of biological information were uploaded onto the PCs, which allowed us to accurately label all data points, ensure consistency, and keep a running electronic account of all species encountered during the surveys. Finally, these checklists allowed for the inclusion of supplemental field notes, most notably, ranking of the quality of the various habitats including dominant and associate species for each vegetation polygon; assessing habitats for the potential presence of sensitive species not observed during the surveys; and identifying areas that would require protocol-level sensitive species surveys (i.e., USFWS protocol-level surveys for federal threatened and endangered species.

Habitats for specific species of wildlife and plants identified during surveys were classified as: not expected, low, moderate, high, or expected. These classifications were based on the quality of the habitat for each species and the proximity of the habitat to a known occurrence of a species obtained from CNDDB data. The definitions of each of the classifications are as follows:

- Not Expected: Species not previously reported in the vicinity of the site, and suitable habitat very marginal due to disturbances, fragmentation, and/or isolation.
- Low: Species previously reported from the vicinity of the site, but suitable habitat is marginal due to disturbances, fragmentation, and/or isolation.
- Moderate: Species previously reported from the vicinity of the site, and large areas of contiguous high-quality habitat present; or species previously reported in the vicinity of the site, but suitable habitat quality is moderate due to disturbances, fragmentation, and/or isolation.
- High: Species previously reported from regional vicinity of the site, and large areas of contiguous high-quality habitat are present.
- Expected: Species previously reported from very close vicinity of the site, and large areas of contiguous high-quality habitat are present.

Vegetation Methods

Aerial photography and digital vegetation maps were reviewed to determine potential community types within the project area. Preliminary ground-truthing surveys concurred with digital vegetation maps, and additional surveys were performed to accurately define the community types and boundaries.

Wildlife Survey and Habitat Assessment Methods

General reconnaissance and habitat assessment surveys were completed to determine habitat suitability for listed species and special status plant, wildlife, and aquatic species. Suitable habitat for listed species and special status species was determined by the presence of specific habitat elements. The surveys coincided with the period during which many wildlife species, including migratory species, would have been most detectable. A faunal inventory of all species observed during the course of the surveys was also prepared.

Special Status Species Methods

Special Status Wildlife Species Survey Methods

Prior to conducting habitat assessment surveys, CNDDB and other sources were reviewed for the records of special status wildlife species potentially occurring in the project area. General reconnaissance and habitat assessment surveys were conducted to assess the presence of special status wildlife species habitats within the project area. Maps depicting all known sensitive wildlife species locations within the regional vicinity of the project were produced to aid in determining the target species to survey. All wildlife species encountered during surveys were documented. Any specific areas (e.g., potential nesting, breeding, and foraging habitat) encountered during the surveys that have a high probability for supporting sensitive wildlife were documented. The likelihood of these species occurrence (not expected, low, moderate, high, expected) was also assessed.

General habitat assessments and focused protocol-level surveys for other species including, but not limited to, burrowing owl (*Athene cunicularia*), were also conducted. General habitat

assessments involved evaluating the specific vegetation communities encountered and their potential to support these sensitive species (expected, high, moderate, low, not expected).

The following table identifies the sensitive species for which protocol-level surveys were required for the project.

TABLE 5.1
PROTOCOL SURVEYS

Protocol Surveys			
Species		**Survey Protocol**	**Location**
Scientific Name	**Common Name**		
Athene cunicularia	burrowing owl	A minimum of four surveys are required between March 15 and August 31.	Grasslands, debris piles, disturbed areas

Transects for general reconnaissance and habitat assessment surveys were conducted to assess the presence of burrowing owl within the project area. Survey information is included in Table 5.2.

Surveys

Based on the findings of the biological surveys, focused habitat assessment and species-specific surveys were conducted for burrowing owl (*Athene cunicularia*) to determine presence of sensitive, listed, and covered species within the project area. Burrowing owl habitat surveys were conducted on January 25, 2019. The habitat assessment and focused surveys followed the California Burrowing Owl Consortium Burrowing Owl Survey Protocol and Mitigation Guidelines[2] and Riverside County Burrowing Owl Survey Instructions[3].

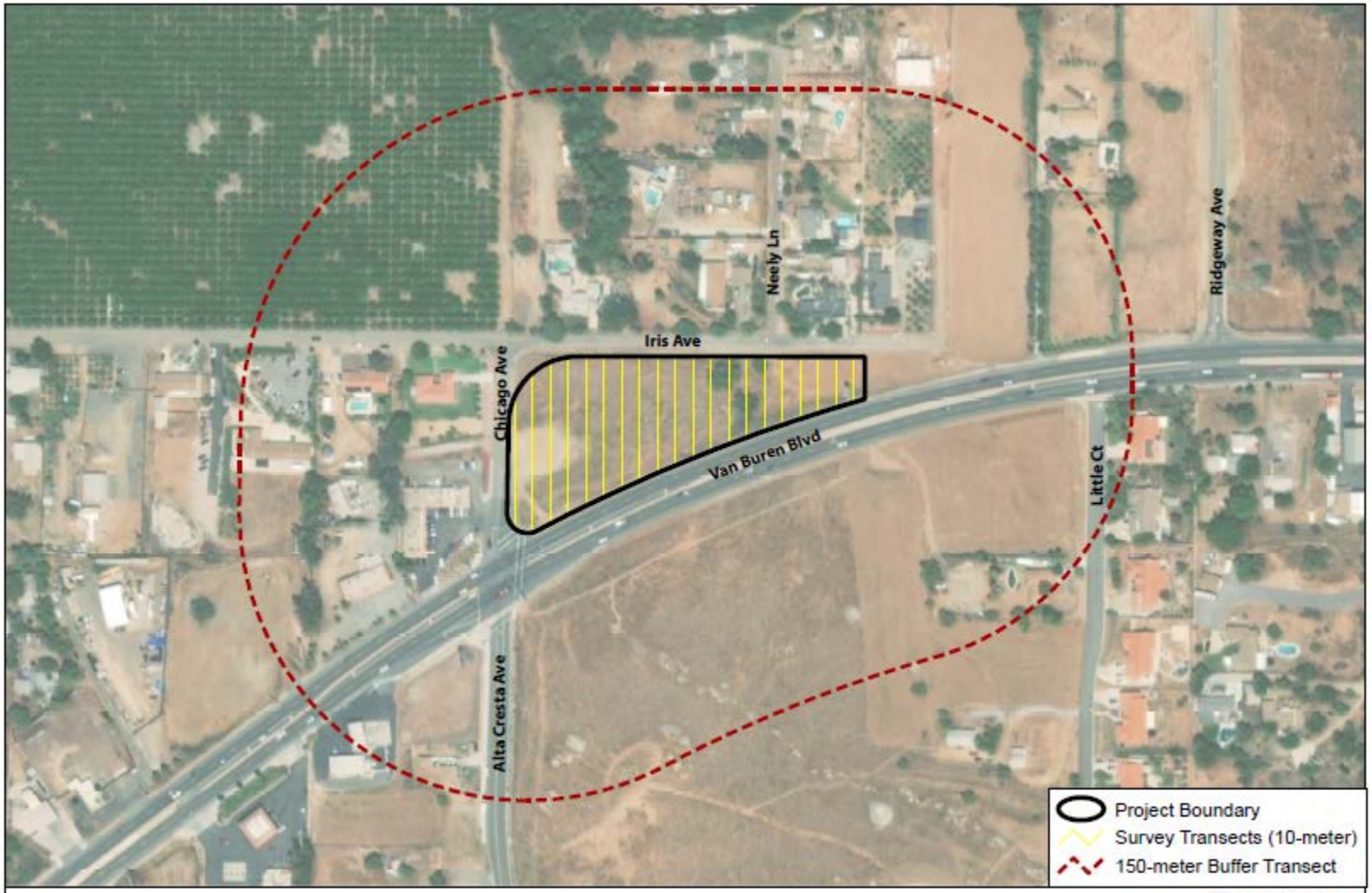
The schedule and field conditions during the visits are summarized below.

[2] The California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. 15 pgs.
[3] Riverside County. 2006. Burrowing Owl Instructions for the Western Riverside MSHCP. 4 pgs

TABLE 5.2
SURVEY SUMMARY 2019

Date	Air Temperature (F)	Wind Speed (mph)	Cloud Cover	Precipitation	Sunrise/Sunset Times	Time-Duration*
January 25	45-53	0-7	20% cloud cover	No	0651/1712	0551/0851 3 hrs
March 20	52-58	0-2	30% cloud cover	No	0652/1901	0552/0852 3 hrs
April 10	51-59	0-2	Clear	No	0624/1917	0524/0824 3 hrs
May 10	57-61	0-3	50% cloud cover	No (morning rain)	0551/1940	0451-0751 3 hrs
June 15	61-72	0-3	Marine layer	No	0547/1944	0447-0747 3 hrs

*Approved hours for burrowing owl surveys are one hour prior to sunrise until two hours after and two hours prior to sunset and one hour after sunset.



Transects

SALEM - CHICAGO

FIGURE 5.1

Gonzales Environmental Consulting, LLC

0 250 Feet

VI. ASSESSMENT AND FOCUSED SURVEY

Burrowing owl habitat assessment surveys and focused surveys were conducted in 2019 (refer to Table 5.2 for 2019 survey information) according to the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (County of Riverside 2006).

GEC biologists knowledgeable in BUOW habitat, ecology, and field identification of the species conducted surveys on the dates shown in Table 3.2 and 3.3. The weather conditions during these surveys were conducive to observing BUOW outside their burrows and detecting BUOW sign. Data was collected by numerous techniques including the use of a hand-held GPS device, standardized data forms, photographs, and aerial field maps. Details regarding each survey method are provided below:

Habitat Assessment (Step 1)

Habitat within the project area was assessed for BUOW presence, use, and potential use. Areas with potential BUOW habitat, including pasture and debris piles were surveyed by GEC for potential burrows and BUOW. Biologists walked areas of potential habitat while searching for BUOW, potential and active burrows, and owl sign, such as feathers, pellets, and prey items. The survey area included a 150-meter (500-foot) buffer zone outside the project site. Transect surveys for burrows, including owl sign, was conducted by walking or being escorted through suitable habitat over the entire survey area (the proposed route and the 150-meter [500-foot] buffer zone). Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines was no more than 10 meters (30 feet) and was reduced when necessary to account for differences in terrain, vegetation density, and ground surface visibility.

Focused Burrow Surveys (Step 2 A)

GEC conducted focused burrow surveys including natural burrows or suitable debris piles. Transect surveys for burrows, including owl sign, was conducted by walking or being escorted through suitable habitat over the entire survey area (the proposed route and the 150-meter [500-foot] buffer zone). Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines was no more than 10 meters (30 feet) and was reduced when necessary to account for differences in terrain, vegetation density, and ground surface visibility. The locations of all potential owl burrows, observed owl sign, and observed BUOW were recorded and mapped with a GPS device.

Focused Owl Surveys (Step 2B)

Focused BUOW surveys consisted of eleven site visits covering all project areas and adjacent areas. Surveys were conducted in the morning 1 hour before sunrise to 2 hours after sunrise and 1 hour before sunset to 2 hours after sunset. Upon arrival at the survey area and prior to initiating the walking surveys, surveyors used binoculars and/or spotting scopes to scan all suitable habitats, location of mapped burrows, owl sign, and owls, including perch locations to ascertain owl presence. A survey for owls and owl sign was then conducted by walking through suitable habitat over the entire project site and within the adjacent 150-meter (500-foot) buffer zone. These pedestrian surveys followed transects spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines were no more than 10 meters

(30 feet) and were reduced to account for differences in terrain, vegetation density, and ground surface visibility. In areas where access was not obtained, the area adjacent to the project site was surveyed using binoculars and/or spotting scopes to determine if owls are present in areas adjacent to the project site.

VII. RESULTS

GEC conducted habitat assessment (Step 1) and focused Burrowing Owl Burrow (Step IIA) and burrowing owl (Step IIB) surveys as outlined by The California Burrowing Owl Consortium (timing of surveys followed Consortium guidelines) and Burrowing Owl Instructions for the Western Riverside MSHCP. Step 1 of the survey identified suitable burrowing owl habitat on-site with the presence of low-growing vegetation, and debris piles. **Results of the Steps II A and B surveys found no owl burrows or burrowing owls on the proposed project site or in adjacent areas.**

VIII. REFERENCES

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IX. CERTIFICATION

CERTIFICATION*: "I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project."*

DATE: June 16, 2019 SIGNED: Teresa Gonzales

1) Teresa Gonzales

1) Fieldwork Performed By:

Teresa Gonzales

Teresa Gonzales

Paul Gonzales

Paul Gonzales

Check here _____ If Adding any additional Names/Signatures, below or on other side of page.

APPENDIX A

Vegetation & Species List

Scientific name	Common name	Estimated abundance within project site*	Native/Non-Native
CUPRESSACEACE			
Juniperus californica	California juniper	U	Native
AMARANTHACEAE			
Chenopodium album	Lamb's quarters	U	Non-Native
ANACARDIACEAE			
Schinus molle	California Pepper tree	C	Non-Native
ASTERACEAE			
Ambrosia acanthicarpa	Annual Bur-sage	U	Native
Ambrosia psilostachya	Western Ragweed	U	Native
Baccharis salicifolia	Mule Fat	U	Native
Centaurea melitensis	Tocalote	U	Non-Native
Helianthus annuus	Common Sunflower	U	Native
Heterotheca grandiflora	Telegraph Weed	U	Native
Matricaria discoidea	Pineapple weed	U	Native
Silybum marianum	Milk thistle	C	Non-Native
Sonchus oleraceus	Sow thistle	C	Non-Native
Cirsium vulgare	Bullthistle	C	Non-Native
Taraxicum officionale	Dandelion	C	Non-Native
BORAGINACEAE			
Cryptantha intermedia	Popcorn flower	U	Native
BRASSICACEAE			
Hirschfeldia incana	Short-pod Mustard	C	Non-Native
CACTACEAE			
Opuntia ficus-indica	Tuna	U	Non-Native
CHENOPODIACEAE			
Salsola tragus	Russian thistle	U	Non-native
EUPHORBIACEAE			
Euphorbia albomarginata	Rattlesnake sandmat	C	Native
Croton setigerus	Turkey mullein	C	Native
GERANIACEAE			
Erodium cicutarium	Coastal Heron's Bill	A	Non-Native
LAMIACEAE			
Marrubium vulgare	Horehound	U	Non-Native
SOLANACEAE			
Nicotiana glauca	Tree Tobacco	U	Non-Native
POACEAE			
Avena barbata	Slender Wild Oat	C	Non-Native
Bromus diandrus	Ripgut brome	C	Non-Native
Bromus hordeaceus	Soft Chess	C	Non-Native
Bromus madritensis ssp. rubens	Foxtail Chess	C	Non-Native

Legend:
* *AbundanceDefinitions*
A=Abundant: observed or expected to occur in substantial numbers (>500 observations) in suitable habitat and in the appropriate season;
C=Common: observed or expected to occur in high numbers (100-500 observations) in suitable habitat and in the appropriate season;
u=Uncommon: observed or expected to occur in low numbers (10-100 observations) in suitable habitat and in the appropriate season; may be restricted to few habitat types;
R=Rare: observed or expected to occur in very low numbers (<10 observations) in suitable habitat and in the appropriate season; restricted to specific habitat types

**Special Status Plant

AVIAN SPECIES OBSERVED ON THE PROJECT SITE

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS/REGIONAL STATUS	NATIVE SPECIES	OBSERVATION TYPE	POPULATION SIZE (OBSERVED #/# OF VISITS)[1]
AVES	**BIRDS**				
ACCIPITRIDAE	**HAWK**				
Buteo jamaicensis	Red-tailed Hawk	No	Yes	Visual	2
COLUMBIDAE	**PIGEONS AND DOVES**				
Streptopelia decaocto	Eurasian Collared Dove	No	No	Visual	3
Zenaida macroura	Mourning Dove	No	No	Visual	8
CORVIDAE	**CROWS & JAYS**				
Corvus corax	Common raven	No	Yes	Visual	6
TROCHILIDAE	**HUMMINGBIRD**				
Calypte anna	Anna's Hummingbird	No	Yes	Visual	4
FRINGILLIDAE	**FINCHES**				
Carpodacus mexicanus	House finch	No	Yes	Visual	5
PTILIOGONATIDAE	**SILKY FLYCATCHERS**				
Phainopepla nitens	Phainopepla	No	Yes	Visual	2
MIMIDAE	**MIMIC THRUSHES, OR MIMIDS**				
Mimus polyglottos	Northern Mockingbird	No	Yes	Visual	4
PASSERELLIDAE	**OLD WORLD SPARROWS**				
Passer domesticus	House Sparrow	No	No	Visual	2
EMBERIZIDAE	**NEW WORLD SPARROWS**				
Zonotrichia leucophrys	White-crowned sparrow	No	Yes	Visual	5

Legend:
CDFW=California Department of Fish and Wildlife
SSC=California Species of Concern
FP=Fully Protected
WL=Audubon watch list

[1] Population size determined by the following formula: number of species divided by number of visits

MAMMAL SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	OBSERVATION TYPE/EXPECTATION TO OCCUR*	Population Size (observed #/# of visits)[2]
FAMILY LEPORIDAE	**RABBITS & HARES**				
Sylvilagus audubonii	Desert cottontail	No	Native	Visual	1
FAMILY SCIURIDAE	**SQUIRRELS**				
Spermophilus beecheyi	California ground squirrel	No	Native	Visual	2
FAMILY GEOMYIDAE	**POCKET GOPHERS**				
Thomomys bottae	Pocket gopher	No	Native	Visual	1
FAMILY CANIDAE	**DOG, WOLF & FOX**				
Canis familiaris	Dog	No	Non-Native	Visual	1
FAMILY FELIDAE	**CAT**				
Felis domesticus	Cat	No	Non-Native	Visual	3
FAMILY HETEROMYIDAE	**POCKET MOUSE & KANGAROO RAT**				
Dipodomys stephensi	Stephen's kangaroo rat	Yes	Native	Assumed	-

[2] Population size determined by the following formula: number of species divided by number of visits

REPTILE & AMPHIBIAN SPECIES OBSERVED OR EXPECTED TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Special Status/Regional Status	Native Species	OBSERVATION TYPE/EXPECTATION TO OCCUR*	Population Size (observed #/# of visits)[3]
FAMILY COLUBRIDAE	**COLUBRID SNAKES**				
Pituophis catenifer catenifer	Pacific gopher snake	No	Native	Visual	1
FAMILY IGUANIDAE	**IGUANIDS**				
Uta stansburiana	Side-blotched Lizard	No	Native	Visual	2

[3] Population size determined by the following formula: number of species divided by number of visits

Appendix F

List of special-status species that
were determined to have potential
to occur within the project area

TABLE 1
SPECIAL-STATUS PLANT SPECIES LISTED FOR RIVERSIDE EAST & SURROUNDING NINE QUADRANGLES

Scientific Name [1]	Common Name	Status [2]	Habitat	Potential to Occur in Study Area (High, Moderate, Low)
Insects				
Bombus crotchii	Crotch bumble bee	Candidate SE	Species occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern	Low. Has potential to occur within study area.
Amphibians				
Scaphiopus hammondii	Western Spadefoot Toad	SSC, MSHCP Covered Species	Ephemeral pools, grassland, scrub, chaparral	Low. Has potential to occur within study area, but habitat is not suitable.
Reptiles				
Arizona elegans occidentalis	California glossy snake	CSC	Inhabits arid scrub, rocky washes grasslands chaparral.	Low. Has potential to occur within study area.
Crotalus ruber ruber	Red Diamond Rattlesnake	CSC, MSHCP Covered Species	Scrub, chaparral, riparian, rocky grassland	Low. Has potential to occur within study area.
Diadophis punctatus modestus	San Bernardino ringneck snake	MSHCP Covered Species	Sage scrub, riparian corridors, oak woodlands, canyons and grasslands	Low. Has potential to occur within study area.
Diadophis punctatus similis	San Diego ringneck snake	-	Wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests and woodlands	Low. Has potential to occur within study area.
Thamnophis sirtalis pop. 1	South coast gartersnake	SSC	Forests, mixed woodlands, grassland, chaparral, farmlands, often near ponds, marshes, or streams	Low. Has potential to occur within study area.

Birds				
Scientific Name [1]	**Common Name**	**Status [2]**	**Habitat**	**Potential to Occur in Study Area (High, Moderate, Low)**
Athene cunicularia	Burrowing Owl	FSC, FBCC, CSC (Burrow sites) , MBTA, MSHCP Covered Species	Open land, old ground squirrel burrows	Moderate. Has potential to occur within study area. Potential to nest in study area (i.e. ground squirrel burrows and debris piles present).
Eremophila alpestris actia	California Horned Lark	CSC, MBTA, MSHCP Covered Species	Open habitats, bare dirt	Moderate. Has potential to occur within study area.
Buteo regalis	Ferruginous Hawk	FBCC, CSC (wintering), MBTA, MSHCP Covered Species	Winter residents of grasslands and agricultural areas	Low. Uncommon winter visitor could forage in study area.
Ammodramus savannarum	grasshopper sparrow	SSC, MBTA, MSHCP Covered Species	Grasslands with patches of bare ground	Low. Site is surrounded by development and busy Van Buren Avenue.
Lanius ludovicianus	Loggerhead Shrike	FBCC, CSC (nesting), MBTA, MSHCP Covered Species	Open habitats, scrub	Low. Has potential to occur within study area.
Circus cyaneus	Northern Harrier	CSC (nesting), MBTA, MSHCP Covered Species (breeding)	Grasslands, marshes, open habitats	Low. Has potential to occur within study area.
Falco mexicanus	prairie falcon	WL, MBTA, MSHCP Covered Species	Open grassland	Low. Has potential to occur within study area.
Selasphorus rufus	rufous hummingbird	MBTA	Open or shrubby areas, forest openings, yards, and parks, and sometimes in forests, thickets, swamps, and meadows	Low. Has potential to occur within study area.
Buteo swainsoni	Swainson's hawk	ST, MBTA, MSHCP Covered Species	Grasslands, suitable grain or alfalfa fields, or in livestock pastures	Low. Has potential to occur within study area.

Scientific Name [1]	Common Name	Status [2]	Habitat	Potential to Occur in Study Area (High, Moderate, Low)
Mammals				
Taxidea taxus	American badger	CSC	Dry, open grasslands, fields, and pastures	Low. Has potential to occur within study area
Dipodomys simulans	Dulzura kangaroo rat	MSHCP Covered Species	Dry grassland and scrub	Low. Has potential to occur within study area
Cheatodipus californicus femoralis	Dulzura California Pocket Mouse	CSC	Scrub/grassland interface, also woodlands and chaparral	Low. Has potential to occur within study area
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC, MSHCP Covered Species	Lower elevation grassland, alluvial sage scrub, and coastal sage scrub	Low. Has potential to occur within study area
Antrozous pallidus	pallid bat	SSC	Crevices in rocks, buildings and occasionally trees, and forages over a variety of habitat types	Low. Has potential to occur within study area
Onychomys torridus ramona	southern grasshopper mouse	CSC	Abandoned rodent burrows in low to moderate shrub cover	Low. Has potential to occur within study area.
Dipodomys stephensi	Stephens' Kangaroo Rat	FE, ST, MSHCP Covered Species	Grasslands with sparse to no shrub cover	Low. Has potential to occur within study area.

Federal Status

FE = Federal Endangered

FT = Federal Threatened

FBCC= Federal Birds of Conservation Concern

MBTA = Migratory Bird Treaty Act Species

State/CDFG Status

SE = State Endangered

ST = State Threatened

FP= California Fully Protected Species

CSC or SSC = California Species of Concern

CNDDB = has a California Natural Diversity DataBase ranking only

County Status

MSHCP Covered Species = Covered species under County of Riverside Multiple Species Habitat Conservation Plan

Appendix G

Jurisdictional Delineation

Delineation of Waters of the United States and Department of Fish and Wildlife Jurisdictional Habitats for

APN 266-020-001

Zone of Influence of the City of Riverside, Riverside County, California

USGS 7.5-minute topographic Riverside East Quadrangle

Township 3 South, Range 4 West, Section 30

Prepared For:

Salem Engineering Group, Inc.

Prepared By**:**

GONZALES
ENVIRONMENTAL CONSULTING, LLC

358 Crystal Drive
San Jacinto, CA 92583
(760) 777-1621

Report Date: June 17, 2019

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1. TITLE PAGE

A. Date report prepared: June 17, 2019

B. Report Title: Delineation of Waters of the United States and Department of Fish and Wildlife Jurisdictional Habitats for APN 266-020-001 Sphere of Influence of the City of Riverside, Riverside County, California

C. Project site location: USGS 7.5-minute topographic Riverside East Quadrangle Township 3 South, Range 4 West, Section 30

D. Location(s): Unnamed Drainage and tributary

E. Owner/Applicant:
Salem Engineering Group, Inc
13355 Noel Road, Suite 1100
Dallas, TX 75240

F. Principal Investigator(s): Teresa Gonzales and Paul Gonzales
Address: 358 Crystal Drive
San Jacinto, CA 92583
Phone: 760.777-1621

G. Name and phone number of person preparing report and of all persons who performed fieldwork on the site

Name of Person	Role on project
Teresa Gonzales	Prepared report and performed fieldwork
Paul Gonzales	Performed fieldwork
Justin Palmer	GIS

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

Date: 6-17-19

Teresa Gonzales

Acronyms and Abbreviations

USACE	U.S. Army Corps of Engineers
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
GIS	Geographic Information System
GPS	Global Positioning System
HA	Hydrologic Area
HR	Hydrologic Region
HU	Hydrologic Unit
HUC	Hydrologic Unit Codes
HUC 8	Hydrologic Unit Codes the finest level of examination
LSAA	Lake or Streambed Alteration Agreement
NEPA	National Environmental Policy Act
NRCS	National Resource Conservation Society
NWP	Nationwide Permit
OHWM	ordinary high water mark
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
RWQCB	State Water Resources Control Board, Santa Ana Region

2. INTRODUCTION

This report contains the results of a streambed/wetland delineation conducted for Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Section 6.1.2 jurisdictional areas, U.S. Army Corps of Engineers (USACE), California Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (DFW) jurisdiction for APN 266-020-001, City of Riverside, Riverside County, California. [1]

This report presents the findings of a delineation of wetlands and waters of the United States and California Department of Fish and Wildlife (CDFW) for the proposed project. The information presented in this report is intended to assist the U.S. Army Corps of Engineers (USACE) determine the extent of jurisdictional Waters of the U.S. within the proposed project area. Data have been collected in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and additional supplemental manuals (USACE 1987, 2008a, and 2008b). This report is also intended to aid the California Department of Fish and Wildlife (CDFW) with determination of the extent of jurisdictional habitats in the project and City of Riverside with determination of the extend of jurisdictional habitats according to Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Section 6.12 riparian/riverine jurisdictional areas.

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

3. PROJECT AND PROPERTY DESCRIPTION

3. 1 Project Description

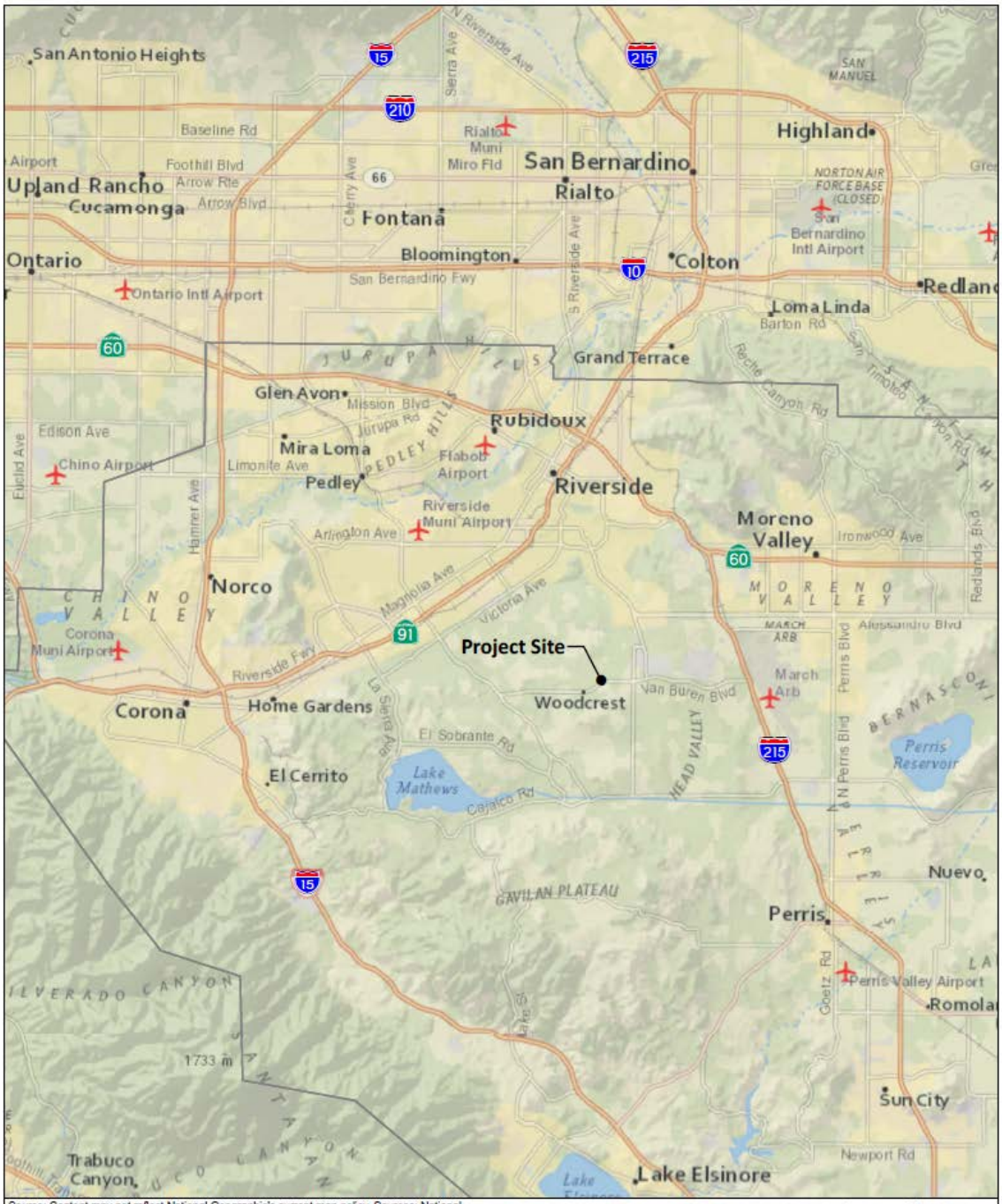
The project site (site) discussed in this report is located north of Van Buren Boulevard, east of Chicago Avenue, and south of Iris Avenue in the sphere of influence of the City of Riverside, Riverside County, California.

The site is located within San Bernardino Meridian in a portion of Section 30, Township 3 South, Range 4 West in Riverside County, California (Figures 3.1, 3.2, 3.3 and 3.4). This location is shown on the Riverside East, California 7.5-minute U.S. Geological Survey (USGS) quadrangle (Riverside East Photorevised 1980); page 746 Block B3 of the Riverside County Street Guide and Directory (Thomas Brothers Maps Design 2016). The approximate center of the site is located at the center of the project area is 33.886836°N/-117.347965°W.

The proposed project site is sloping to the north and northwest, depending on the location in the landscape. It occurs at an elevation between 1,560 and 1,584 feet above mean sea level.

The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.



Regional Map

SALEM - CHICAGO

FIGURE 3.1

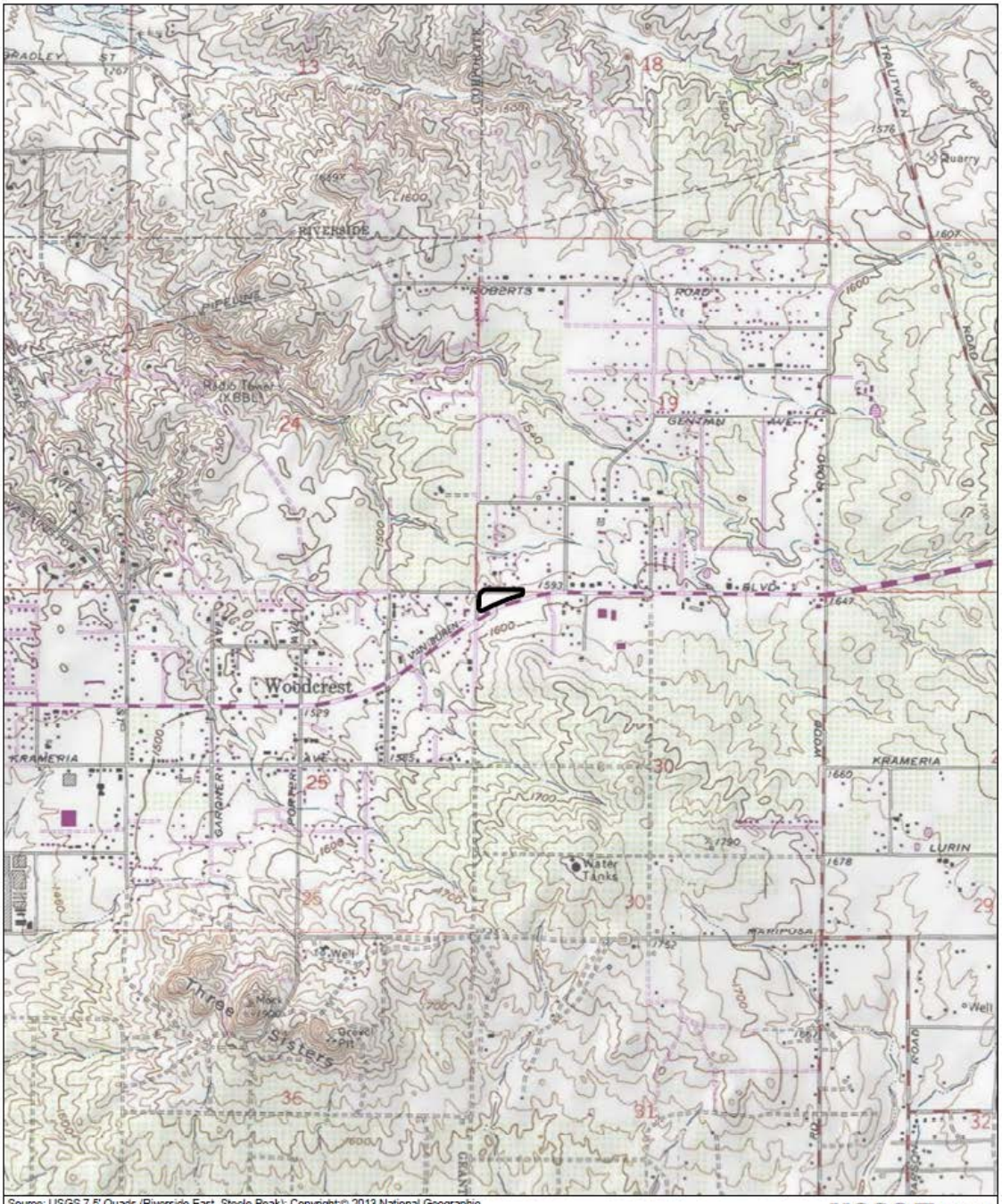


FIGURE 3.2

USGS Topo

SALEM - CHICAGO

Aerial Photograph

SALEM - CHICAGO

FIGURE 3.3

Gonzales Environmental Consulting, LLC

0 100 Feet

Site Plan

SALEM - CHICAGO

FIGURE 3.4

Gonzales Environmental Consulting, LLC

0 100 Feet

3. 2 Environmental Setting

The project area is in the interior basin of western Riverside County. To the north is the Santa Ana River basin; east are the San Bernardino Mountains and Little San Bernardino Mountains. To the west are the badlands. Slopes range from 0-25%. The project area is on short alluvial fans. The average annual rainfall for the area ranges from 9-18 inches. The average annual temperature is 59-64 degrees, with 200-280 frost-free days.[2]

The project site itself is bordered by Van Buren Boulevard, Chicago Avenue and Iris Avenue. Van Buren Boulevard forms the southern boundary for the project. Chicago Avenue forms the western boundary and Iris Avenue forms the northern boundary. The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.

3. 3 Hydrology

The entire project site falls within the Santa Ana River watershed (18070203). The waters of the U.S. found on the project site are eventually tributary to Santa Ana River. The hydrology in the project area has been altered. The unnamed drainage and tributary are dry most of the year.

3. 4 Vegetation

The site consists of vegetation communities, characterized as streambed, Baccharis salicifolia (Mulefat) scrub Alliance, *Avena barbata* (Slender oat) Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site. The entire project site has been subject to anthropogenic disturbances. The existing plant communities are described in more detail below.

Streambed

The site contains one drainage, which includes one tributary, on the project site. A culvert outlet from Van Buren Avenue provides flow into the drainage. A small patch of mulefat is found in the drainage. Pepper trees (*Schinus molle*) are located at the junction of the drainage on the culvert outlet from Iris Avenue. The combined flow is in a channel adjacent to Iris Avenue. Vegetation in the drainage contains non-native grasses.

2 United States Department of Agriculture Soil Conservation Service. 1971. Soil Survey Western Riverside Area California. 157 pp.,illus.

FIGURE 3.5
STREAMBED ON-SITE

***Baccharis salicifolia* Alliance**

A depauperate, tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia*). This early serial community is maintained by frequent flooding. Found in intermittent stream channels with fairly coarse substrate and moderate depth to the water table.

FIGURE 3.6
***BACCHARIS SALICIFOLIA* ON-SITE**

***Avena barbata* (Slender oat) Alliance**
This series is considered California annual grassland series. *Avena barbata* and/or *Avena fatua* is dominant or co-dominant in the herbaceous layer.

FIGURE 3.7
AVENA BARBATA ALLIANCE

Landscape

Non-native landscape species (*Schinus molle*) are located on the project site.

Disturbed

Disturbed or barren areas are areas that either completely lack vegetation or are dominated by ruderal species. Ruderal vegetation typically found onsite includes non-native grasses and a high proportion of weedy species, including tree tobacco, mustard, and thistle species. This includes compacted paved roads and graded lots.

FIGURE 3.9
DISTURBED

TABLE 3.1
ACREAGE OF DIRECT IMPACTS TO HABITAT TYPES ON THE PROJECT SITE

Habitat	Survey Area
Avena barbata alliance	2.458
Disturbed habitat	0.320
Juniper	0.018
Mulefat scrub alliance	0.004
Pepper trees	0.101
TOTAL (acres)	**2.900**

FIGURE 3.10

Vegetation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

0 100 Feet

3.5 Soils

The soil series mapped for the area are shown in Figure3.11. The soils found are similar in texture and color to those mapped, but were highly disturbed from grading activities. The soils were compacted and unstratified over the majority of the project site. The soils at soil pit locations did not meet the NTCHS criteria for hydric soils within project boundaries.

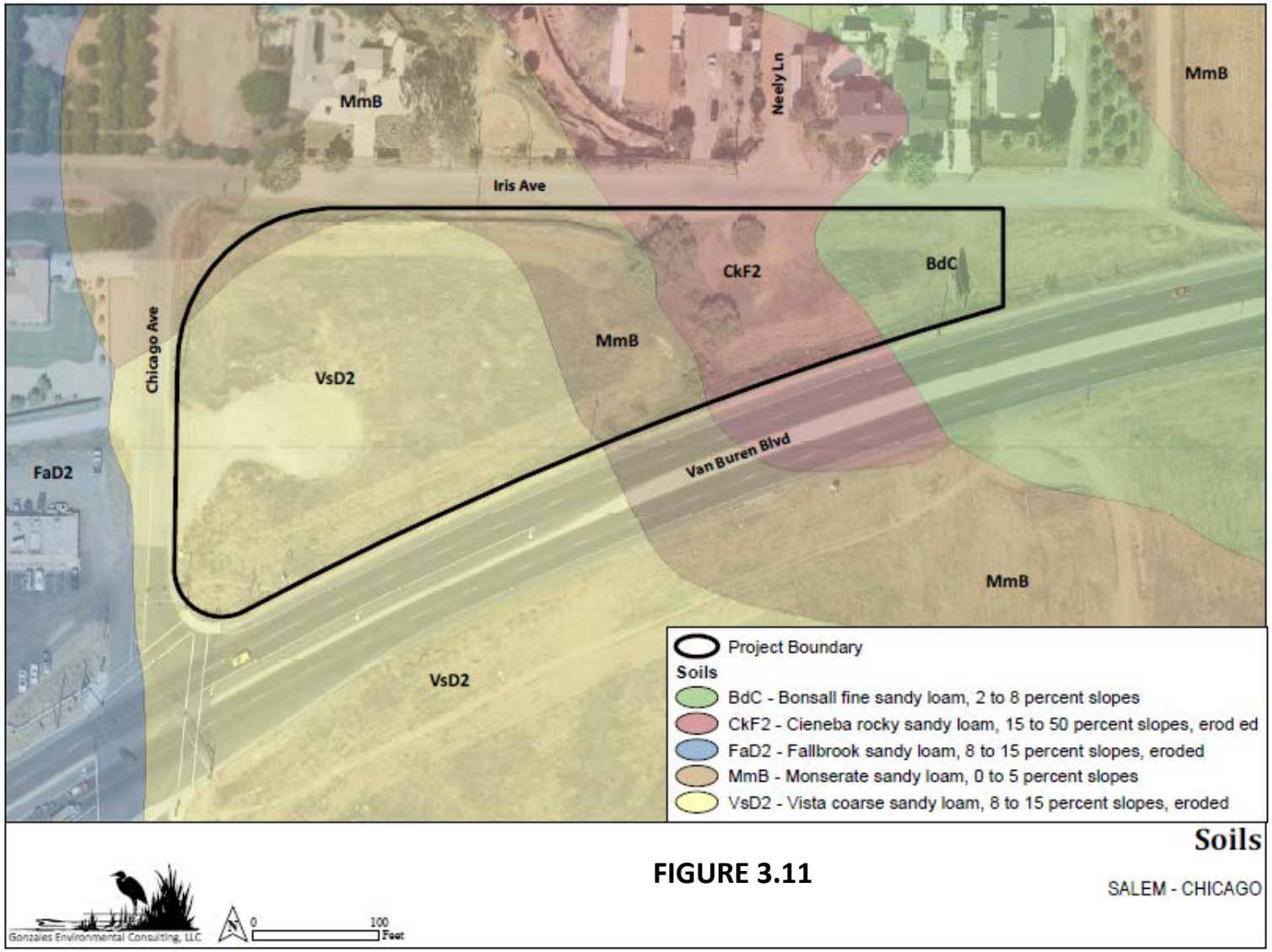


FIGURE 3.11

Soils

SALEM - CHICAGO

4. DELINEATION OF WATERS OF THE UNITED STATES

4.1 Regulatory Background

On May 27, 2015, the U.S. Environmental Protection Agency and Army Corps of Engineers issued their Clean Water Rule, defining the term "waters of the United States" (WOTUS) for purposes of Clean Water Act jurisdiction (Docket No. EPA-HQ-OW-2011-0880). The Agencies indicate that the rule defining WOTUS clarifies their jurisdiction to implement the Clean Water Act in the context of several US Supreme Court decisions. The final rule can be found in the June 29, 2015 issue of the Federal Register (Vol. 80, No. 124, pp. 37054-37127; http://www.regulations.gov/#%21documentDetail;D=EPA-HQ-OW-2011-0880-20862) and became effective on August 28, 2015. A stay was issued on the rule and it is not currently in effect.

The Rule creates three classifications of waters: (1) waters that are jurisdictional in all instances by rule (categorical WOTUS); (2) waters that are subject to case-specific analysis to determine jurisdiction; and, (3) waters that are excluded from jurisdiction by rule.

Six categories of waters are designated as jurisdictional by rule:

1. Traditional navigable waters ("All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide")
2. All interstate waters, including interstate wetlands
3. The territorial seas
4. All impoundments of waters otherwise identified as WOTUS
5. All tributaries, as defined in the final rule
6. All waters adjacent to one of the above water features, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters

The Rule acknowledges that the great majority of tributaries as defined by the Rule are headwater streams. Ditches also will be jurisdictional if they meet the definition of "tributary" and are not excluded.
"Adjacent" waters includes those "bordering, contiguous, or neighboring" categories 1 through 4 above, even if separated from those waters by "constructed dikes or barriers, natural river berms, beach dunes and the like."

"Neighboring" waters include those located in whole or part within the 100-year floodplain and that are within 1500 feet of the ordinary high water mark of traditional navigable water, interstate water, territorial sea, impoundment, or a tributary.

The preamble of the Rule states that "adjacent waters" do not include waters subject to established normal farming, silviculture, and ranching activities as those terms are used in Section 404(f) of the Clean Water Act.

"Other waters" determined on a case-specific basis to have a "significant nexus" to traditional navigable water, interstate water, or territorial sea also will be jurisdictional. The Rule identifies five specific types of other waters for which there is no need for a case-specific finding and,

therefore, they should be analyzed "in combination" (as a group, rather than individually) when determining if they are jurisdictional:

- Prairie potholes
- Carolina bays and Delmarva bays
- Pocosins
- Western vernal pools
- Texas coastal prairie wetlands

The Clean Water Rule also indicates that waters within the 100-year floodplain of traditional navigable water, interstate water, or the territorial seas, or within 4,000 feet of an ordinary high water mark may have a significant effect on downstream waters. These waters should be evaluated individually or in combination to determine if they are jurisdictional.

Several waters and features are excluded from jurisdiction in the Clean Water Rule, even if they otherwise qualify for jurisdiction under the tributary, adjacent, or other waters categories discussed above. Examples include prior converted cropland, waste treatment systems, and log ponds. The Rule states that it retains existing exclusions from the definition of WOTUS, and that "several exclusions reflecting longstanding agency practice are added to the regulation for the first time."

Definitions:

> (4) Wetlands. The term wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that, under normal circumstances, do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
>
> (1) Adjacent. The term adjacent means bordering, contiguous, or neighboring a water identified in paragraphs (a)(1) through (5) of this section, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. For purposes of adjacency, an open water such as a pond or lake includes any wetlands within or abutting its ordinary high water mark. Adjacency is not limited to waters located laterally to a water identified in paragraphs (a)(1) through (5) of this section. Adjacent waters also include all waters that connect segments of a water identified in paragraphs (a)(1) through (5) or are located at the head of a water identified in paragraphs (a)(1) through (5) of this section and are bordering, contiguous, or neighboring such waters. Waters being used for established normal farming, ranching, and silviculture activities (33 U.S.C. 1344(f)) are not adjacent. (The rule includes wetlands and other waters that meet the definition of adjacent, including "neighboring," which is defined separately. Only waters, not land, are adjacent. Within the definition of "adjacent," the terms bordering and contiguous are well understood, and the agencies will continue to interpret and implement those terms consistent with current policy and practice.)
>
> (7) High tide line. The term high tide line means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means

that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(6) Ordinary high water mark. The term ordinary high water mark means that line on the shore established by the fluctuations 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 area. ("Ordinary high water mark" sets the boundary of adjacent non-wetland waters (e.g., open waters such as lakes and ponds). Physical indicators of ordinary high water mark can be created by perennial, intermittent, and ephemeral flows.)

(2) Neighboring. The term neighboring means: (i) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark; (ii) All waters located within the 100- year floodplain of a water identified in paragraphs (a)(1) through (5) of this section and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100-year floodplain; (iii) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (a)(1) or (a)(3) of this section, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes. ("Neighboring" is the key determinant of whether a water is "adjacent," and thus jurisdictional by rule. Where the 100-year floodplain is greater than 1,500 feet, all wetlands within 1,500 feet of the tributary's ordinary high water mark are jurisdictional because they are "neighboring" to the tributary, regardless of the wetlands position relative to each other. Waters within the 100-year floodplain that are located more than 1,500 feet and up to 4,000 feet from the ordinary high water mark, or high tide line, are subject to case-specific significant nexus analysis under paragraph (a)(8).)

Riparian area omitted in the final rule because the agencies determined that the use of the riparian area was unnecessarily complicated and that as a general matter, waters within the riparian area will be within the 100-year floodplain.

(3) Tributary and tributaries. The terms tributary and tributaries each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (a)(4) of this section), to a water identified in paragraphs (a)(1) through (3) of this section that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark. These physical indicators demonstrate there is volume, frequency, and duration of flow sufficient to create a bed and banks and an ordinary high water mark, and thus to qualify as a tributary. A tributary can be a natural, man-altered, or man-made water and includes waters such as rivers, streams, canals, and ditches not excluded under paragraph (b) of this section. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there

are one or more constructed breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an ordinary high water mark can be identified upstream of the break. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if it contributes flow through a water of the United States that does not meet the definition of tributary or through a nonjurisdictional water to a water identified in paragraphs (a)(1) through (3) of this section. (This term has not previously been defined in any regulation or preamble. Bed and banks and ordinary high water mark (OHWM) are features that generally are physical indicators of flow. OHWM generally defines the lateral limits of a water. In many tributaries, the bed is that part of the channel below the OHWM, and the banks often extend above the OHWM. Man-altered and man-made tributaries perform many of the same functions as natural tributaries and provide connectivity between streams and downstream rivers.)

(8) Significant nexus. The term significant nexus means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (a)(1) through (3) of this section. The term "in the region" means the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. For an effect to be significant, it must be more than speculative or insubstantial. Waters are similarly situated when they function alike and are sufficiently close to function together in affecting downstream waters. For purposes of determining whether or not a water has a significant nexus, the water's effect on downstream (a)(1) through (3) waters shall be assessed by evaluating the aquatic functions identified in paragraphs (A) through (I) of this paragraph. A water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest water identified in paragraphs (a)(1) through (3) of this section. Functions relevant to the significant nexus evaluation are the following: (i) Sediment trapping, (ii) Nutrient recycling, (iii) Pollutant trapping, transformation, filtering, and transport, (iv) Retention and attenuation of flood waters, (v) Runoff storage, (vi) Contribution of flow, (vii) Export of organic matter, (viii) Export of food resources, and (ix) Provision of life cycle-dependent aquatic habitat (such as foraging, feeding, nesting, breeding, spawning, or use as a nursery area) for species located in a water identified in paragraphs (a)(1) through (3) of this section. (In the final rule, the agencies list specific functions relevant to significant nexus evaluation to add clarity and transparency. A water does not need to perform all functions. If a water performs a single function that has significant impact on a downstream water, that is a significant nexus. Under the final rule, only waters covered by subparagraph (a)(7) or (a)(8) require case-specific analysis.)

Notes: The proposed rule that was announced on March 25, 2014, was published in the Federal Register on April 21, 2014 (79 Federal Register 22188-22274). The final revised rule was announced jointly by EPA and the Army Corps on May 27, 2015, and was published in the Federal Register on June 29: Department of the Army, Corps of Engineers, and Environmental Protection Agency, "Clean Water Rule: Definition of 'Waters of the United States,' Final Rule," 80 Federal Register 37054-37127, June 29, 2015. a. 33 C.F.R. 328.3, 40 C.F.R. 122.2, 40 C.F.R. 230.3, and 40 C.F.R. 232.2 (definition of "waters of the United States"). The term "navigable waters" is defined

at 40 C.F.R. 110.1 (Discharge of Oil); 40 C.F.R. 112.2 (Oil Pollution Prevention); 40 C.F.R. 116.3 (Designation of Hazardous Substance); 40 C.F.R. 117.1(i) (Determination of Reportable Quantities for Hazardous Substances); 40 C.F.R. 300.5 and Appendix E 1.5 to Part 300 (National Oil and Hazardous Substances Pollution Contingency Plan); and 40 C.F.R. 302.3 (Designation, Reportable Quantities, and Notification). b. Comments in this table are drawn from the preamble and text of the final rule. c. The term "prior converted cropland" is included in the U.S. Department of Agriculture's administrative definition of the term "wetland" (see 7 C.F.R. 12.2). d. A definition of "waste treatment system" is found in EPA regulations (35 C.F.R. 35.905): "Complete waste treatment system. A complete waste treatment system consists of all of the treatment works necessary to meet the requirements of title III of the Act, involved in (a) The transport of waste waters from individual homes or buildings to a plant or facility where treatment of the waste water is accomplished; (b) the treatment of the waste waters to remove pollutants; and (c) the ultimate disposal, including recycling or reuse, of the treated waste waters and residues which result from the treatment process. One complete waste treatment system would, normally, include one treatment plant or facility, but also includes two or more connected or integrated treatment plants or facilities." e. Probably should be "(i) through (ix) of this paragraph."

4.2 Methods

The starting point for this study was a field trip to the project site in 2019. For this study the "Routine Onsite Determination Method" data forms were used, onto which recorded information or otherwise compiled notes regarding the descriptive physical and biological attributes from the area. From a combination of field experience, references, assistance from others, and reconnaissance trips information resources were compiled from which the jurisdictional determinations have been made. Photographs were taken on each visit, some of which are included in this document. Field notes and photographs were arranged by date.

The routine approach (potential problem area) was utilized on this project, with on-site determination based on the three parameters of dominant plant species, soil characteristics, and hydrologic characteristics of the area.

Data sources used:
a. USGS quadrangle maps
b. Soil Surveys
c. Aerial photos
d. State list of hydric soils
e. National Wetland Plant List 2017
f. Munsell Soil Charts

The following steps were performed:

1. Project area was identified and mapped on USGS quadrangle map.

2. Vegetation for the project area was summarized and identified utilizing transects and observation points.

3. Area soils were characterized and identified.

4. Hydrology data was gathered utilizing field hydrologic indicators and available data.

   In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters. Non-wetland waters of the U.S. are delineated based on the limits of the OHWM as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. RWQCB shares USACE jurisdiction, unless isolated conditions are present. In the presence of isolated conditions, RWQCB takes jurisdiction from the OHWM and/or the 3—parameter wetland methodology utilized by the USACE. CDFW takes jurisdiction defined to the top of the bank of the stream/channel or to the extreme limits of the adjacent riparian vegetation (drip line).

   GEC wetland/streambed biologists Teresa Gonzales and Paul Gonzales visited the site during January 2019 to conduct a delineation of potentially jurisdictional waters utilizing the methodology described below.

4.2.1 Federal Delineation Methods-Non-Wetland Waters of the U.S.

Potential jurisdictional features were evaluated prior to conducting the field assessment by using a series of current aerial photographs, detailed topographic maps, the available soils information, and the local and state hydric soil list (NRCS 2011a, 2011b). Additionally, prior to conducting the field assessment, transects (ranging from 0.15 to 0.5 miles in length) were drawn on a one-meter resolution aerial photograph. During the field assessment, points where these transects intercepted potentially jurisdictional waters were mapped on the aerial photographs or with a Garmin GPS unit. Field maps were digitized using Geographic Information System (GIS) technology and the total area of jurisdictional features was calculated.

Jurisdictional non-wetland “waters of the U.S.” were delineated based on the limits of the ordinary high water mark (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetation characteristics. Criteria used to aid in the determination of the limit and/or presence of the/an OHWM are presented below in Tables 4-1 and 4-2.

TABLE 4-1

POTENTIAL GEOMORPHIC INDICATORS OF ORDINARY HIGH WATER MARKS FOR THE ARID WEST

Potential Geomorphic OHWM Indicators		
(A) Below OHWM	**(B) At OHWM**	**(C) Above OHWM**
1. In-stream dunes 2. Crested ripples 3. Flaser bedding 4. Harrow marks 5. Gravel sheets to rippled sands 6. Meander bars 7. Sand tongues 8. Muddy point bars 9. Long gravel bars 10. Cobble bars behind obstructions 11. Scour holes downstream of obstructions 12. Obstacle marks 13. Stepped-bed morphology in gravel 14. Narrow berms and levees 15. Streaming lineations 16. Dessication/mud cracks 17. Armored mud balls 18. Knick Points	1. Valley flat 2. Active floodplain 3. Benches: low, mid, most prominent 4. Highest surface of channel bars 5. Top of point bars 6. Break in bank slope 7. Upper limit of sand-sized particles 8. Change in particle size distribution 9. Staining of rocks 10. Exposed root hairs below intact soil layer 11. Silt deposits 12. Litter (organic debris, small twigs and leaves) 13. Drift (organic debris, larger than twigs)	1. Desert pavement 2. Rock varnish 3. Clast weathering 4. Salt splitting 5. Carbonate etching 6. Depositional topography 7. Caliche rubble 8. Soil development 9. Surface color/tone 10. Drainage development 11. Surface relief 12. Surface rounding

TABLE 4-2
POTENTIAL VEGETATION INDICATORS OF ORDINARY HIGH WATER MARKS FOR THE ARID WEST

Potential Vegetation OHWM Indicators			
	(D) Below OHWM	**(E) At OHWM**	**(F) Above OHWM**
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation Annual herbs, hydromesic 6. ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominent 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric Ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

4.2.2 Federal Delineation Methods- Wetlands

This jurisdictional wetland delineation used a routine determination according to the methods outlined in the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) based on three wetland parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. Data on vegetation, hydrology, and soils were collected using the methods described below and, recorded on Wetland Determination Data Forms.

4.2.2.1 Vegetation

Plant species in each stratum (tree, sapling/shrub, herb, and woody vine) were ranked according to their canopy dominance (USACE 2008). Beginning with the species with the highest coverage, species that contributed to a cumulative coverage total of at least 50 percent and any species that comprised at least 20 percent of the total coverage for each stratum were recorded on the Field Data Sheets (50/20 Rule). The wetland indicator status was assigned to each dominant species using the *National Wetland Plant List* (National Wetlands Inventory, 2012). If greater than 50 percent of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for

wetland vegetation was considered to be met. The following indicator plant status categories were used:

- Obligate Wetland (OBL): Plants that occur almost always (estimated >99%) in wetlands under natural conditions, but which may also occur rarely (estimated <1% in non- wetlands (i.e., cat—tails or pickleweed).
- Facultative Wetland (FACW): Plants that occur usually (estimated 67-99%) in wetlands, but also occur (estimated 1-33%) in none—wetlands (i.e., mulefat or willow).
- Facultative (FAC): Plants with similar likelihood (estimated 33-67%) of occurring in both wetlands and none—wetlands.
- Facultative Upland (FACU): Plants that occur sometimes (estimated 1-32%) in wetlands, but occur more often (estimated 67-99%) in non-wetlands.
- Obligate Upland (UPL): Plants that occur rarely (estimated <1%) in wetlands, but occur almost always (estimated >99%) in none—wetlands under natural conditions.

4.2.2.2 Hydrology

The potential presence of wetland hydrology was evaluated by recording the extent of observed primary and secondary indicators (USACE, 2008). Indicators such as, but not limited to, surface water or saturated soils (both Group A indicators) were recorded if observed. The Arid West Supplement includes two additional indicator groups that can be used during dry conditions or in areas where surface water/saturated soils are not present including Group B (evidence of recent inundation) and Group C (evidence of recent soil saturation) (USACE, 2008). The indicators are divided into two categories (primary and secondary indicators) and the presence of one primary indicator from any of the groups is considered evidence of wetland hydrology. These indicators are intended to be one-time observations of site conditions representing evidence of wetland hydrology when hydrophytic vegetation and hydric soils are present (USACE, 2008).

TABLE 4-3
WETLAND HYDROLOGY INDICATORS *

Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	

* Based on 1987 USACE Manual and Related Guidance Documents

TABLE 4-4
WETLAND HYDROLOGY INDICATORS FOR THE ARID WEST*

	Primary Indicator (*any one indicator is sufficient to make a determination that wetland hydrology is present*)	**Secondary Indicator** (*two or more indicators are required to make a determination that wetland hydrology is present*)
Group A – Observation of Surface Water or Saturated Soils		
A2 - High Water Table		
Group B – Evidence of Recent Inundation		
81-Water Marks		**X** (Riverine)
82-Sediment Deposits		**X** (Riverine)
83-Drift Deposits		**X** (Riverine)
86-Surface Soil Cracks	**X**	
87 - Inundation Visible on Aerial Imagery	**X**	
89-Water-Stained Leaves	**X**	
810-Drainage	**X**	**X**
811-Salt Crust		
812-8iotic Crust		
Group C – Evidence of Current or Recent Soil Saturation		
C2 - Dry-Season Water Table		
C9 - Saturation Visible on Aerial Imagery		**X**
Group D – Evidence from other Site Conditions or Data		
D3 - Shallow Aquitard		
D5 - FAC-Neutral Test		**X**

4.2.2.3 Soils

Soils are Hanford-Tujunga-Greenfield association: Very deep, well-drained to excessively drained, nearly level to moderately steep soils that have a surface layer of sand to sandy loam; on alluvial fans and flood plains. Data from observations of on-site soil characteristics were used as the basis for evaluating whether hydric/wetland soils are present on the site.

TABLE 4-5
FIELD INDICATORS OF HYDRIC SOIL CONDITIONS*

a. Terrace Escarpments
b. Histic Epipedon
c. Stripped Matrix
d. Loamy Mucky Mineral

* Based on 1987 USACE Manual and Related Guidance Documents

Conditions Assessed from the Literature

Prior to onsite fieldwork, USGS topographic maps [El Casco, California 7.5' USGS topographic Quadrangle], National Resource Conservation Service Hydric Soils List for California (2018), local precipitation data, hydrological information and relevant literature (complete listing is found under References for this report) were reviewed.

USGS 7.5' Topographic Quadrangle- Riverside East, California: Elevation of the assessment area ranges from a from a high of 1584± feet above mean sea level (msl) in the southern portion of the assessment area to a low of 1560± feet above msl towards the Iris Avenue portion of the assessment area. This represents an elevational change across the assessment area of 24± feet. The proposed project site is sloping to the north and northwest, depending on the location in the landscape.

Recent Aerial Photography: Aerial photography is from Google 2019.

Soil Survey: Natural Resources Conservation Service

Hydric Soils List of California: Natural Resources Conservation Service

All of the mapped features w ere further analyzed using Geographic Information Systems (GIS) software and high resolution aerial imagery. The total acreage of all potentially jurisdictional features occurring in the surrounding buffer was calculated using GIS software.

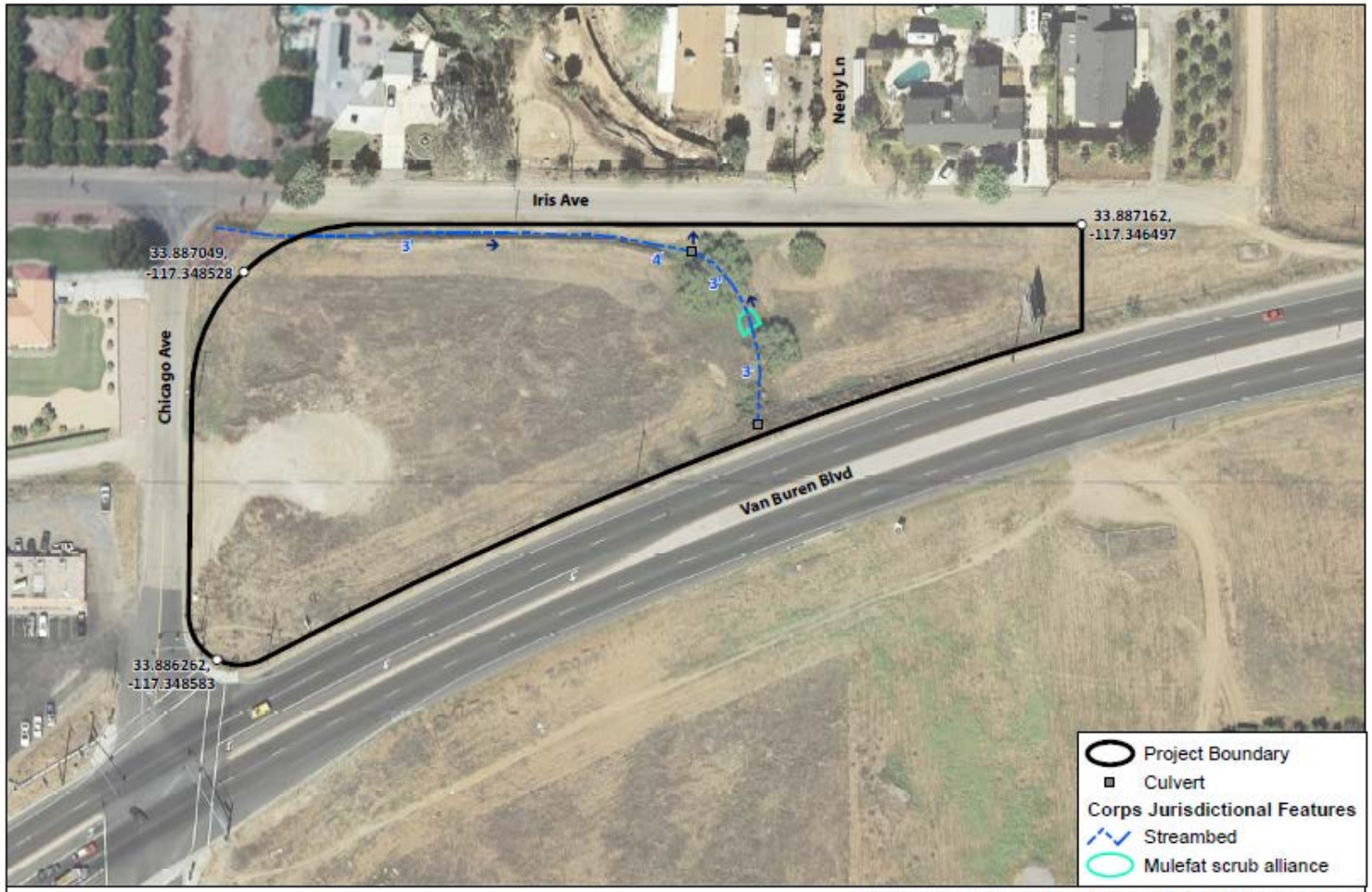
4.3 Results

GEC found federal waters of the U.S. Refer to Table 4-6 and Figure 4-1 for the locations and acreages of jurisdictional features.

Delineation studies found waters of the U.S. (WOUS) on the project site. 0.039 acre of WOUS were found on the project site.

TABLE 4-6
SUMMARY OF POTENTIAL USACE JURISDICTION BY HABITAT AND DRAINAGE

USACE Jurisdictional Delineation	Existing On-site	Linear Feet	Impacts	Impacts Linear feet
WOUS	0.039 acre	499 feet	0.008 acre	121 feet



Corps Jurisdictional Delineation

FIGURE 4.1

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

0 100 Feet

4.3.1 Summary of Potentially Federal Jurisdictional Impacts

Impacts were calculated and is shown in Table 4-6 and Figure 4-2.

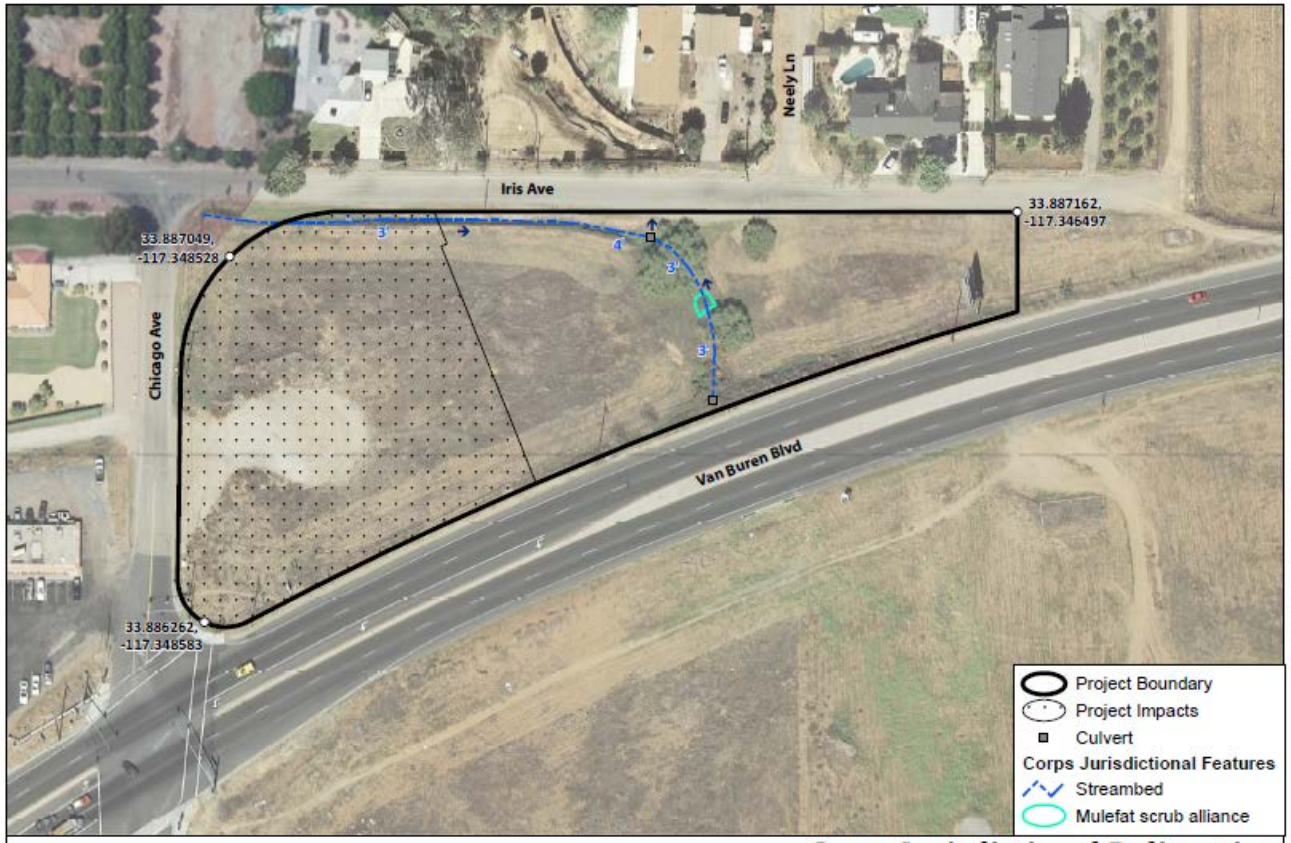


FIGURE 4.2

Corps Jurisdictional Delineation

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5. DELINEATION OF CDFW JURISDICTIONAL HABITATS

5.1 Regulatory Background

Fish and Game Code Chapter 6, Fish and Wildlife Protection and Conservation, Section 1600 *et seq.* was enacted to provide for the conservation of fish and wildlife resources associated with stream ecosystems. The FGC further defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities, including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45, and Division 2, Chapter 1, section 71 l.2(a), respectively). Fish means wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn or ova thereof (FGC, Division 5, Chapter 1, section 45).

For the purposes of implementing sections 1601 and 1603 of the FGC, California Code of Regulations Title 14, section 720 requires submission to the Department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, government agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed of any river, stream or lake designated by the Department, or will use material from the streambeds designated by the Department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which may have intermittent flows of water, are hereby designated for such purpose.

Division 2, Chapter 5, Article 6, Section 1600 *et seq.* of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events or seasonal changes in water flow. Accordingly, it has been the practice of the Department to define the stream channel as that area where water uniformly or habitually flows over a given course, and where the width of the watercourse can reasonably be defined. Thus, a channel is not defined by a specific flow event, nor by the path of surface water as this path might vary seasonally. Rather, it is the Departments practice to define the channel based on the topography or elevations of land that confine the water to a definite course when the waters of a creek rise to their highest point. To define jurisdictional boundaries otherwise would result in a morass of jurisdictional boundaries that differed from stream to stream, changed with variations in channel morphology along the same stream, or that shifted seasonally on any given stream along with seasonal changes in flow.

The Department's website has additional information regarding dryland streams in "A review of Stream Processes and Forms in Dryland Watersheds" at this location:http://www.dfg. ca.gov/habcon/1600/ 1600resources.html.

CDFG's definition of "lake" includes "natural lakes or man-made reservoirs."

Diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife, require authorization from CDFG by means of entering into an agreement pursuant to Section 1601 or 1603 of the Fish and Game Code.

5.2 CDFG Jurisdictional Waters

State-jurisdictional streambeds were delineated in the field concurrently with the delineation of non-wetland federal waters (Section 4.2.1, above). Prior to conducting field assessments, transects (ranging from 0.15 to 0.5 miles in length) were drawn on a one-meter resolution aerial photograph. During the field assessment, points where these transects intercepted potentially jurisdictional waters were mapped on the aerial photographs or with a Trimble GeoXT GPS unit. Field maps were digitized using GIS technology and the total area of jurisdictional features was calculated.

CDFW jurisdictional areas were calculated based on mapping episodic stream activity boundaries (MESA) or dripline of riparian vegetation, whichever was greater.

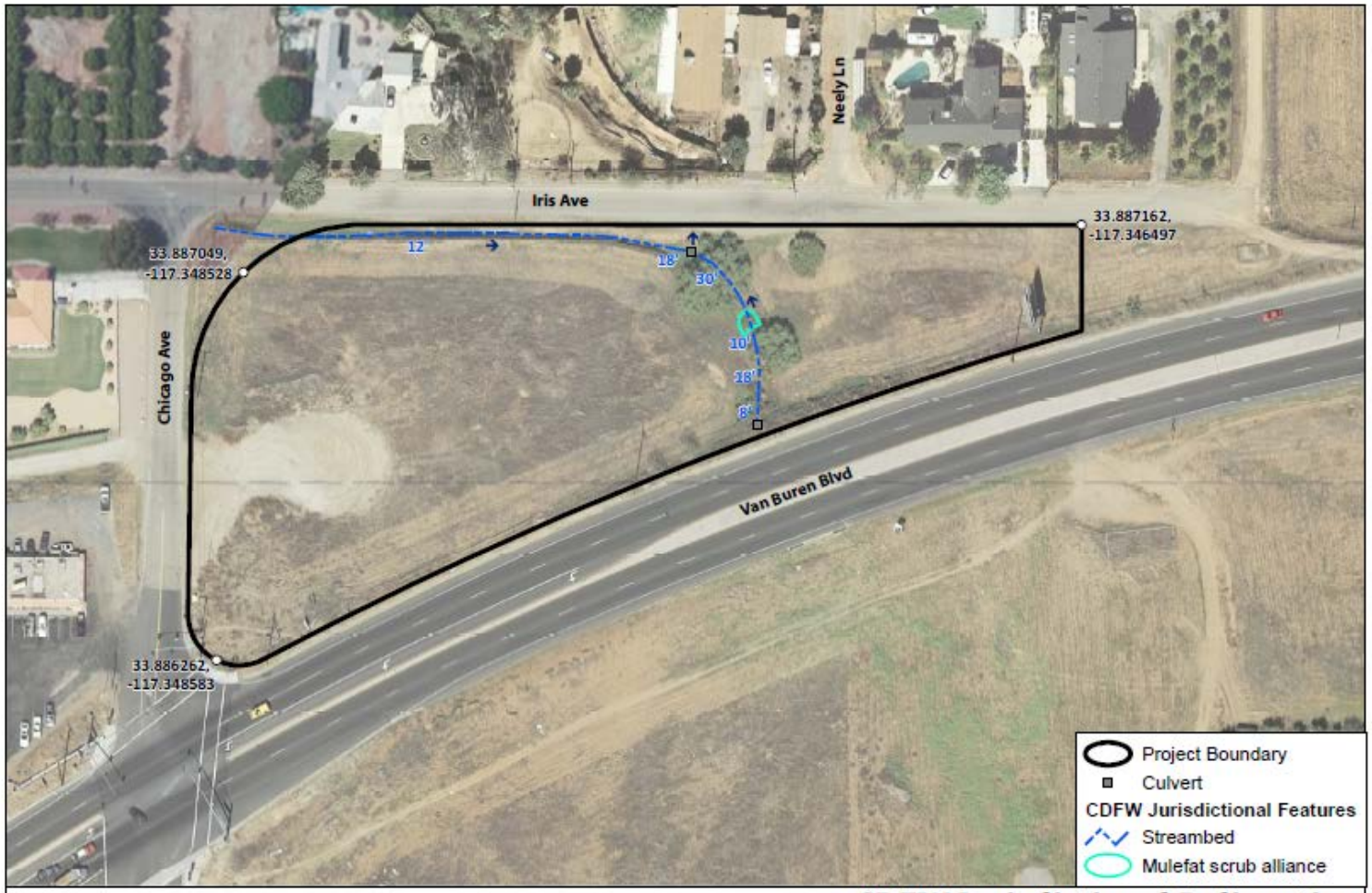
5.3 Results

GEC found CDFW jurisdictional wetlands and streambed on the project site. Refer to Table 5-1 and Figure 5-1 for the locations and acreages of jurisdictional features.

Delineation studies found 0.169 acres of streambed and 0.004 acre of Mulefat scrub alliance on the project site

TABLE 5-1
SUMMARY OF POTENTIAL CDFW JURISDICTION BY HABITAT

	Existing		Impacts	
CDFW Jurisdictional Delineation	**Existing On-site**	**Existing On-site (length in feet)**	**Impacts On-site**	**Impacts Off-site**
Streambed	0.165	499	0.033	121
Mulefat scrub alliance	0.004	0	0	0
TOTAL	**0.169**	**499**	**0.033**	**121**



CDFW Jurisdictional Delineation

FIGURE 5.1

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

0 100 Feet

5.3.1 Summary of Potentially CDFW Jurisdictional Impacts

Impacts were calculated and are shown in Table 5-1 and Figure 5-2.

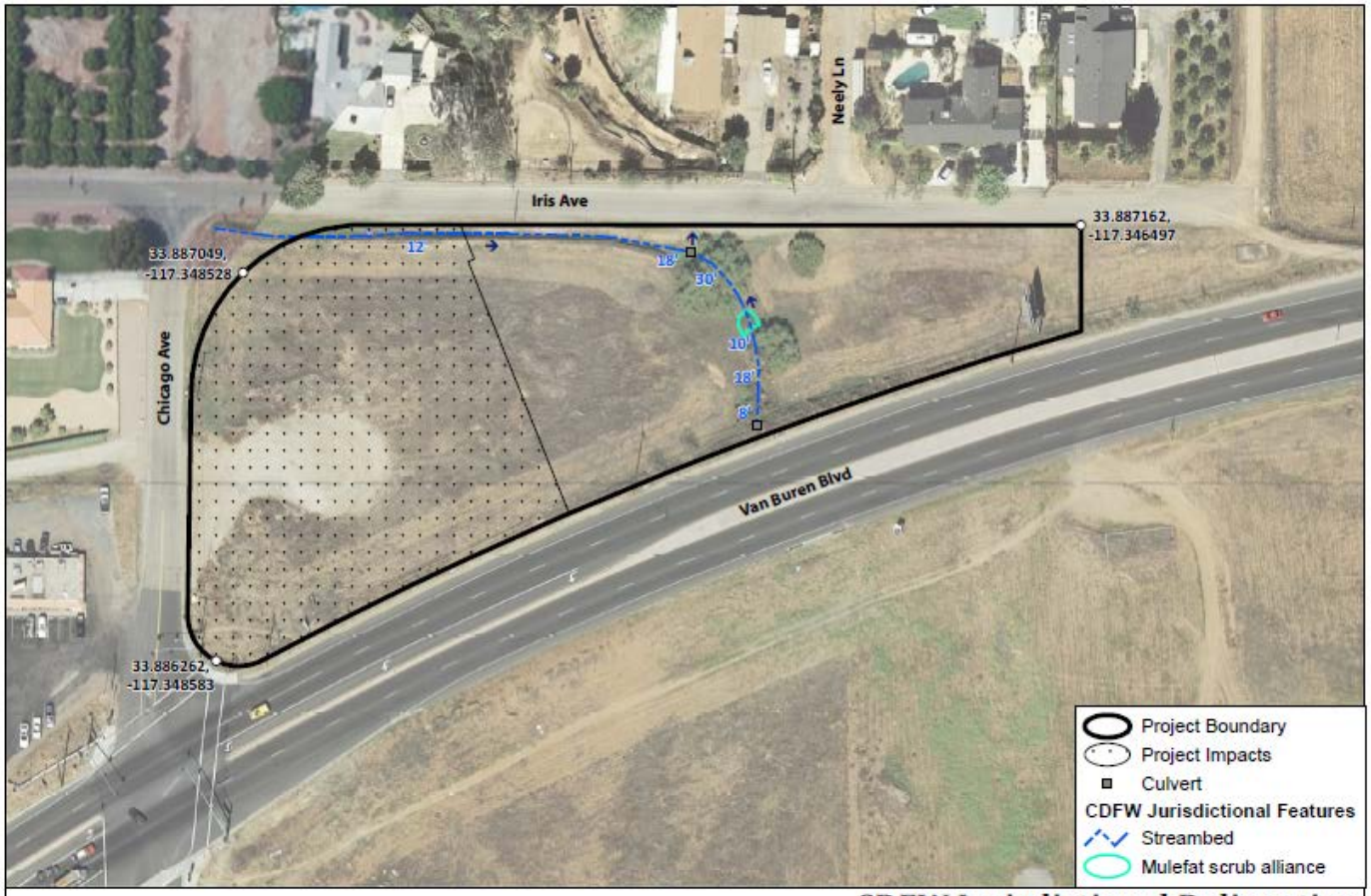


FIGURE 5.2

CDFW Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

0 100 Feet

6. MSHCP 6.1.2 RIVERINE & RIPARIAN HABITATS

6.1 Regulatory Background

Riverside County Multi-Species Habitat Conservation Plan (MSHCP)

Riverside County has reached the end of a comprehensive planning effort called the Riverside County Integrated Project (RCIP). RCIP integrates three regional planning efforts: 1) County General Plan, 2) Community and Environmental Transportation Acceptability Process to determine present and future roadway infrastructure, and 3) Multiple Species Habitat Conservation Plan (MSHCP) to conserve listed and sensitive species and their habitats. The final MSHCP was approved by the County Board of Supervisors on June 17, 2003.

The MSHCP is a comprehensive, multi-jurisdictional effort that includes portions of Western Riverside County and fourteen cities. Rather than deal with endangered species on a one-by-one basis, the MSHCP plans for the conservation of 146 species. The MSHCP proposes a reserve system of approximately 500,000 acres of which approximately 347,000 acres are currently within public ownership and 153,000 acres are currently in private ownership. The approved MSHCP is intended to contribute to the economic viability of the region by providing landowners, developers and those who build public infrastructure with regulatory certainty, a streamlined regulatory process and identified project mitigation.

The MSHCP has been adopted by the County, the Implementation Agreement signed, and federal/state permits have also been issued. Since the permits are granted, no further surveys for 75% of the 146 species covered by the MSHCP will be required. Habitat assessments and/or surveys may be undertaken within suitable habitat areas within specific areas, depending on Cell Group Criteria.

The project site is in Temescal Canyon Plan. Habitat assessment for burrowing owl is required.

Section 6.1.2

Section 6.1.2 of the MSHCP requires an assessment of the potentially significant effects of the proposed project on riparian/riverine areas, and vernal pools as currently required by CEQA using available information augmented by project-specific mapping. Riparian/riverine areas and vernal pools are defined as follows:

- **Riparian/Riverine Areas** are lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.

- **Vernal pools** are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses, to which it has been subjected, and weather and hydrologic records.

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

6.2 Section 6.1.2 Riverine and Riparian

Section 6.1.2 riverine and riparian were delineated in the field concurrently with the delineation of federal waters/wetlands and state wetlands/streambed (Sections 4.2.1 and 5.2 above). Prior to conducting field assessments, transects (ranging from 0.15 to 0.5 miles in length) were drawn on a one-meter resolution aerial photograph. During the field assessment, points where these transects intercepted potentially jurisdictional waters were mapped on the aerial photographs or with a Trimble GeoXT GPS unit. Field maps were digitized using GIS technology and the total area of jurisdictional features was calculated.

6.3 Functions and Values

The project site supports a minimally vegetated, ephemeral drainage and tributary. As required in MSHCP Section 6.1.2, the following is a discussion of the functions and values (hydrologic regime, flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, wildlife habitat, and aquatic habitat) of the MSHCP Riparian/Riverine areas in the study area.

Potential impacts to water quality could occur during construction and operation of the proposed project due to increased erosion and storm water runoff. However, construction BMPs would be implemented during construction of the proposed project to reduce impacts to water quality and beneficial water resource values.

As previously discussed, MSHCP 6.1.2 areas, United States Army Corps of Engineers potential jurisdictional areas, CDFW jurisdictional areas, and Regional Water Quality Control Board (RWQCB) jurisdictional areas are present on the site. The unnamed drainage has non-wetland waters (Riverine) and mulefat scrub (Riverine), as defined by the MSHCP. The unnamed drainage in this location has low functions and values for flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, and wildlife and aquatic habitat due to its small size, severe anthropogenic impacts, and lack of perennial or intermittent sources of water. Implementation of the proposed project would not result in significant impacts to natural and beneficial floodplain values.

No vernal pools were found on the project site.

6.4 Results

GEC found Section 6.1.2 riparian and riverine areas on the project site. Refer to Table 6-1 and Figure 6-1 for the locations and acreages of jurisdictional features.

Delineation studies found 0.165 acres of streambed (riverine) and 0.004 acres of mulefat alliance (riparian) on the project site.

TABLE 6-1
SUMMARY OF POTENTIAL SECTION 6.1.2 AREAS BY HABITAT

	Existing		Impacts	
6.1.2 (Riverine & Riparian)	**Acres**	**Linear feet**	**Acres**	**Linear feet**
Riverine	0.165	499	0.033	121
Riparian	0.004	0	0	0
TOTAL	**0.169**	**499**	**0.033**	**121**

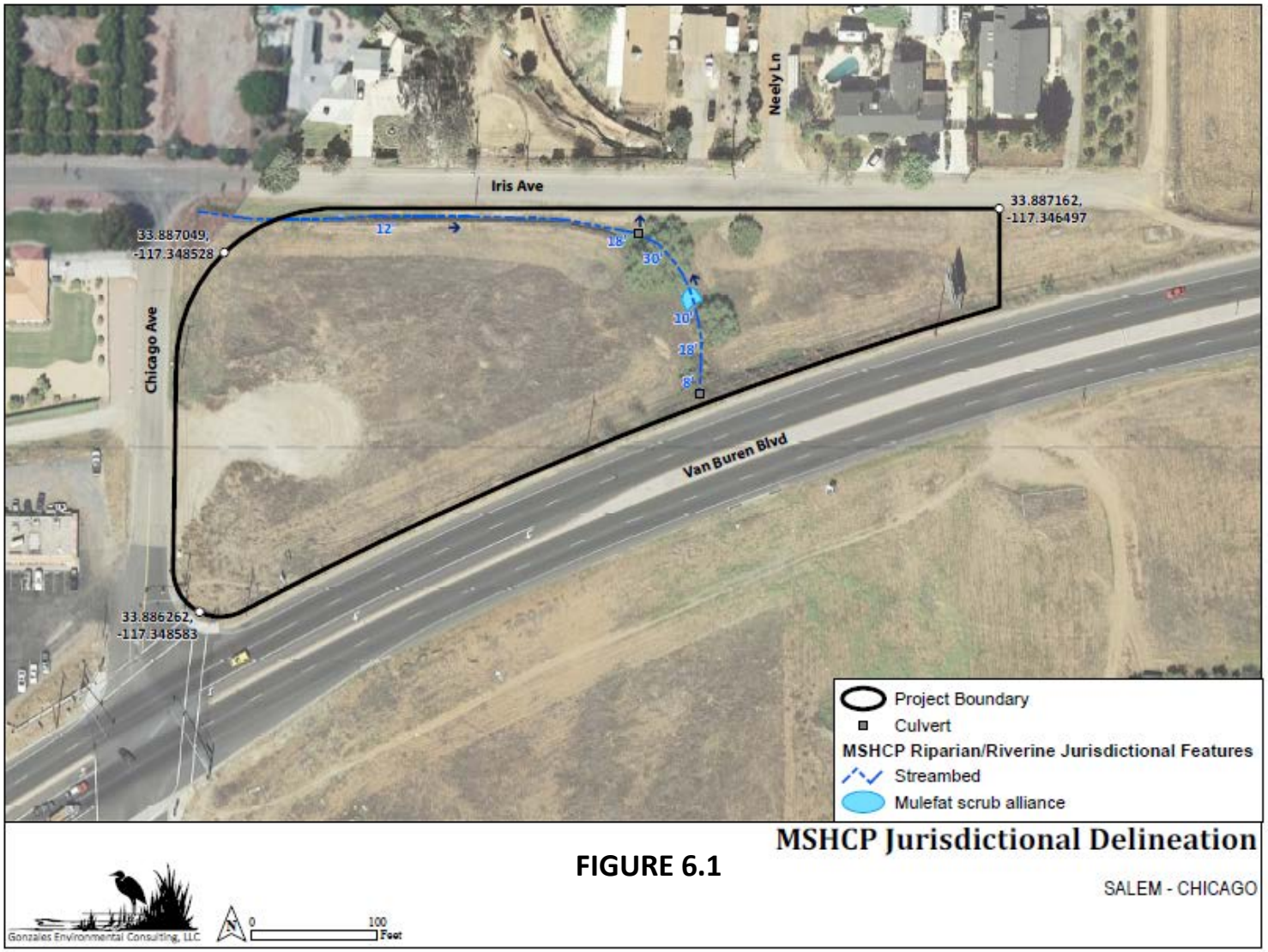


FIGURE 6.1

MSHCP Jurisdictional Delineation

SALEM - CHICAGO

6.4.1Summary of Potential Section 6.1.2 Impacts

Impacts were calculated and are shown in Table 6-1 and Figure 6-2.

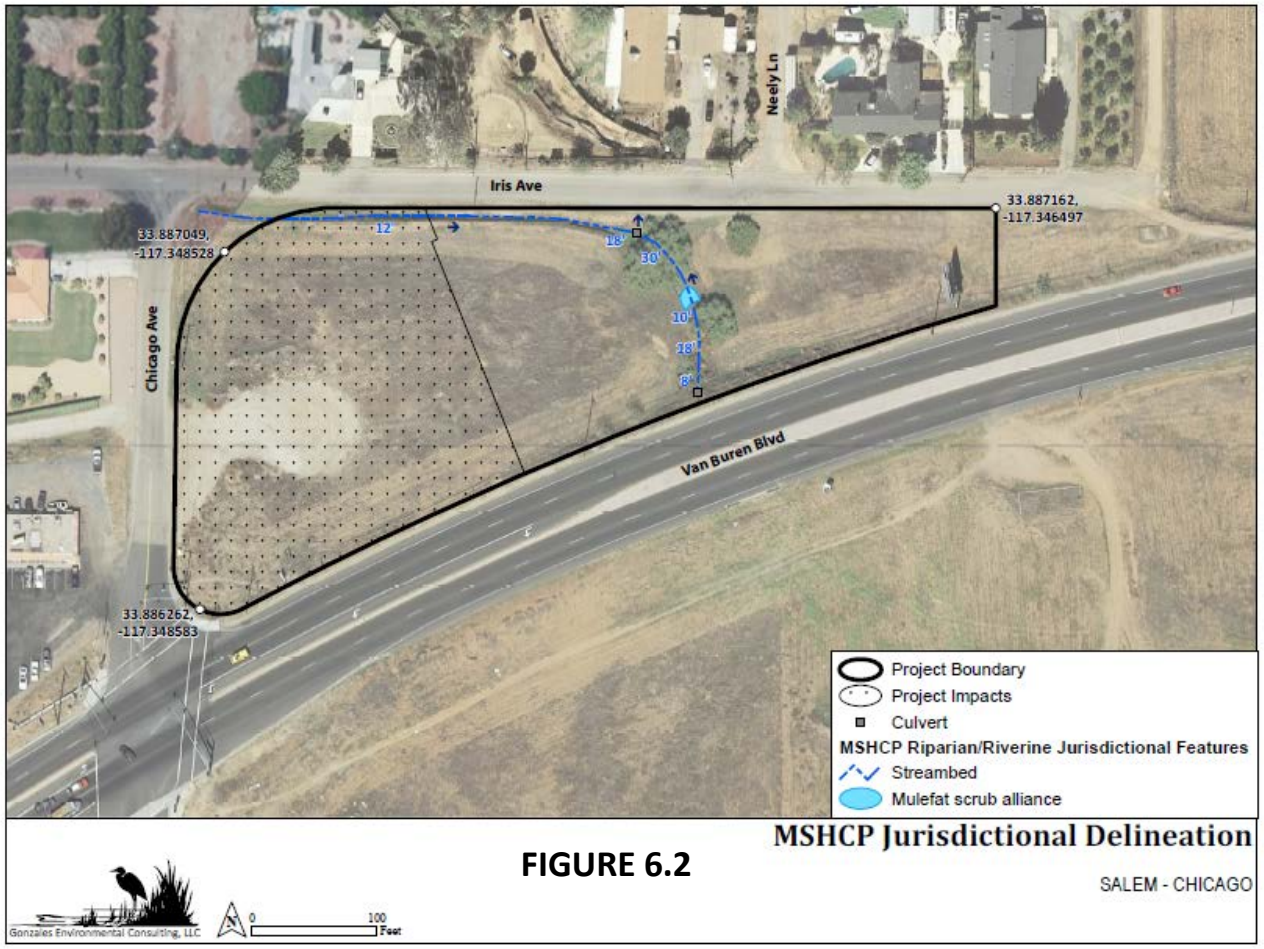


FIGURE 6.2

MSHCP Jurisdictional Delineation

SALEM - CHICAGO

7. PERMITS/AGREEMENTS

Permits/agreements needed

The area is under the jurisdiction of the California Department of Fish and Wildlife, U.S. Army Corps of Engineers and California Regional Water Quality Control Board. Permits/Agreements for activities within the streambed will be required by the California Department of Fish and Wildlife, U. S. Army Corps of Engineers and California Regional Water Quality Control Board. Final authority over the area rests with the appropriate agencies. U.S. Army Corps of Engineers has requested that the following statement be added to all delineations:

"This delineation/determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work."

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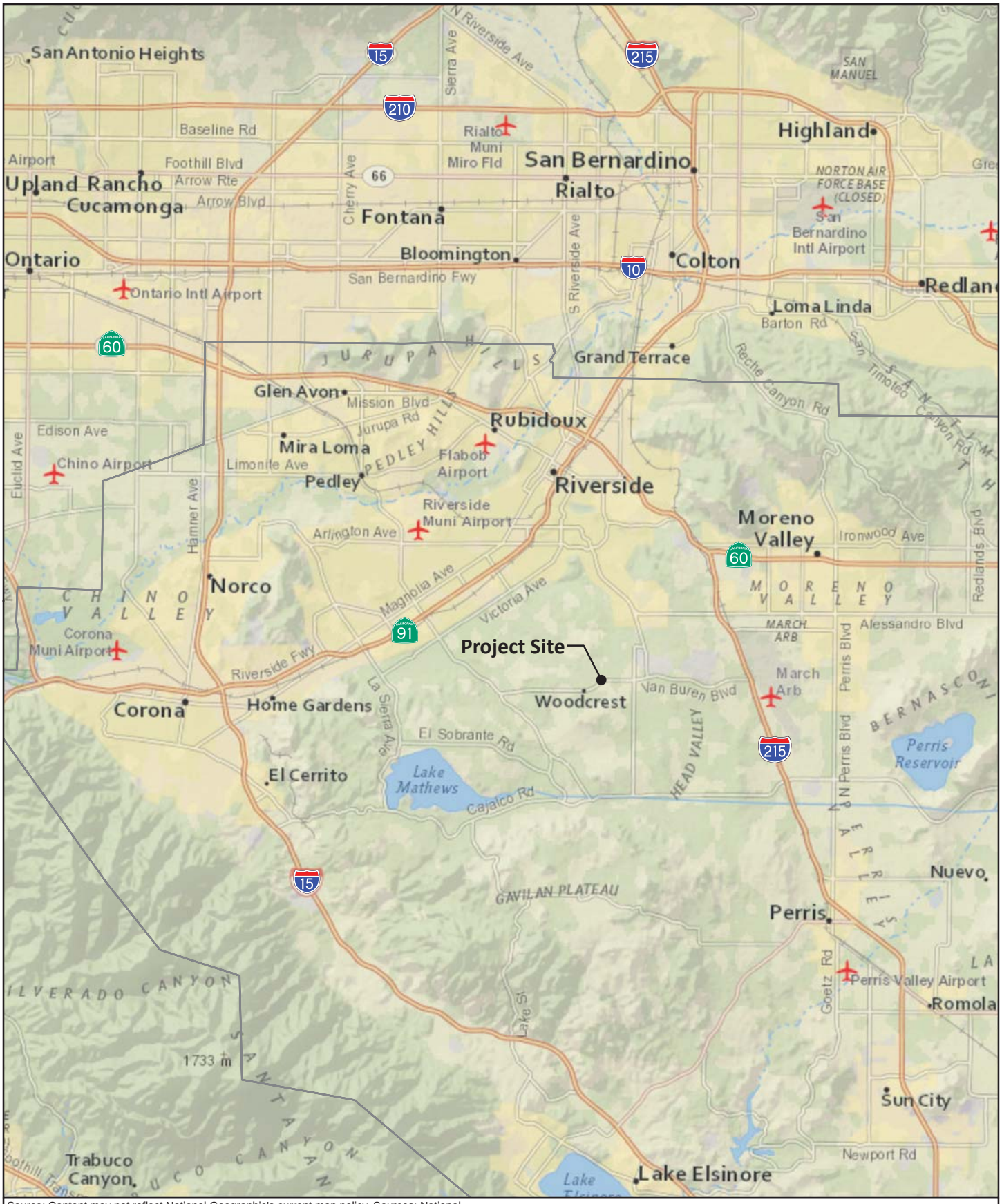
APPENDIX A

Regional, USGS, Vegetation Mapping



Source: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Regional Map

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

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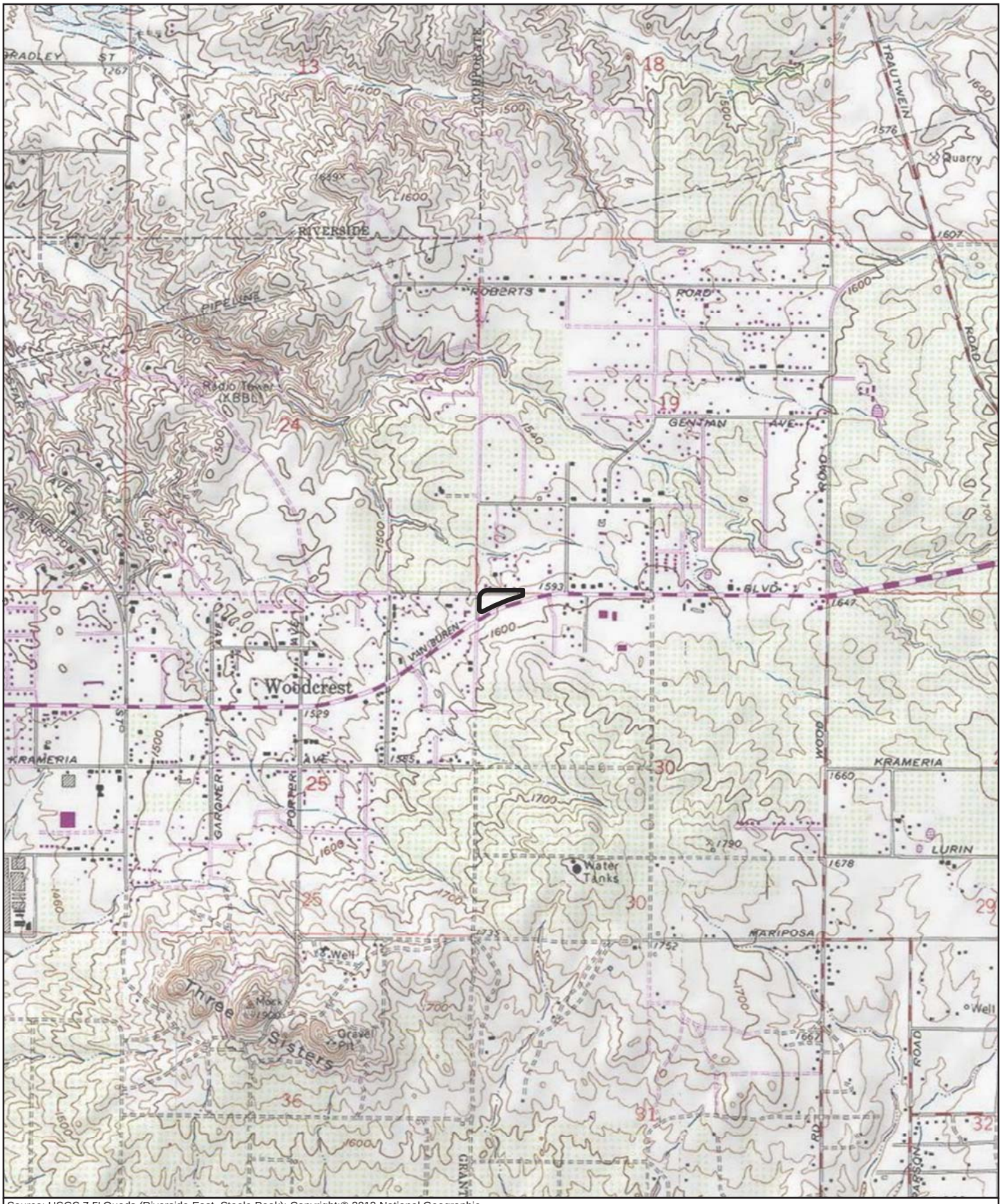


Source: USGS 7.5' Quads (Riverside East, Steele Peak); Copyright:© 2013 National Geographic Society, i-cubed

USGS Topo

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 2,000 Feet

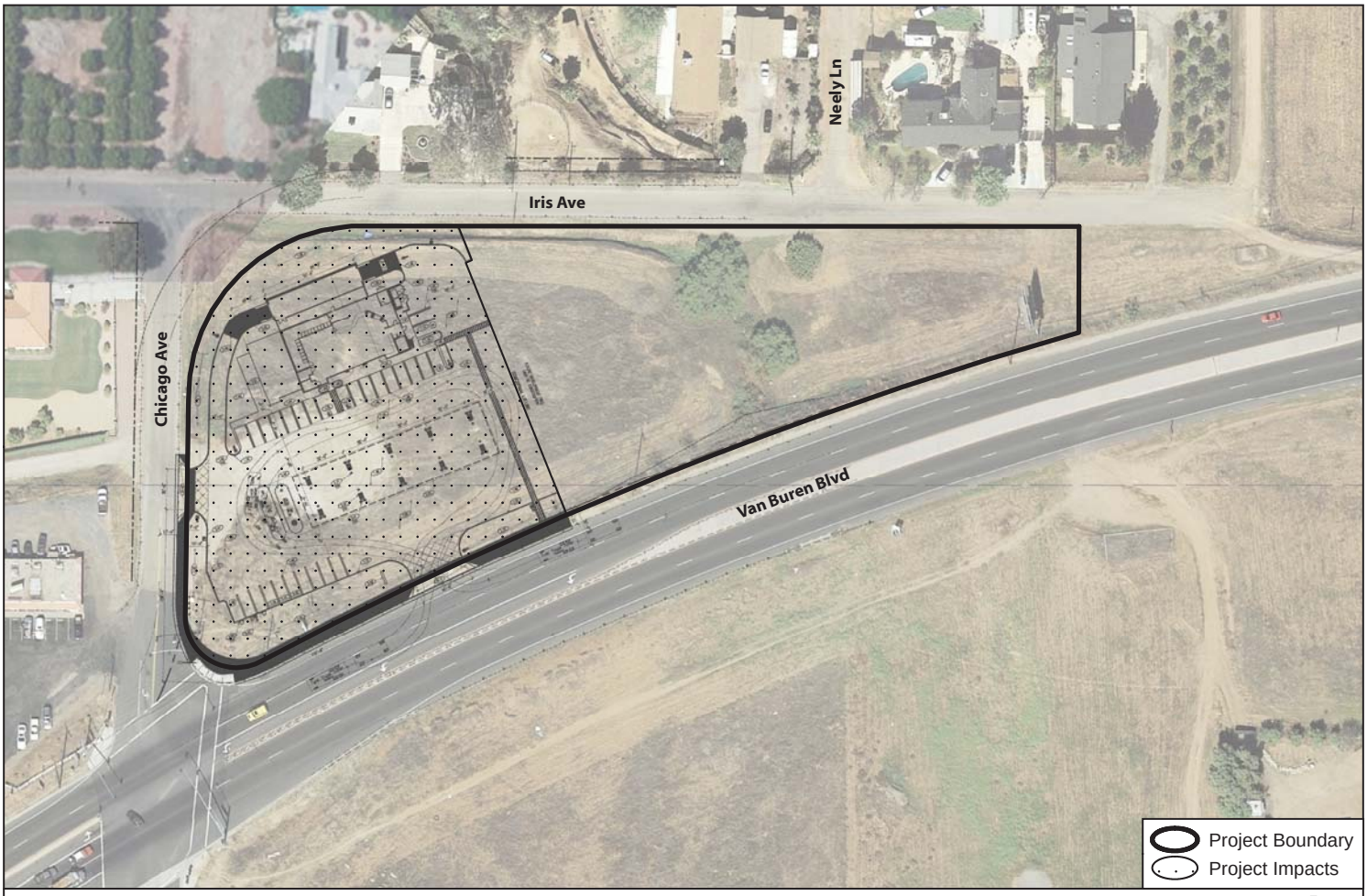
Aerial Photograph

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N

0 100 Feet



Site Plan

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N

0 100 Feet

Vegetation

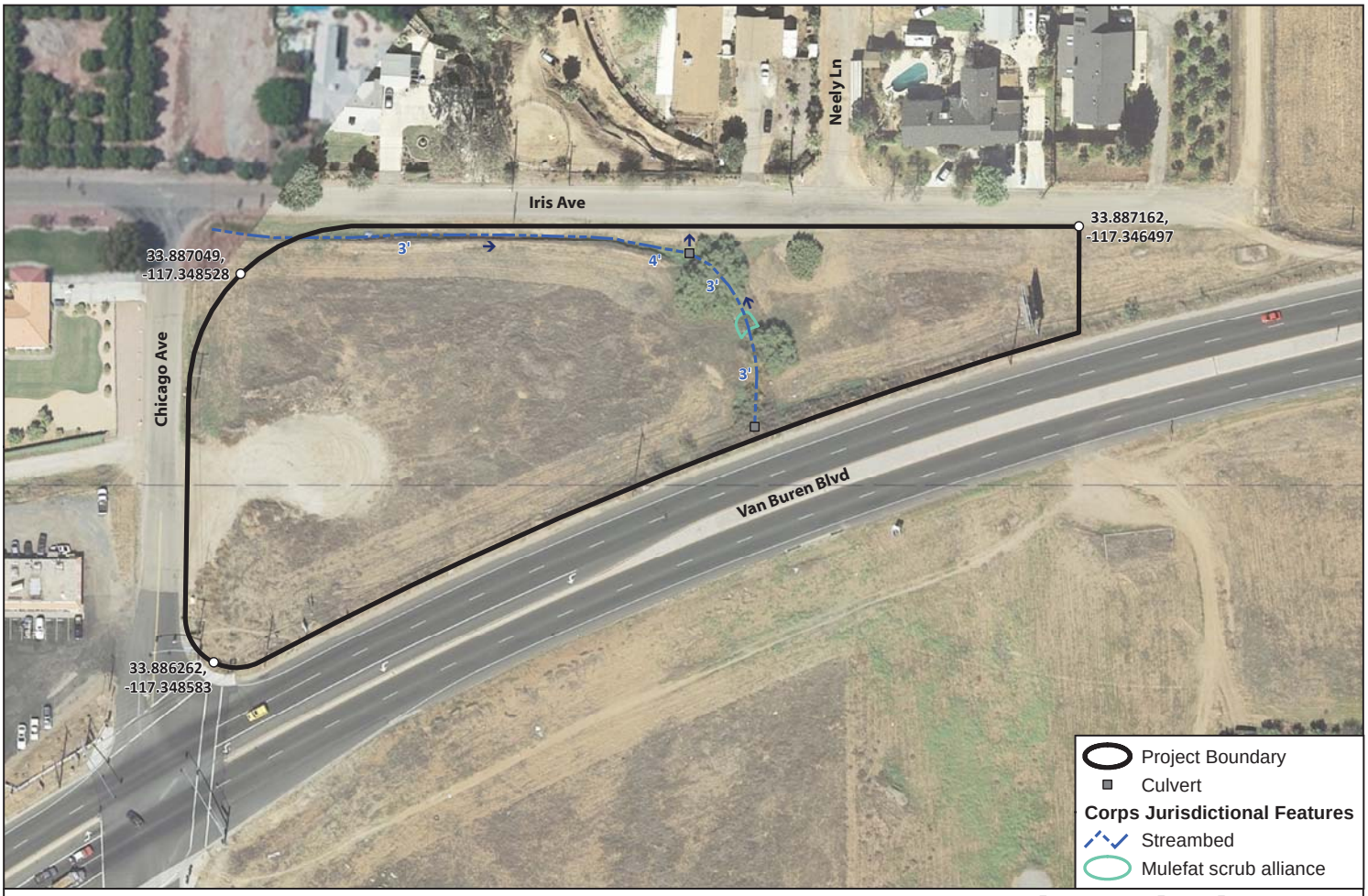
SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 100 Feet

APPENDIX B

USACE, CDFW & MSHCP 6.1.2 MAPPING



Corps Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

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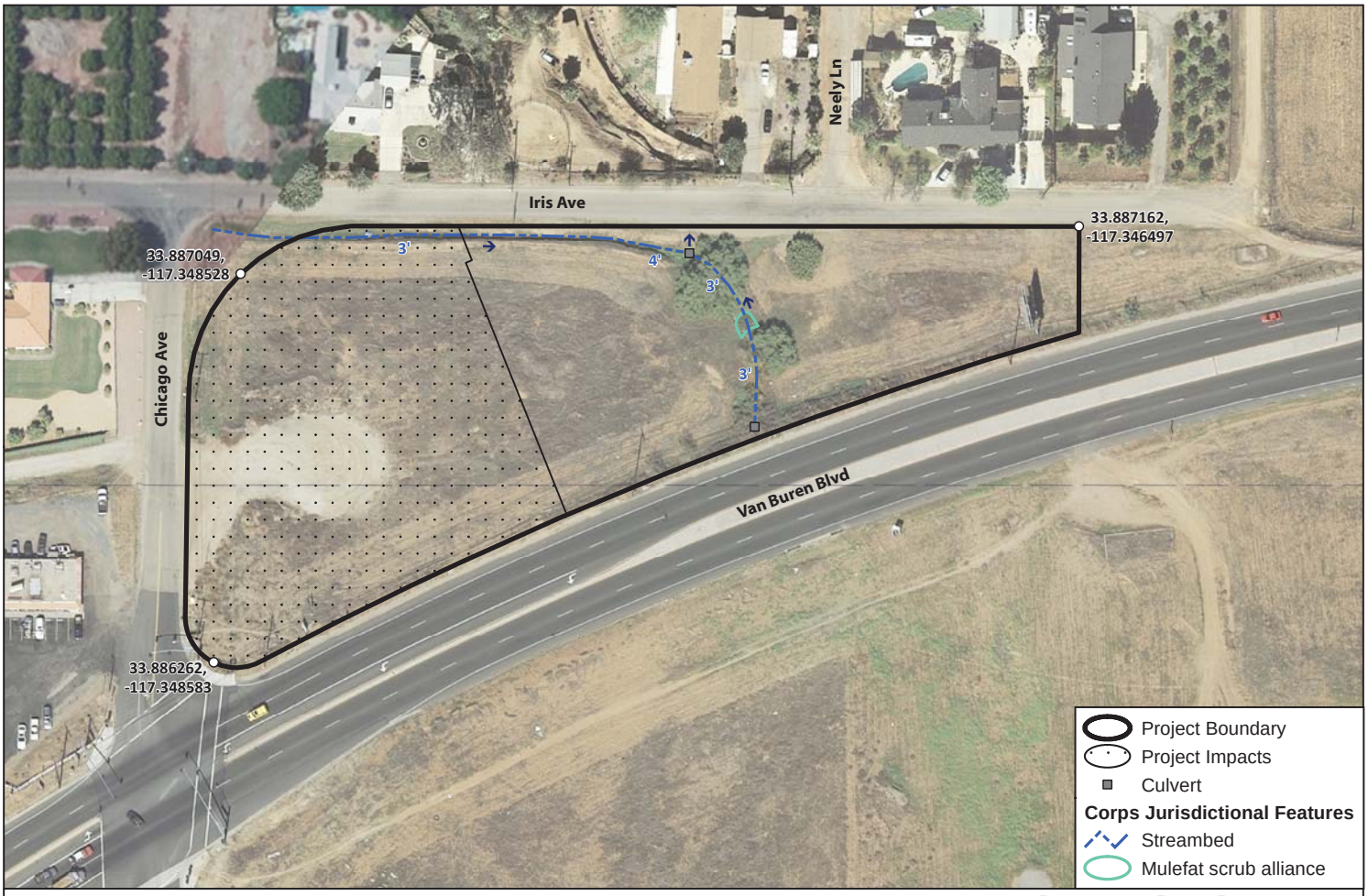
0 100 Feet



Corps Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

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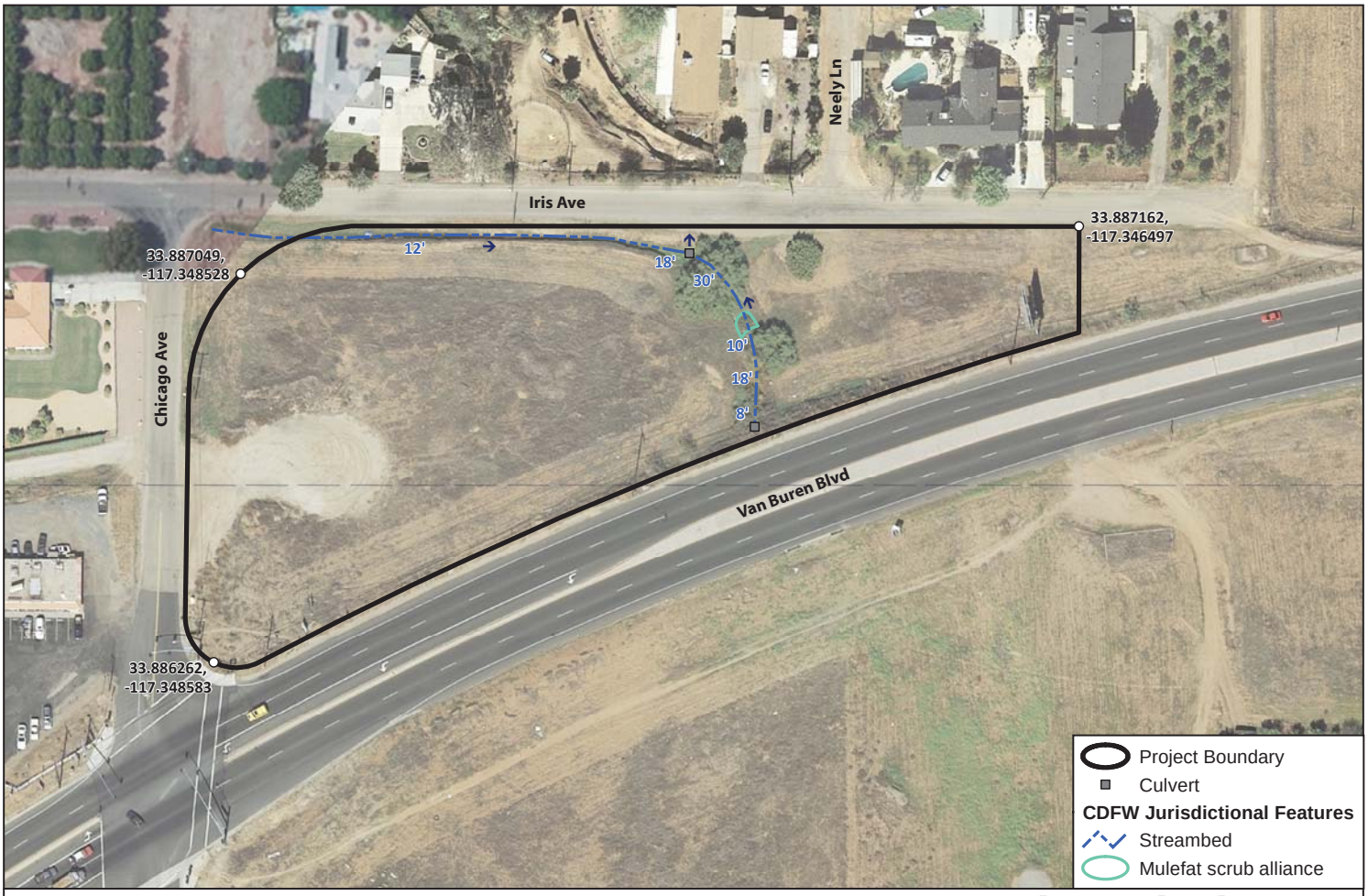

CDFW Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

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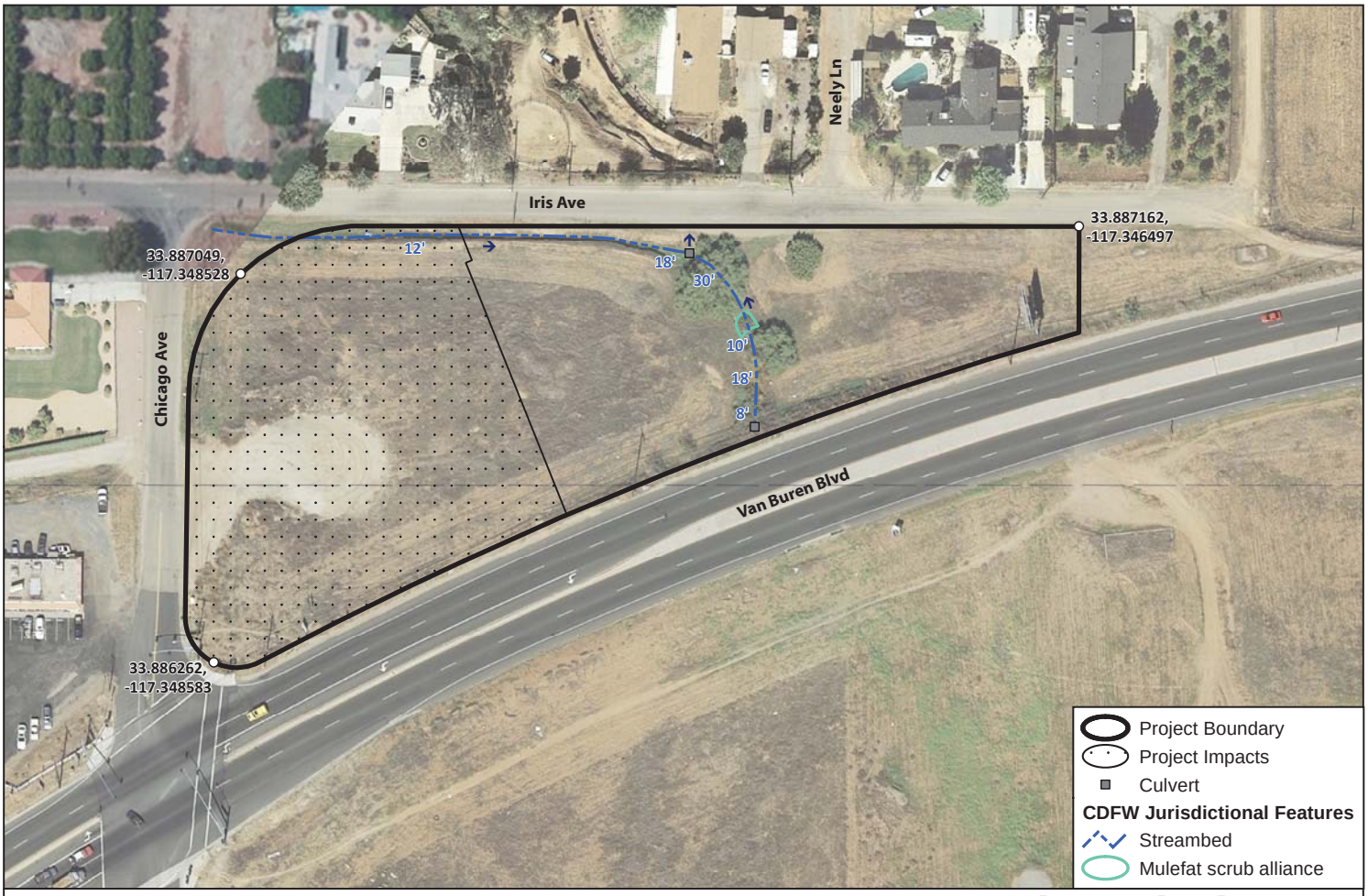

CDFW Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

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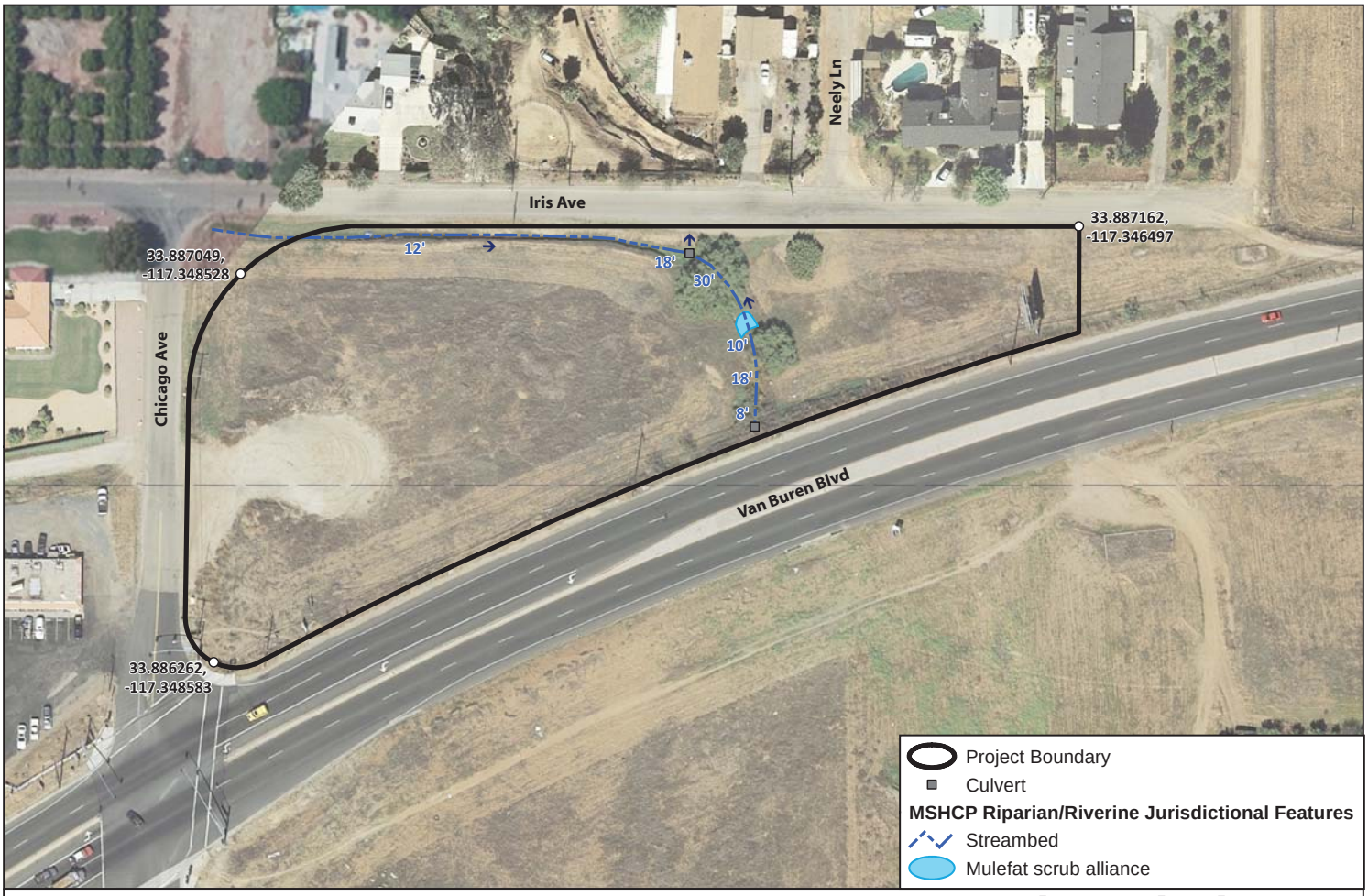
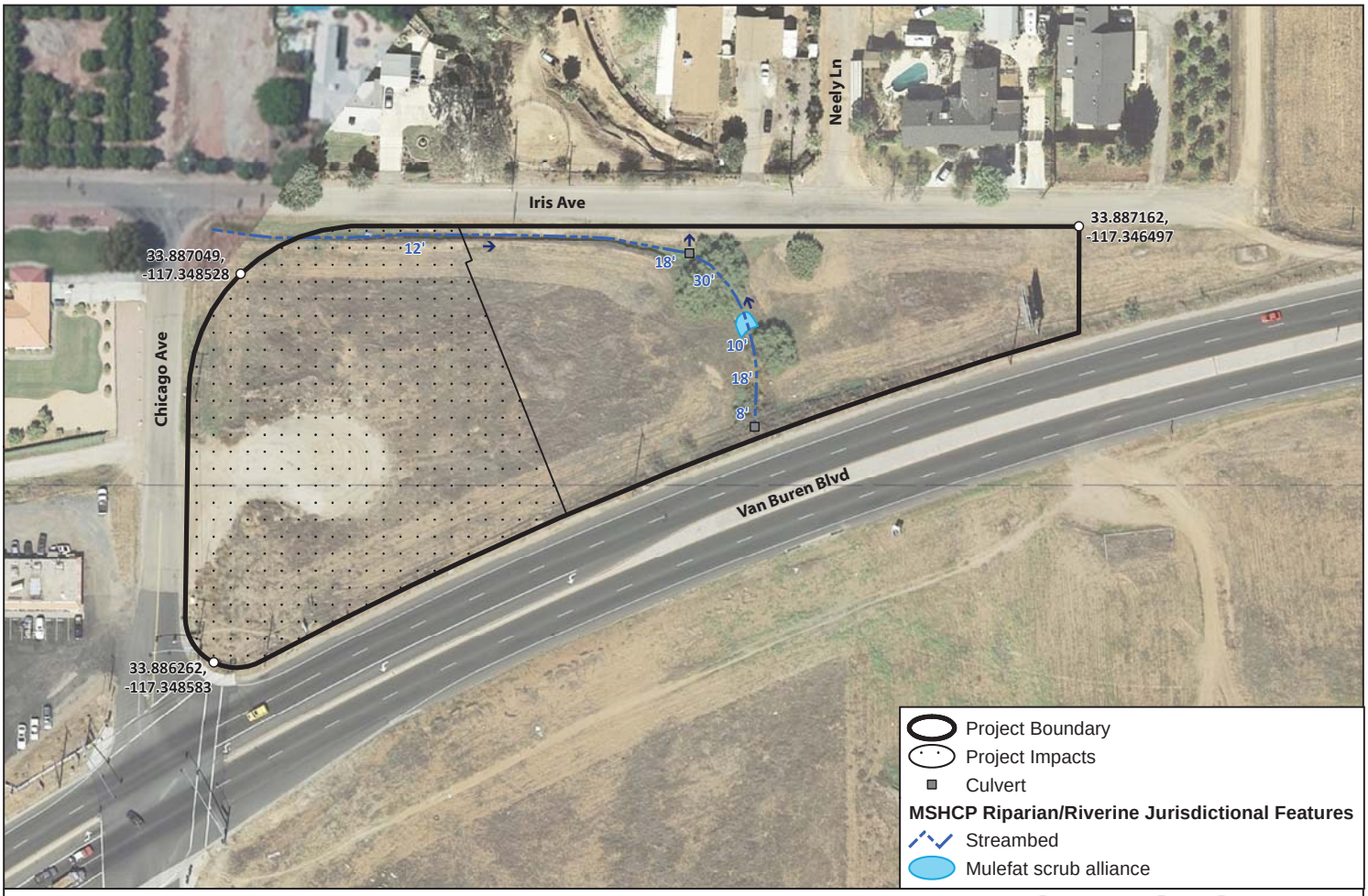


MSHCP Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 100 Feet



MSHCP Jurisdictional Delineation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 100 Feet

APPENDIX C

DATA SHEETS

WETLAND DETERMINATION DATA FORM-Arid West Region

Project/Site :BEAUMONT CHICAGO		City/County: Riverside/Riverside	Sampling Date: 1-25-19
Applicant / Owner : Private		State: CA	Sampling Point: Unnamed Drainage-1 (Under Van Buren)
Investigators: Teresa Gonzales and Paul Gonzales		Section, Township, Range: Riverside East quadrangle Township 3 South, Range 1 West, Section 30	
Landform (hilltop,terrace.etc.) terrace		Local relief (concave, convex, none): Concave	Slope (%): 4%
Subregion (LRR): LRR D	Lat: 33.886836°N	Long: -117.347965°W	Datum:
Soil Map Unit Name: Cieneba-Rock land-Fallbrook association		NWI classification: 34.134.28.1.163.5623 Riverine Lower intermittent. Subclass riverbed or streambed sand, intermittently-flooded regime, freshwater, Valley streams, Scrub-Shrub (Baccharis salicifolia)	
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes: √	No:	If no, explain in Remarks.
Are Vegetation , Soil , or Hydrology significantly disturbed?	Are "Normal Circumstances" present?	Yes: √	No:
Are Vegetation , Soil , or Hydrology naturally problematic?	(If needed, explain any answers in Remarks)		

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

Hydrophytic Vegetation Present?	Yes	No √	Is the Sampled Area within a Wetland? Yes No √
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes√	No	
Remarks:			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Species
1.			
2.			
3.			
4.			
Total Cover:			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL,FACW, or FAC: 0% (A/B)

Sampling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	X1=
FACW species 0	X2=
FAC species 0	X3=
FACU species 0	X4=
UPL species 20	X5=100
Column Totals: 20 (A)	100 (B)
Prevalence Index=B/A=	5

Herb Stratum			
1. *Avena barbata*	20		NI
2. *Bromus diandrus*	20		NI
3.*Sonchus oleraceus*	20		UPL
4.			
Total Cover:60			

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is <3.0[1]

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

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Woody Vine Stratum			
Total Cover:			

Hydrophytic Vegetation Present:

Yes No√

%Bare Ground in Herb Stratum: 40%	% Cover of Biotic Crust

Hydrophytic Vegetation Present:

Yes No√

Remarks:

SOIL

Sampling Point: Unnamed Drainage-1 (Under Van Buren)

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color(moist)	%	Type[1]	Loc[2]	Texture	Remarks
20"	10YR 6/4						yellowish brown gravelly coarse sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

Indicators for Problematic Hydric Soils[3]:

	Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)	√	Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F 2)		Red Parent Material (TF 2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted Below Dark Surface (A 11)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A 12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				[3] Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (If present):

Type: Depth (inches):	Hydric Soil Present? Yes No√

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

	Surface Water (A1)		Salt Crust (B11)	√	Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)	√	Sediment Deposits (B2) (Riverine)
	Saturation(A3)		Aquatic Invertebrates (B13)	√	Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	√	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Thin Muck Surface (C7)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Plowed Soils (C6)		Crayfish Burrows (C8)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Saturation Visible on Aerial Imagery (C90
	Water-Stained Leaves (B9)				Shallow Aquitard (D3)
					FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No√		Depth (inches):		Wetland Hydrology Present:
Water Table Present?	Yes		No√		Depth (inches):		Yes No√
Saturation Present? (includes capillary fringe)	Yes		No√		Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Riverside County Hydrology Manual
Santa Ana River Rain Gage
2019 Aerial Photos

Remarks: waters of US

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: BEAUMONT CHICAGO
Date: 1-25-19
Project Number:
Town: RIVERSIDE **State:** CA
Stream: Unnamed Drainage-1 (Under Van Buren)
Investigator(s): Teresa Gonzales and Paul Gonzales
Y x/ N □Do normal circumstances exist on the site?
Location Details: Unnamed Drainage and tributary with surface runoff and storm runoff

Y □/ N x Is the site significantly disturbed?
Projection: **Datum:**
Coordinates: 33.886836°N/-117.347965°W

Potential anthropogenic influences on the channel system: Unnamed Drainage and tributary receives surface flow from storm events. Upstream areas have been influenced by manipulation.

Brief site description: Unnamed Drainage begins off-site and enters site via culvert under Van Buren Blvd and traverses the project site south to north, where flow from west to east ditch mixes with it. It is unclear by field data if the culvert under Iris Avenue allows for drainage from the site as there is little elevation difference between the south and north side. There are signs of hydrology (i.e. Drift lines, sediment deposits, and shelving) throughout the length of the unnamed drainage and ditch on the project site.

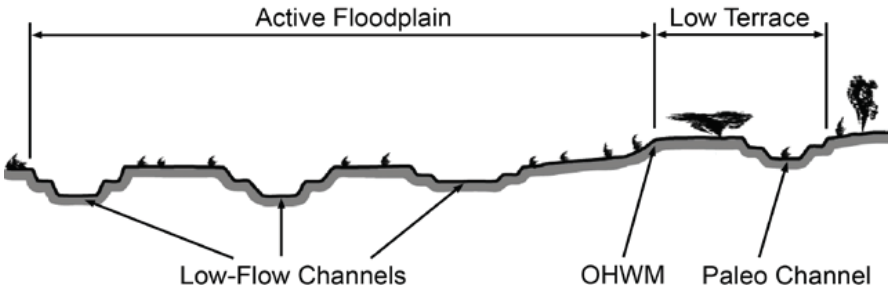
Checklist of resources (if available):

x Aerial photography
Dates: 2019
xTopographic maps
□Geologic maps
x Vegetation maps
x Soils maps
x Rainfall/precipitation maps
Existing delineation(s) for site

xGlobal positioning system (GPS)
xOther studies

XStream gage data
Gage number: 11066460
Period of record:
XHistory of recent effective discharges
□History of recent effective discharges
□Results of flood frequency analysis
□Most recent shift-adjusted rating
□Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

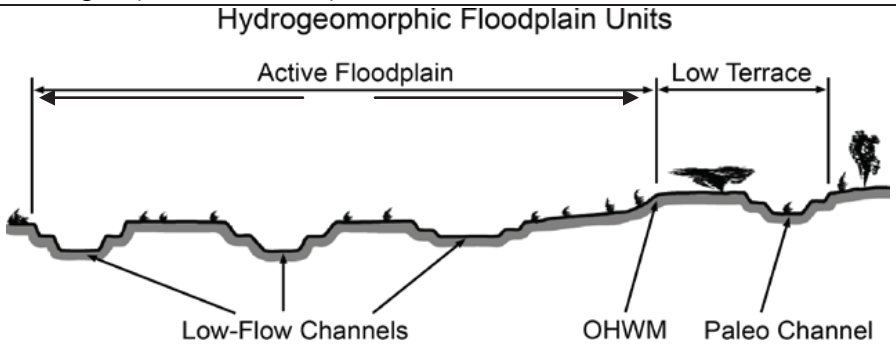


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

x Mapping on aerial photograph
□Digitized on computer
xGPS
□Other:

Project ID: Unnamed Drainage-1 (Under Van Buren) **Cross section ID:** **Date:** 1-25-19

Cross section drawing:



OHWM

GPS point: gps

Indicators:

xChange in average sediment texture
Change in vegetation species
xChange in vegetation cover

x Break in bank slope
□Other: _____
□Other: _____

Comments:

Floodplain unit: xLow-Flow Channel □Active Floodplain □Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture: sand/silt

Total veg cover: 60% Tree: 0%Shrub: 0% Herb: 60__%

Community successional stage:

□NA
XEarly (herbaceous & seedlings)
□Mid (herbaceous, shrubs, saplings)
□Late (herbaceous, shrubs, mature trees)

Indicators:

□Mudcracks
□Ripples
x Drift and/or debris
x Presence of bed and bank
x Benches

□Soil development
xSurface relief
□Other: _____
□Other: _____
□Other: _____

Comments: Waters of US

WETLAND DETERMINATION DATA FORM-Arid West Region

Project/Site :BEAUMONT CHICAGO		City/County: Riverside/Riverside	Sampling Date: 1-25-19
Applicant / Owner : Private		State: CA	Sampling Point: Unnamed Drainage-1 (Under Iris Ave)
Investigators: Teresa Gonzales and Paul Gonzales		Section, Township, Range: Riverside East quadrangle Township 3 South, Range 1 West, Section 30	
Landform (hilltop,terrace.etc.) terrace		Local relief (concave, convex, none): Concave	Slope (%): 4%
Subregion (LRR): LRR D	Lat: 33.886836°N	Long: -117.347965°W	Datum:
Soil Map Unit Name: Cieneba-Rock land-Fallbrook association		NWI classification: 34.134.28.1.163.5600 Riverine Lower intermittent. Subclass riverbed or streambed sand, intermittently-flooded regime, freshwater, Valley streams,	
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes: √	No:	If no, explain in Remarks.
Are Vegetation , Soil , or Hydrology significantly disturbed?	Are "Normal Circumstances" present?	Yes: √	No:
Are Vegetation , Soil , or Hydrology naturally problematic?	(If needed, explain any answers in Remarks)		

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

Hydrophytic Vegetation Present?	Yes	No √	Is the Sampled Area within a Wetland? Yes No √
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes√	No	
Remarks:			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Species
1. *Schinus molle*	80	√	FACU
2.			
3.			
4.			
Total Cover:	80		

Dominance Test worksheet:	
Number of Dominant Species That are OBL, FACW, or FAC:	1 (A)
Number of Dominant Species Across All Strata:	1 (B)
Percent of Dominant Species That Are OBL,FACW, or FAC:	1% (A/B)

Sampling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species	X1=
FACW species 0	X2=
FAC species 0	X3=
FACU species 80	X4=320
UPL species 10	X5=50
Column Totals: 90 (A)	370 (B)
Prevalence Index=B/A=	4.1

Herb Stratum			
1. *Sonchus oleraceus*	10		UPL
2.			
3.			
4.			
Total Cover:10			

Hydrophytic Vegetation Indicators:
Dominance Test is >50%
Prevalence Index is <3.0[1]
Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present.

Woody Vine Stratum			
Total Cover:			

Hydrophytic Vegetation Present:	
Yes	No√

%Bare Ground in Herb Stratum: 10%	% Cover of Biotic Crust

Hydrophytic Vegetation Present:	
Yes	No√

Remarks:

SOIL

Sampling Point: Unnamed Drainage-1 (Under Iris Ave)

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color(moist)	%	Type[1]	Loc[2]	Texture	Remarks
20"	10YR 6/4						yellowish brown gravelly coarse sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

Indicators for Problematic Hydric Soils[3]:

	Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)	√	Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F 2)		Red Parent Material (TF 2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted Below Dark Surface (A 11)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A 12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				[3] Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (If present):

Type: Depth (inches):	Hydric Soil Present? Yes No√

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

	Surface Water (A1)		Salt Crust (B11)	√	Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)	√	Sediment Deposits (B2) (Riverine)
	Saturation(A3)		Aquatic Invertebrates (B13)	√	Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	√	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Thin Muck Surface (C7)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Plowed Soils (C6)		Crayfish Burrows (C8)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Saturation Visible on Aerial Imagery (C90
	Water-Stained Leaves (B9)				Shallow Aquitard (D3)
					FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No√		Depth (inches):		Wetland Hydrology Present:
Water Table Present?	Yes		No√		Depth (inches):		Yes No√
Saturation Present? (includes capillary fringe)	Yes		No√		Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Riverside County Hydrology Manual
Santa Ana River Rain Gage
2019 Aerial Photos

Remarks: waters of US

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: BEAUMONT CHICAGO **Date:** 1-25-19
Project Number: **Town:** RIVERSIDE **State:** CA
Stream: Unnamed Drainage-1 (Under Iris Ave)
Investigator(s): Teresa Gonzales and Paul Gonzales
Y x/ N □Do normal circumstances exist on the site? **Location Details:** Unnamed Drainage and tributary with surface runoff and storm runoff

Y □/ N x Is the site significantly disturbed? **Projection:** **Datum:**
Coordinates: 33.886836°N/-117.347965°W

Potential anthropogenic influences on the channel system: Unnamed Drainage and tributary receives surface flow from storm events. Upstream areas have been influenced by manipulation.

Brief site description: Unnamed Drainage begins off-site and enters site via culvert under Van Buren Blvd and traverses the project site south to north, where flow from west to east ditch mixes with it. It is unclear by field data if the culvert under Iris Avenue allows for drainage from the site as there is little elevation difference between the south and north side. There are signs of hydrology (i.e. Drift lines, sediment deposits, and shelving) throughout the length of the unnamed drainage and ditch on the project site.

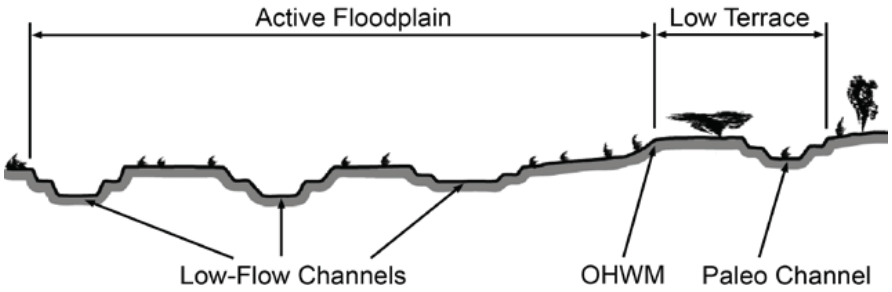
Checklist of resources (if available):

x Aerial photography
Dates: 2019
xTopographic maps
□Geologic maps
x Vegetation maps
x Soils maps
x Rainfall/precipitation maps
Existing delineation(s) for site

xGlobal positioning system (GPS)
xOther studies

XStream gage data
Gage number: 11066460
Period of record:
XHistory of recent effective discharges
□History of recent effective discharges
□Results of flood frequency analysis
□Most recent shift-adjusted rating
□Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

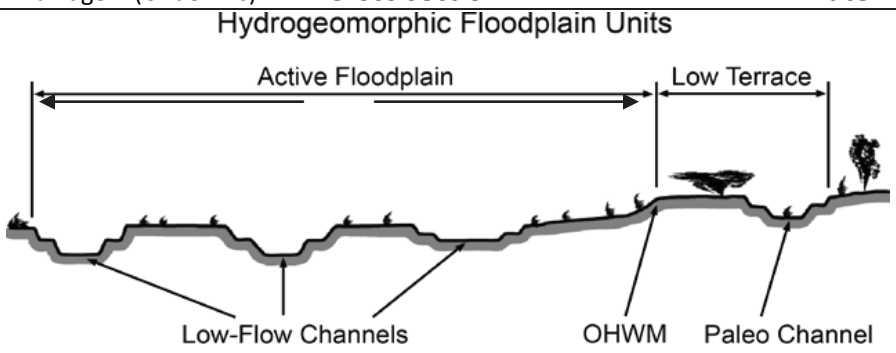


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

x Mapping on aerial photograph
□Digitized on computer
xGPS
□Other:

Project ID: Unnamed Drainage-1 (Under Iris) **Cross section ID:** **Date:** 1-25-19

Cross section drawing:



OHWM

GPS point: gps

Indicators:

xChange in average sediment texture
Change in vegetation species
xChange in vegetation cover
x Break in bank slope
□Other: _____
□Other: _____

Comments:

Floodplain unit: xLow-Flow Channel □Active Floodplain □Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture: sand/silt

Total veg cover: 90% Tree: 80%Shrub: 0% Herb: 10__%

Community successional stage:

□NA
XEarly (herbaceous & seedlings)
□Mid (herbaceous, shrubs, saplings)
xLate (herbaceous, shrubs, mature trees)

Indicators:

□Mudcracks
□Ripples
x Drift and/or debris
x Presence of bed and bank
x Benches
□Soil development
xSurface relief
□Other: _____
□Other: _____
□Other: _____

Comments: Waters of US

WETLAND DETERMINATION DATA FORM-Arid West Region

Project/Site :BEAUMONT CHICAGO		City/County: Riverside/Riverside	Sampling Date: 1-25-19
Applicant / Owner : Private		State: CA	Sampling Point: Unnamed Drainage-1 (Along Iris Ave)
Investigators: Teresa Gonzales and Paul Gonzales		Section, Township, Range: Riverside East quadrangle Township 3 South, Range 1 West, Section 30	
Landform (hilltop,terrace.etc.) terrace		Local relief (concave, convex, none): Concave	Slope (%): 4%
Subregion (LRR): LRR D	Lat: 33.886836°N	Long: -117.347965°W	Datum:
Soil Map Unit Name: Cieneba-Rock land-Fallbrook association		NWI classification: 34.134.28.1.163.5600 Riverine Lower intermittent. Subclass riverbed or streambed sand, intermittently-flooded regime, freshwater, Valley streams,	
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes: √	No:	If no, explain in Remarks.
Are Vegetation , Soil , or Hydrology significantly disturbed?	Are "Normal Circumstances" present?	Yes: √	No:
Are Vegetation , Soil , or Hydrology naturally problematic?	(If needed, explain any answers in Remarks)		

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

Hydrophytic Vegetation Present?	Yes	No √	Is the Sampled Area within a Wetland? Yes No √
Hydric Soil Present?	Yes	No √	
Wetland Hydrology Present?	Yes√	No	
Remarks:			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Species	Dominance Test worksheet:
1.				Number of Dominant Species That are OBL, FACW, or FAC: (A)
2.				Number of Dominant Species Across All Strata: (B)
3.				Percent of Dominant Species That Are OBL,FACW, or FAC: % (A/B)
4.				
Total Cover:				

Sampling/Shrub Stratum				Prevalence Index worksheet:	
1.				Total % Cover of:	Multiply by:
2.				OBL species	X1=
3.				FACW species 0	X2=
4.				FAC species 0	X3=
5.				FACU species	X4=
6.				UPL species 20	X5=100
7.				Column Totals: 20 (A)	100 (B)
8.				Prevalence Index=B/A=	5
Total Cover:					

Herb Stratum				Hydrophytic Vegetation Indicators:
1. *Avena barbata*	20		NI	Dominance Test is >50%
2. *Bromus diandrus*	20		NI	Prevalence Index is <3.0[1]
3.*Sonchus oleraceus*	20		UPL	Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation[1] (Explain) [1]Indicators of hydric soil and wetland hydrology must be present.
Total Cover:60				

Woody Vine Stratum				Hydrophytic Vegetation Present:	
				Yes	No√
Total Cover:					

%Bare Ground in Herb Stratum: 40%	% Cover of Biotic Crust	Hydrophytic Vegetation Present:	
		Yes	No√

Remarks:

SOIL

Sampling Point: Unnamed Drainage-1 (Along Iris Ave)

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color(moist)	%	Type[1]	Loc[2]	Texture	Remarks
20"	5YR 44						dark reddish brown sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

Indicators for Problematic Hydric Soils[3]:

	Histosol (A1)		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)	√	Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F 2)		Red Parent Material (TF 2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted Below Dark Surface (A 11)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A 12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				[3] Indicators of hydrophytic vegetation and wetland hydrology must be present

Restrictive Layer (If present):

Type: Depth (inches):	Hydric Soil Present? Yes No√

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

Primary Indicators (any one indicator is sufficient)

	Surface Water (A1)		Salt Crust (B11)	√	Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)	√	Sediment Deposits (B2) (Riverine)
	Saturation(A3)		Aquatic Invertebrates (B13)	√	Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	√	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Thin Muck Surface (C7)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Plowed Soils (C6)		Crayfish Burrows (C8)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Saturation Visible on Aerial Imagery (C90
	Water-Stained Leaves (B9)				Shallow Aquitard (D3)
					FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes		No√		Depth (inches):		Wetland Hydrology Present:
Water Table Present?	Yes		No√		Depth (inches):		Yes No√
Saturation Present? (includes capillary fringe)	Yes		No√		Depth (inches):		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Riverside County Hydrology Manual
Santa Ana River Rain Gage
2019 Aerial Photos

Remarks: waters of US

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: BEAUMONT CHICAGO **Date:** 1-25-19
Project Number: **Town:** RIVERSIDE **State:** CA
Stream: Unnamed Drainage-1 (Along Iris Ave)
Investigator(s): Teresa Gonzales and Paul Gonzales
Y x/ N □Do normal circumstances exist on the site? **Location Details:** Unnamed Drainage and tributary with surface runoff and storm runoff

Y □/ N x Is the site significantly disturbed? **Projection:** **Datum:**
Coordinates: 33.886836°N/-117.347965°W

Potential anthropogenic influences on the channel system: Unnamed Drainage and tributary receives surface flow from storm events. Upstream areas have been influenced by manipulation.

Brief site description: Unnamed Drainage begins off-site and enters site via culvert under Van Buren Blvd and traverses the project site south to north, where flow from west to east ditch mixes with it. It is unclear by field data if the culvert under Iris Avenue allows for drainage from the site as there is little elevation difference between the south and north side. There are signs of hydrology (i.e. Drift lines, sediment deposits, and shelving) throughout the length of the unnamed drainage and ditch on the project site.

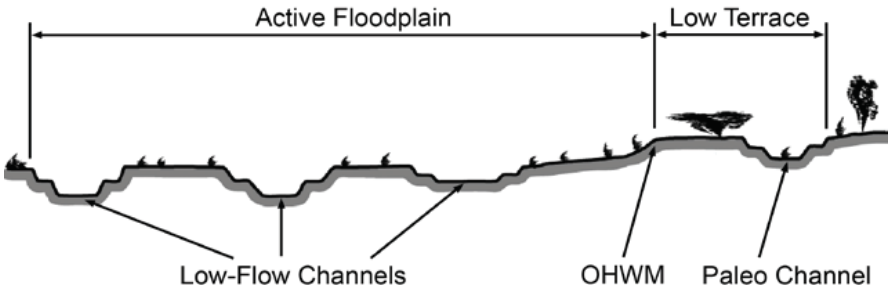
Checklist of resources (if available):

x Aerial photography
Dates: 2019
xTopographic maps
□Geologic maps
x Vegetation maps
x Soils maps
x Rainfall/precipitation maps
Existing delineation(s) for site

xGlobal positioning system (GPS)
xOther studies

XStream gage data
Gage number: 11066460
Period of record:
XHistory of recent effective discharges
□History of recent effective discharges
□Results of flood frequency analysis
□Most recent shift-adjusted rating
□Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

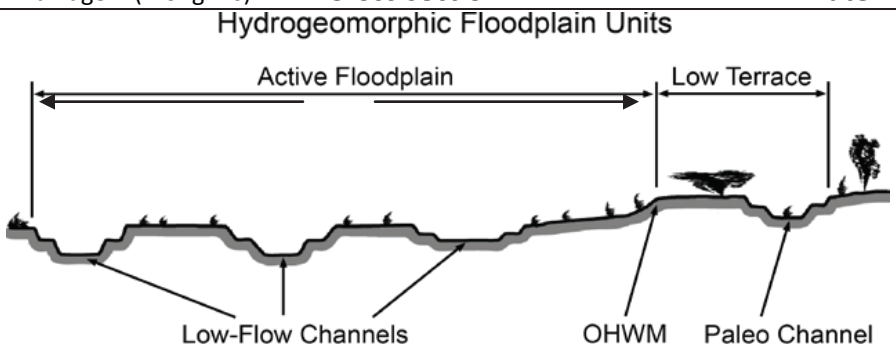


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

x Mapping on aerial photograph
□Digitized on computer
xGPS
□Other:

Project ID: Unnamed Drainage-1 (Along Iris) **Cross section ID:** **Date:** 1-25-19

Cross section drawing:



OHWM

GPS point: gps

Indicators:

xChange in average sediment texture
Change in vegetation species
xChange in vegetation cover

x Break in bank slope
□Other: _____
□Other: _____

Comments:

Floodplain unit: xLow-Flow Channel □Active Floodplain □Low Terrace

GPS point:

Characteristics of the floodplain unit:

Average sediment texture: sand/silt

Total veg cover: 60% Tree: 0%Shrub: 0% Herb: 60__%

Community successional stage:

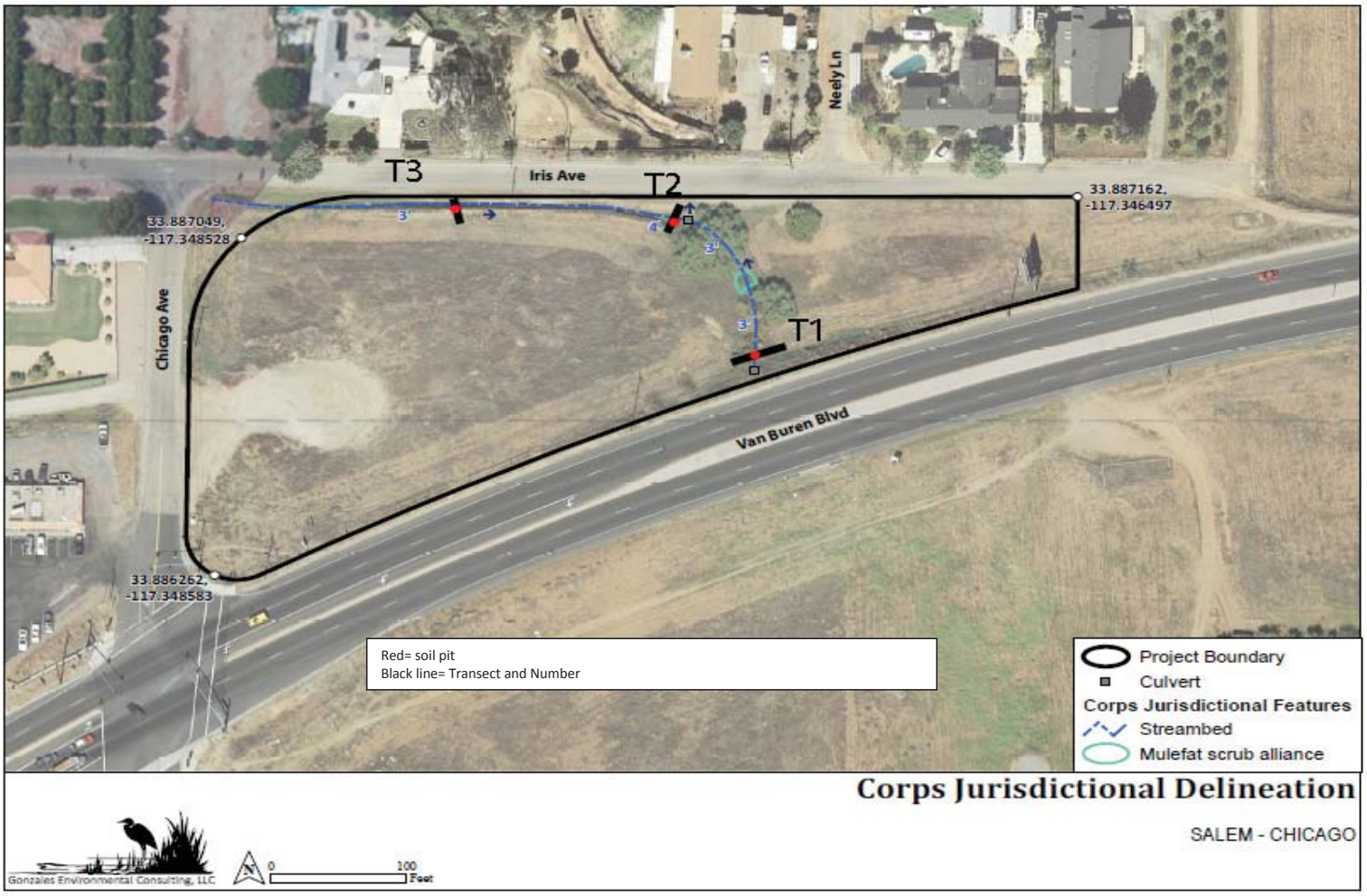
□NA
XEarly (herbaceous & seedlings)
□Mid (herbaceous, shrubs, saplings)
□Late (herbaceous, shrubs, mature trees)

Indicators:

□Mudcracks
□Ripples
x Drift and/or debris
x Presence of bed and bank
x Benches

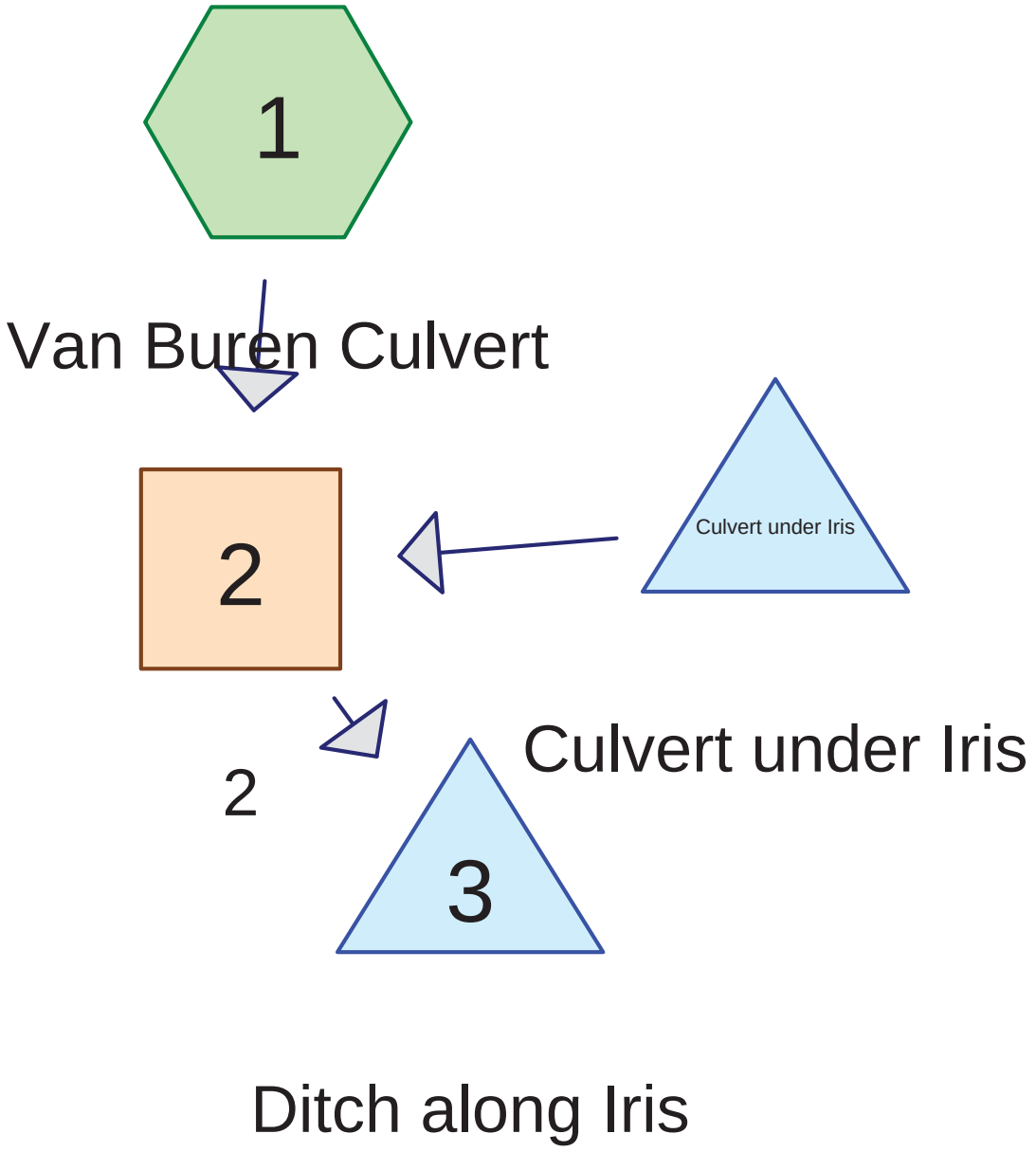
□Soil development
xSurface relief
□Other: _____
□Other: _____
□Other: _____

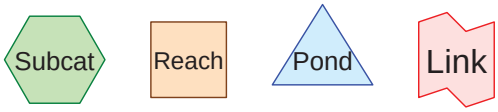
Comments: Waters of US


T3
Iris Ave
T2
Neely Ln
33.887162,
-117.346497
33.887049,
-117.348528
Chicago Ave
T1
Van Buren Blvd
33.886262,
-117.348583
Red= soil pit
Black line= Transect and Number
Project Boundary
Culvert
Corps Jurisdictional Features
Streambed
Mulefat scrub alliance
Corps Jurisdictional Delineation
SALEM - CHICAGO
Gonzales Environmental Consulting, LLC
0
100
Feet

APPENDIX D

HYDROCAD REPORT





Routing Diagram for Salem ChicagoProject
Prepared by Gonzales Environmental Consulting, LLC, Printed 6/20/2019
HydroCAD® 10.00-24 s/n 02488 © 2018 HydroCAD Software Solutions LLC

Summary for Subcatchment 1: Van Buren Culvert

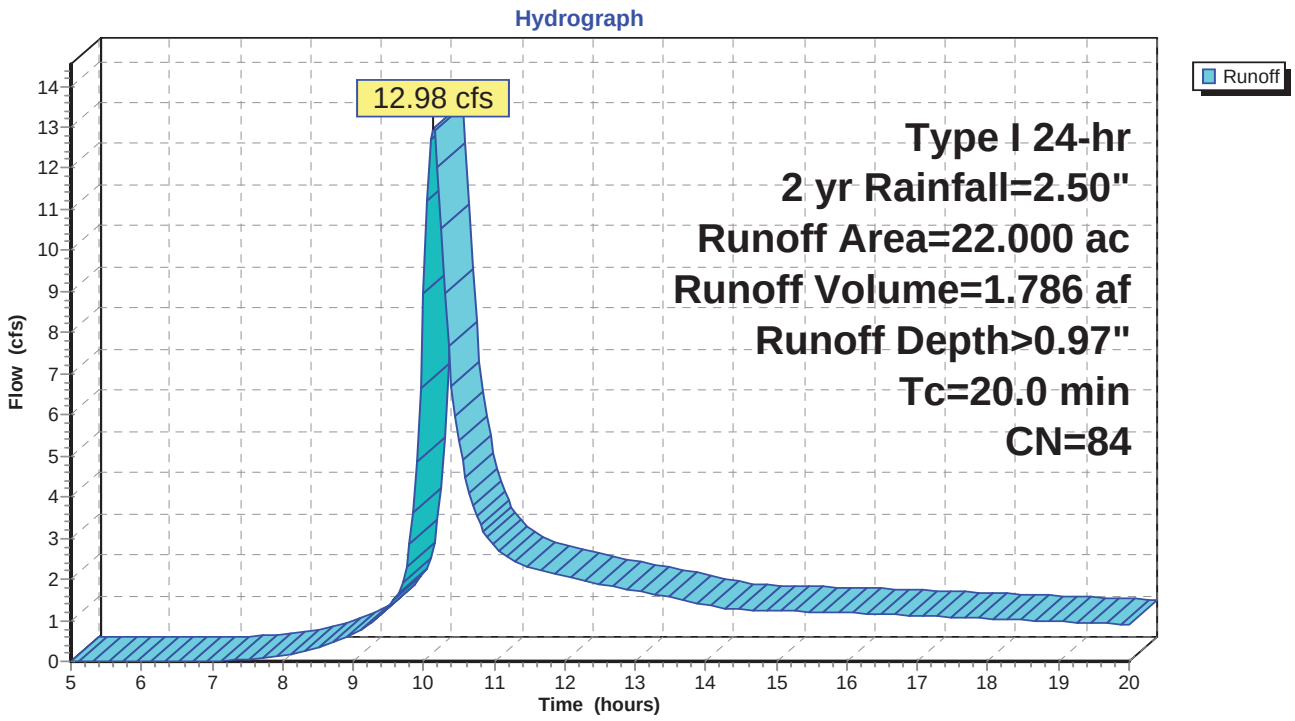
Runoff = 12.98 cfs @ 10.14 hrs, Volume= 1.786 af, Depth> 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type I 24-hr 2 yr Rainfall=2.50"

Area (ac)	CN	Description
22.000	84	Pasture/grassland/range, Fair, HSG D
22.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, My own Tc**

Subcatchment 1: Van Buren Culvert



Hydrograph for Subcatchment 1: Van Buren Culvert

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.25	0.00	0.00	10.30	1.40	0.36	8.96	15.60	2.05	0.78	1.20
5.10	0.26	0.00	0.00	10.40	1.43	0.37	6.69	15.70	2.06	0.79	1.20
5.20	0.26	0.00	0.00	10.50	1.46	0.39	5.37	15.80	2.07	0.79	1.19
5.30	0.27	0.00	0.00	10.60	1.48	0.40	4.47	15.90	2.07	0.80	1.18
5.40	0.27	0.00	0.00	10.70	1.50	0.41	3.80	16.00	2.08	0.80	1.18
5.50	0.28	0.00	0.00	10.80	1.52	0.43	3.34	16.10	2.09	0.81	1.17
5.60	0.29	0.00	0.00	10.90	1.54	0.44	3.04	16.20	2.09	0.81	1.17
5.70	0.29	0.00	0.00	11.00	1.56	0.45	2.82	16.30	2.10	0.82	1.16
5.80	0.30	0.00	0.00	11.10	1.57	0.46	2.66	16.40	2.11	0.82	1.15
5.90	0.31	0.00	0.00	11.20	1.59	0.47	2.53	16.50	2.12	0.83	1.15
6.00	0.31	0.00	0.00	11.30	1.61	0.48	2.43	16.60	2.12	0.83	1.14
6.10	0.32	0.00	0.00	11.40	1.62	0.49	2.35	16.70	2.13	0.84	1.13
6.20	0.33	0.00	0.00	11.50	1.64	0.50	2.30	16.80	2.14	0.84	1.13
6.30	0.33	0.00	0.00	11.60	1.65	0.51	2.25	16.90	2.14	0.85	1.12
6.40	0.34	0.00	0.00	11.70	1.67	0.52	2.21	17.00	2.15	0.85	1.12
6.50	0.35	0.00	0.00	11.80	1.68	0.53	2.16	17.10	2.16	0.86	1.11
6.60	0.36	0.00	0.00	11.90	1.70	0.54	2.11	17.20	2.16	0.86	1.10
6.70	0.36	0.00	0.00	12.00	1.71	0.55	2.07	17.30	2.17	0.87	1.10
6.80	0.37	0.00	0.00	12.10	1.72	0.55	2.02	17.40	2.18	0.87	1.09
6.90	0.38	0.00	0.00	12.20	1.74	0.56	1.97	17.50	2.18	0.88	1.08
7.00	0.39	0.00	0.00	12.30	1.75	0.57	1.93	17.60	2.19	0.88	1.08
7.10	0.40	0.00	0.00	12.40	1.76	0.58	1.90	17.70	2.20	0.89	1.07
7.20	0.41	0.00	0.01	12.50	1.77	0.59	1.87	17.80	2.20	0.89	1.06
7.30	0.42	0.00	0.02	12.60	1.78	0.60	1.84	17.90	2.21	0.90	1.05
7.40	0.43	0.00	0.04	12.70	1.80	0.60	1.81	18.00	2.21	0.90	1.05
7.50	0.44	0.00	0.06	12.80	1.81	0.61	1.78	18.10	2.22	0.90	1.04
7.60	0.45	0.00	0.08	12.90	1.82	0.62	1.75	18.20	2.23	0.91	1.03
7.70	0.46	0.00	0.10	13.00	1.83	0.63	1.71	18.30	2.23	0.91	1.03
7.80	0.47	0.00	0.12	13.10	1.84	0.63	1.68	18.40	2.24	0.92	1.02
7.90	0.48	0.00	0.14	13.20	1.85	0.64	1.65	18.50	2.25	0.92	1.01
8.00	0.48	0.01	0.16	13.30	1.86	0.65	1.62	18.60	2.25	0.93	1.01
8.10	0.50	0.01	0.18	13.40	1.87	0.65	1.59	18.70	2.26	0.93	1.00
8.20	0.51	0.01	0.20	13.50	1.88	0.66	1.55	18.80	2.26	0.94	0.99
8.30	0.52	0.01	0.23	13.60	1.89	0.67	1.52	18.90	2.27	0.94	0.98
8.40	0.53	0.01	0.27	13.70	1.90	0.67	1.48	19.00	2.27	0.94	0.98
8.50	0.55	0.01	0.32	13.80	1.91	0.68	1.45	19.10	2.28	0.95	0.97
8.60	0.56	0.02	0.38	13.90	1.92	0.69	1.42	19.20	2.29	0.95	0.96
8.70	0.58	0.02	0.45	14.00	1.92	0.69	1.38	19.30	2.29	0.96	0.96
8.80	0.60	0.02	0.52	14.10	1.93	0.70	1.35	19.40	2.30	0.96	0.95
8.90	0.62	0.03	0.59	14.20	1.94	0.70	1.31	19.50	2.30	0.97	0.94
9.00	0.63	0.03	0.68	14.30	1.95	0.71	1.29	19.60	2.31	0.97	0.93
9.10	0.66	0.03	0.77	14.40	1.96	0.71	1.28	19.70	2.31	0.97	0.93
9.20	0.68	0.04	0.88	14.50	1.97	0.72	1.27	19.80	2.32	0.98	0.92
9.30	0.70	0.05	1.00	14.60	1.97	0.73	1.26	19.90	2.32	0.98	0.91
9.40	0.73	0.05	1.15	14.70	1.98	0.73	1.25	20.00	**2.33**	**0.99**	0.90
9.50	0.76	0.06	1.32	14.80	1.99	0.74	1.25				
9.60	0.80	0.08	1.53	14.90	2.00	0.74	1.24				
9.70	0.86	0.10	1.91	15.00	2.00	0.75	1.24				
9.80	0.97	0.14	2.84	15.10	2.01	0.75	1.23				
9.90	1.16	0.23	4.84	15.20	2.02	0.76	1.22				
10.00	1.29	0.29	8.94	15.30	2.03	0.76	1.22				
10.10	1.33	0.32	**12.69**	15.40	2.04	0.77	1.21				
10.20	1.37	0.34	**12.02**	15.50	2.04	0.77	1.21				

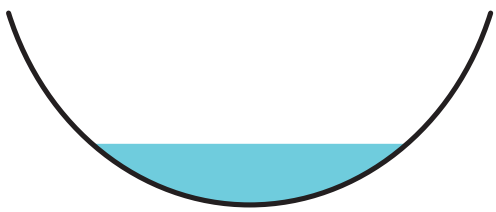
Summary for Reach 2: 2

Inflow Area = 22.000 ac, 0.00% Impervious, Inflow Depth > 0.97" for 2 yr event
Inflow = 12.98 cfs @ 10.14 hrs, Volume= 1.786 af
Outflow = 12.73 cfs @ 10.19 hrs, Volume= 1.779 af, Atten= 2%, Lag= 3.1 min

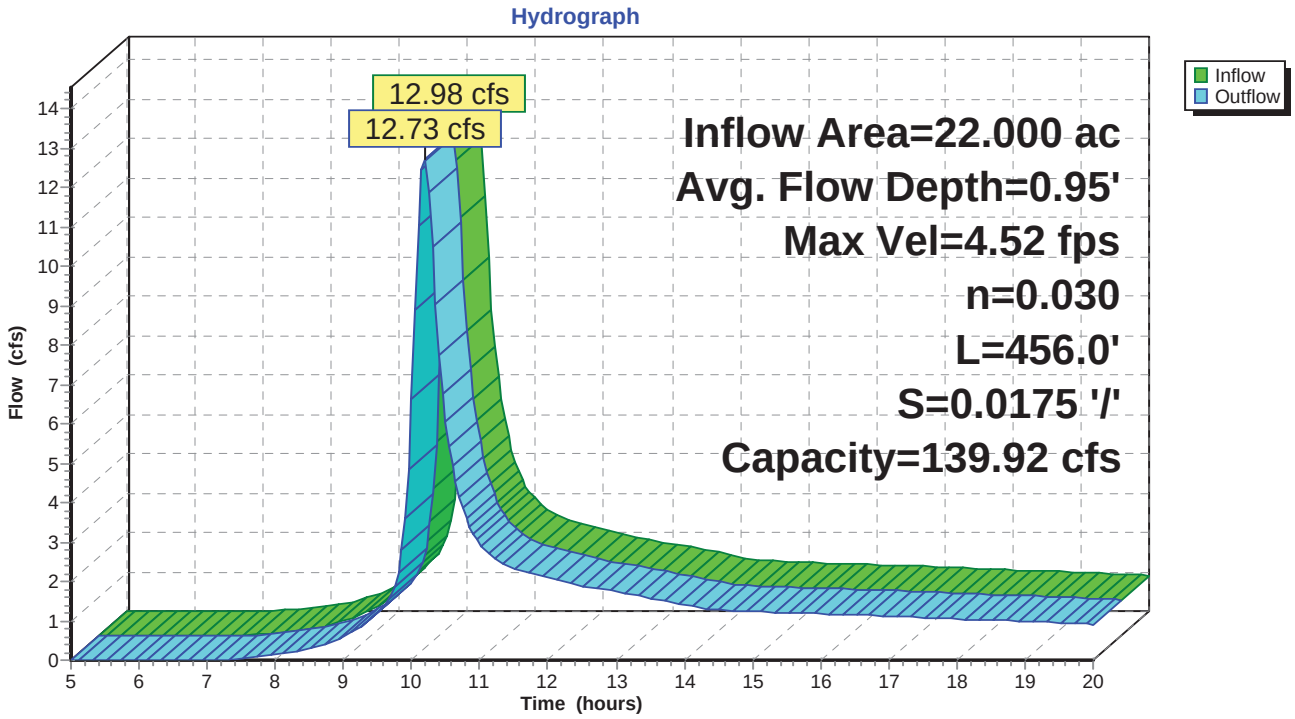
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.52 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 2.25 fps, Avg. Travel Time= 3.4 min

Peak Storage= 1,301 cf @ 10.16 hrs
Average Depth at Peak Storage= 0.95'
Bank-Full Depth= 3.00' Flow Area= 16.0 sf, Capacity= 139.92 cfs

8.00' x 3.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 456.0' Slope= 0.0175 '/'
Inlet Invert= 1,577.00', Outlet Invert= 1,569.00'



Reach 2: 2



Hydrograph for Reach 2: 2

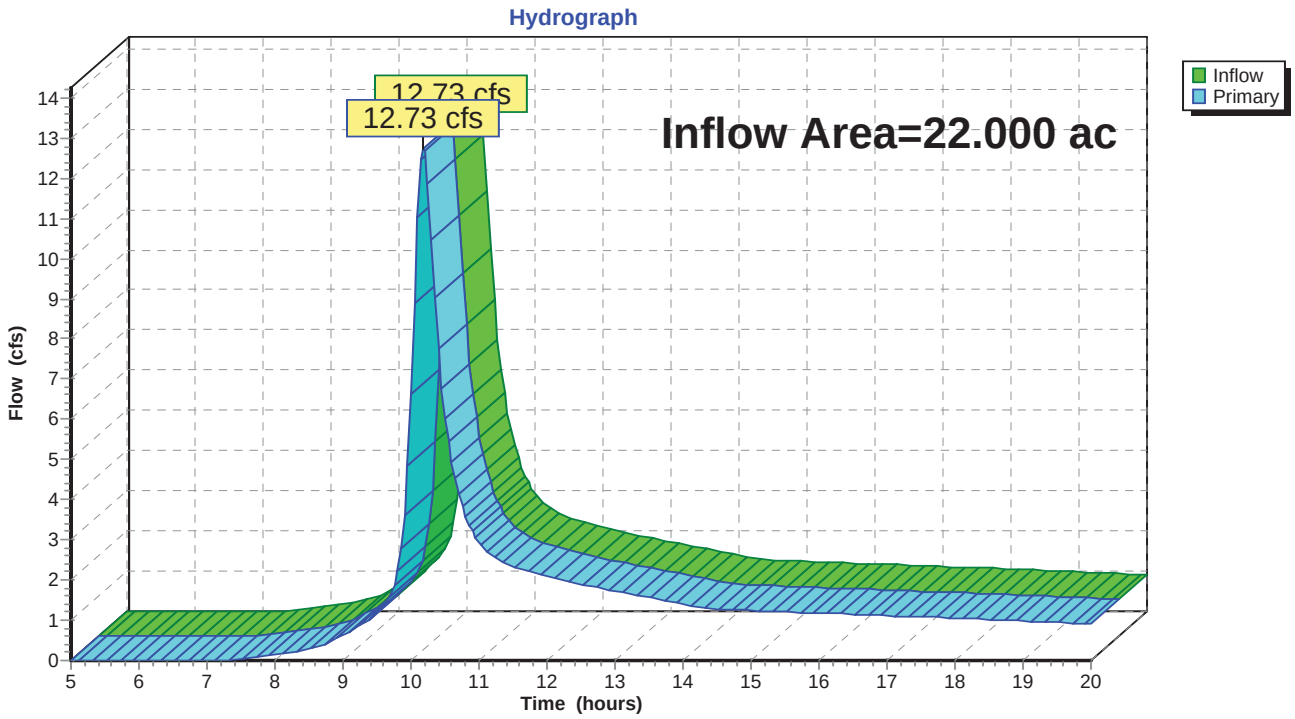
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.00	0	1,577.00	0.00
5.25	0.00	0	1,577.00	0.00
5.50	0.00	0	1,577.00	0.00
5.75	0.00	0	1,577.00	0.00
6.00	0.00	0	1,577.00	0.00
6.25	0.00	0	1,577.00	0.00
6.50	0.00	0	1,577.00	0.00
6.75	0.00	0	1,577.00	0.00
7.00	0.00	0	1,577.00	0.00
7.25	0.02	4	1,577.02	0.00
7.50	0.06	21	1,577.06	0.03
7.75	0.11	39	1,577.09	0.08
8.00	0.16	54	1,577.11	0.13
8.25	0.22	69	1,577.13	0.19
8.50	0.32	91	1,577.16	0.28
8.75	0.48	121	1,577.20	0.42
9.00	0.68	157	1,577.23	0.61
9.25	0.93	197	1,577.27	0.85
9.50	1.32	251	1,577.32	1.21
9.75	2.29	354	1,577.40	1.88
10.00	**8.94**	**913**	**1,577.75**	**6.64**
10.25	**10.52**	**1,173**	**1,577.89**	**11.87**
10.50	5.37	726	1,577.64	6.03
10.75	3.54	536	1,577.53	3.85
11.00	2.82	451	1,577.47	2.95
11.25	2.47	409	1,577.44	2.54
11.50	2.30	387	1,577.42	2.33
11.75	2.18	373	1,577.41	2.21
12.00	2.07	359	1,577.40	2.10
12.25	1.95	345	1,577.39	1.98
12.50	1.87	334	1,577.38	1.89
12.75	1.79	324	1,577.38	1.81
13.00	1.71	314	1,577.37	1.73
13.25	1.63	304	1,577.36	1.65
13.50	1.55	293	1,577.35	1.57
13.75	1.47	282	1,577.34	1.49
14.00	1.38	271	1,577.33	1.40
14.25	1.30	259	1,577.32	1.32
14.50	1.27	253	1,577.32	1.27
14.75	1.25	251	1,577.32	1.25
15.00	1.24	249	1,577.32	1.24
15.25	1.22	247	1,577.31	1.23
15.50	1.21	245	1,577.31	1.21
15.75	1.19	243	1,577.31	1.20
16.00	1.18	241	1,577.31	1.18
16.25	1.16	239	1,577.31	1.17
16.50	1.15	237	1,577.30	1.15
16.75	1.13	234	1,577.30	1.14
17.00	1.12	232	1,577.30	1.12
17.25	1.10	230	1,577.30	1.10
17.50	1.08	227	1,577.30	1.09
17.75	1.07	225	1,577.29	1.07
18.00	1.05	222	1,577.29	1.05
18.25	1.03	219	1,577.29	1.04
18.50	1.01	217	1,577.29	1.02
18.75	1.00	214	1,577.29	1.00
19.00	0.98	211	1,577.28	0.98
19.25	0.96	209	1,577.28	0.96
19.50	0.94	206	1,577.28	0.95
19.75	0.92	203	1,577.28	0.93
20.00	0.90	200	1,577.27	0.91

Summary for Pond 3: Ditch along Iris

Inflow Area = 22.000 ac, 0.00% Impervious, Inflow Depth > 0.97" for 2 yr event
Inflow = 12.73 cfs @ 10.19 hrs, Volume= 1.779 af
Primary = 12.73 cfs @ 10.19 hrs, Volume= 1.779 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond 3: Ditch along Iris



Hydrograph for Pond 3: Ditch along Iris

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
5.00	0.00		0.00	18.25	1.04		1.04
5.25	0.00		0.00	18.50	1.02		1.02
5.50	0.00		0.00	18.75	1.00		1.00
5.75	0.00		0.00	19.00	0.98		0.98
6.00	0.00		0.00	19.25	0.96		0.96
6.25	0.00		0.00	19.50	0.95		0.95
6.50	0.00		0.00	19.75	0.93		0.93
6.75	0.00		0.00	20.00	0.91		0.91
7.00	0.00		0.00				
7.25	0.00		0.00				
7.50	0.03		0.03				
7.75	0.08		0.08				
8.00	0.13		0.13				
8.25	0.19		0.19				
8.50	0.28		0.28				
8.75	0.42		0.42				
9.00	0.61		0.61				
9.25	0.85		0.85				
9.50	1.21		1.21				
9.75	1.88		1.88				
10.00	**6.64**		**6.64**				
10.25	**11.87**		**11.87**				
10.50	6.03		6.03				
10.75	3.85		3.85				
11.00	2.95		2.95				
11.25	2.54		2.54				
11.50	2.33		2.33				
11.75	2.21		2.21				
12.00	2.10		2.10				
12.25	1.98		1.98				
12.50	1.89		1.89				
12.75	1.81		1.81				
13.00	1.73		1.73				
13.25	1.65		1.65				
13.50	1.57		1.57				
13.75	1.49		1.49				
14.00	1.40		1.40				
14.25	1.32		1.32				
14.50	1.27		1.27				
14.75	1.25		1.25				
15.00	1.24		1.24				
15.25	1.23		1.23				
15.50	1.21		1.21				
15.75	1.20		1.20				
16.00	1.18		1.18				
16.25	1.17		1.17				
16.50	1.15		1.15				
16.75	1.14		1.14				
17.00	1.12		1.12				
17.25	1.10		1.10				
17.50	1.09		1.09				
17.75	1.07		1.07				
18.00	1.05		1.05				

Summary for Pond Culvert under Iris: Culvert under Iris

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=0.00' (Free Discharge)

Summary for Subcatchment 1: Van Buren Culvert

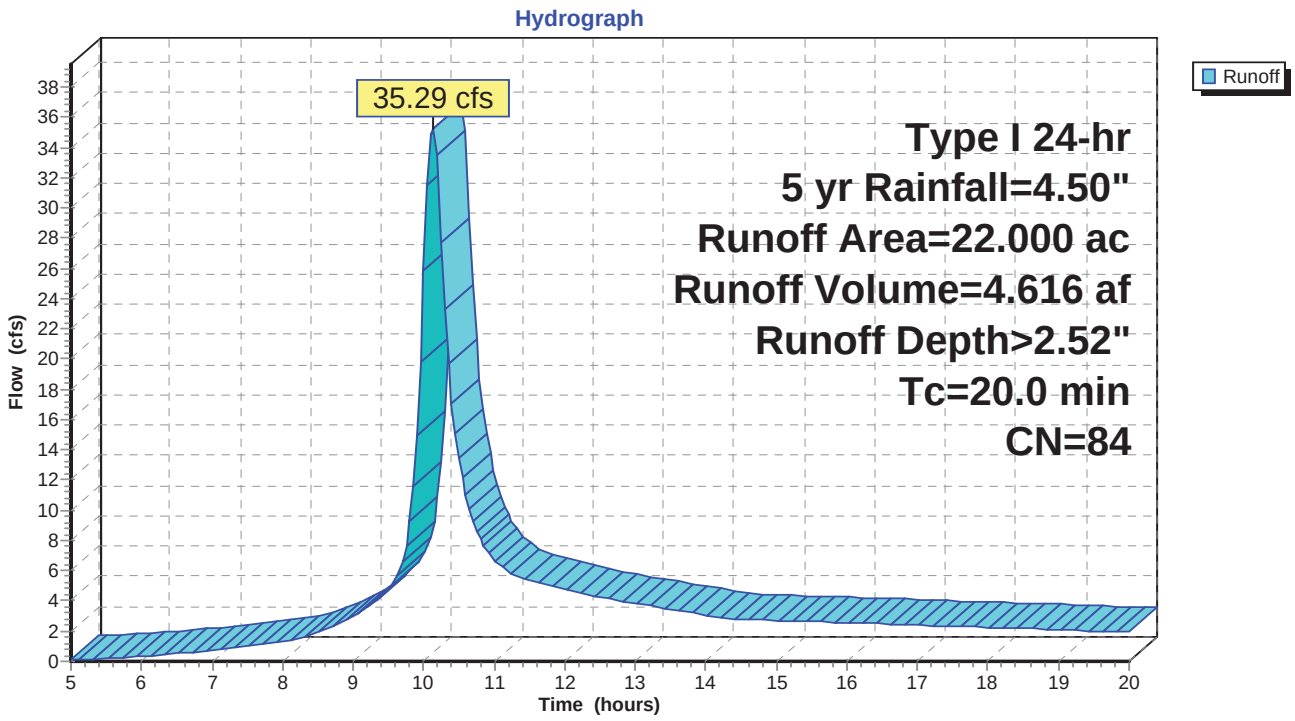
Runoff = 35.29 cfs @ 10.13 hrs, Volume= 4.616 af, Depth> 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type I 24-hr 5 yr Rainfall=4.50"

Area (ac)	CN	Description
22.000	84	Pasture/grassland/range, Fair, HSG D
22.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, My own Tc**

Subcatchment 1: Van Buren Culvert



Hydrograph for Subcatchment 1: Van Buren Culvert

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.45	0.00	0.09	10.30	2.53	1.14	23.35	15.60	3.69	2.10	2.62
5.10	0.46	0.00	0.11	10.40	2.58	1.18	17.09	15.70	3.70	2.11	2.61
5.20	0.47	0.00	0.14	10.50	2.62	1.21	13.47	15.80	3.72	2.12	2.59
5.30	0.48	0.01	0.17	10.60	2.66	1.24	11.03	15.90	3.73	2.14	2.58
5.40	0.49	0.01	0.19	10.70	2.70	1.27	9.27	16.00	3.74	2.15	2.56
5.50	0.51	0.01	0.22	10.80	2.74	1.30	8.07	16.10	3.76	2.16	2.55
5.60	0.52	0.01	0.24	10.90	2.77	1.33	7.29	16.20	3.77	2.17	2.53
5.70	0.53	0.01	0.27	11.00	2.80	1.36	6.73	16.30	3.78	2.18	2.52
5.80	0.54	0.01	0.30	11.10	2.83	1.38	6.30	16.40	3.80	2.19	2.50
5.90	0.55	0.01	0.32	11.20	2.86	1.41	5.97	16.50	3.81	2.20	2.49
6.00	0.56	0.02	0.35	11.30	2.89	1.43	5.71	16.60	3.82	2.21	2.47
6.10	0.57	0.02	0.37	11.40	2.92	1.45	5.52	16.70	3.83	2.22	2.46
6.20	0.59	0.02	0.40	11.50	2.95	1.48	5.37	16.80	3.85	2.24	2.44
6.30	0.60	0.02	0.43	11.60	2.98	1.50	5.24	16.90	3.86	2.25	2.42
6.40	0.61	0.03	0.47	11.70	3.00	1.52	5.12	17.00	3.87	2.26	2.41
6.50	0.63	0.03	0.51	11.80	3.03	1.54	5.00	17.10	3.88	2.27	2.39
6.60	0.64	0.03	0.56	11.90	3.05	1.56	4.88	17.20	3.89	2.28	2.38
6.70	0.66	0.03	0.61	12.00	3.08	1.58	4.76	17.30	3.91	2.29	2.36
6.80	0.67	0.04	0.66	12.10	3.10	1.60	4.64	17.40	3.92	2.30	2.34
6.90	0.69	0.04	0.72	12.20	3.12	1.62	4.52	17.50	3.93	2.31	2.33
7.00	0.70	0.05	0.78	12.30	3.15	1.64	4.42	17.60	3.94	2.32	2.31
7.10	0.72	0.05	0.84	12.40	3.17	1.66	4.33	17.70	3.95	2.33	2.30
7.20	0.74	0.06	0.90	12.50	3.19	1.68	4.25	17.80	3.96	2.34	2.28
7.30	0.75	0.06	0.96	12.60	3.21	1.69	4.17	17.90	3.98	2.35	2.26
7.40	0.77	0.07	1.01	12.70	3.23	1.71	4.09	18.00	3.99	2.36	2.25
7.50	0.79	0.07	1.06	12.80	3.25	1.73	4.02	18.10	4.00	2.37	2.23
7.60	0.80	0.08	1.11	12.90	3.27	1.74	3.94	18.20	4.01	2.38	2.22
7.70	0.82	0.08	1.16	13.00	3.29	1.76	3.86	18.30	4.02	2.39	2.20
7.80	0.84	0.09	1.21	13.10	3.31	1.78	3.78	18.40	4.03	2.40	2.18
7.90	0.86	0.09	1.26	13.20	3.33	1.79	3.71	18.50	4.04	2.41	2.17
8.00	0.87	0.10	1.31	13.30	3.35	1.81	3.63	18.60	4.05	2.42	2.15
8.10	0.89	0.11	1.36	13.40	3.37	1.82	3.55	18.70	4.06	2.43	2.13
8.20	0.91	0.12	1.42	13.50	3.39	1.84	3.47	18.80	4.07	2.44	2.12
8.30	0.93	0.12	1.53	13.60	3.40	1.85	3.39	18.90	4.08	2.45	2.10
8.40	0.96	0.13	1.68	13.70	3.42	1.87	3.31	19.00	4.09	2.45	2.08
8.50	0.99	0.15	1.87	13.80	3.43	1.88	3.23	19.10	4.11	2.46	2.07
8.60	1.01	0.16	2.08	13.90	3.45	1.89	3.15	19.20	4.12	2.47	2.05
8.70	1.04	0.17	2.30	14.00	3.46	1.91	3.07	19.30	4.13	2.48	2.03
8.80	1.07	0.19	2.54	14.10	3.48	1.92	2.99	19.40	4.14	2.49	2.02
8.90	1.11	0.20	2.79	14.20	3.49	1.93	2.91	19.50	4.15	2.50	2.00
9.00	1.14	0.22	3.04	14.30	3.51	1.94	2.86	19.60	4.16	2.51	1.98
9.10	1.18	0.24	3.31	14.40	3.52	1.96	2.82	19.70	4.17	2.52	1.97
9.20	1.22	0.26	3.61	14.50	3.54	1.97	2.80	19.80	4.17	2.53	1.95
9.30	1.27	0.28	3.97	14.60	3.55	1.98	2.78	19.90	4.18	2.53	1.93
9.40	1.31	0.31	4.40	14.70	3.57	1.99	2.76	20.00	**4.19**	**2.54**	1.92
9.50	1.36	0.33	4.88	14.80	3.58	2.01	2.74				
9.60	1.44	0.38	5.44	14.90	3.60	2.02	2.73				
9.70	1.55	0.45	6.57	15.00	3.61	2.03	2.71				
9.80	1.75	0.57	9.28	15.10	3.62	2.04	2.70				
9.90	2.08	0.80	14.94	15.20	3.64	2.05	2.68				
10.00	2.32	0.98	25.81	15.30	3.65	2.07	2.67				
10.10	2.39	1.04	**34.90**	15.40	3.66	2.08	2.65				
10.20	2.46	1.09	**32.04**	15.50	3.68	2.09	2.64				

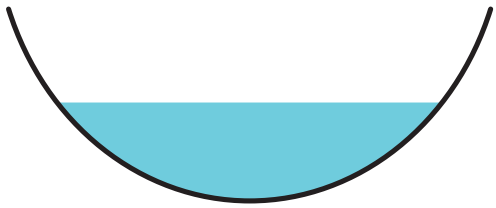
Summary for Reach 2: 2

Inflow Area = 22.000 ac, 0.00% Impervious, Inflow Depth > 2.52" for 5 yr event
Inflow = 35.29 cfs @ 10.13 hrs, Volume= 4.616 af
Outflow = 34.79 cfs @ 10.16 hrs, Volume= 4.605 af, Atten= 1%, Lag= 2.3 min

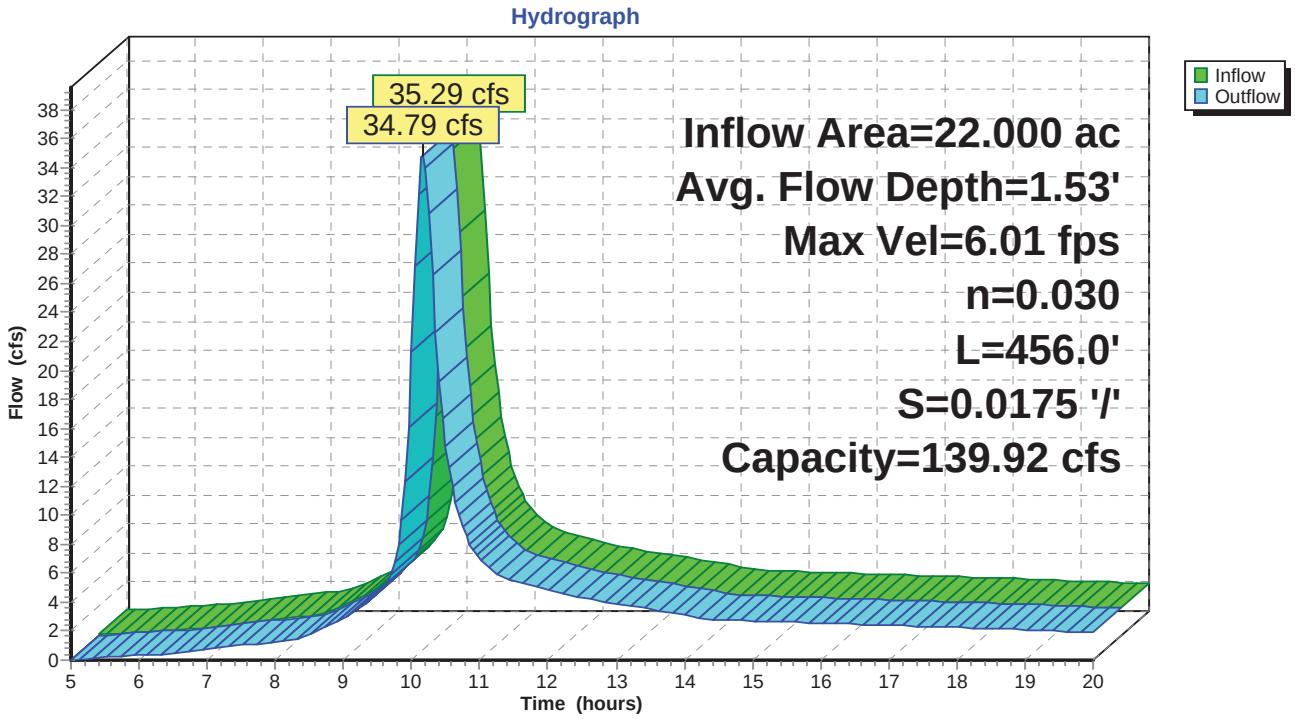
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.01 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 2.84 fps, Avg. Travel Time= 2.7 min

Peak Storage= 2,670 cf @ 10.14 hrs
Average Depth at Peak Storage= 1.53'
Bank-Full Depth= 3.00' Flow Area= 16.0 sf, Capacity= 139.92 cfs

8.00' x 3.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 456.0' Slope= 0.0175 '/'
Inlet Invert= 1,577.00', Outlet Invert= 1,569.00'



Reach 2: 2



Hydrograph for Reach 2: 2

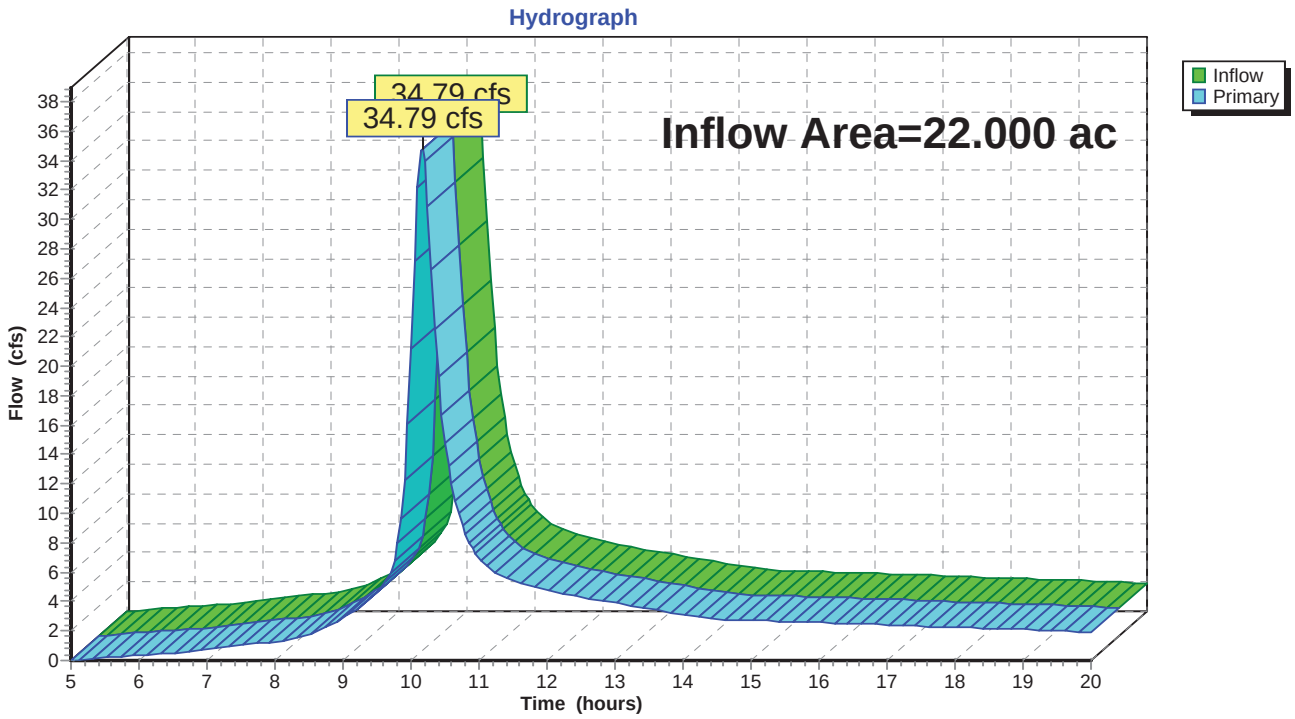
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.09	0	1,577.00	0.00
5.25	0.15	50	1,577.11	0.12
5.50	0.22	69	1,577.13	0.19
5.75	0.28	85	1,577.15	0.26
6.00	0.35	99	1,577.17	0.33
6.25	0.42	113	1,577.19	0.39
6.50	0.51	130	1,577.20	0.48
6.75	0.64	152	1,577.23	0.60
7.00	0.78	176	1,577.25	0.74
7.25	0.93	200	1,577.27	0.89
7.50	1.06	221	1,577.29	1.03
7.75	1.18	239	1,577.31	1.15
8.00	1.31	256	1,577.32	1.28
8.25	1.47	276	1,577.34	1.42
8.50	1.87	324	1,577.38	1.76
8.75	2.42	390	1,577.43	2.30
9.00	3.04	460	1,577.47	2.91
9.25	3.78	536	1,577.53	3.61
9.50	4.88	641	1,577.59	4.65
9.75	7.68	855	1,577.72	6.75
10.00	**25.81**	**2,008**	**1,578.27**	**21.24**
10.25	**27.71**	**2,331**	**1,578.40**	**30.80**
10.50	13.47	1,384	1,577.99	14.80
10.75	8.61	999	1,577.80	9.20
11.00	6.73	830	1,577.70	6.97
11.25	5.82	747	1,577.66	5.96
11.50	5.37	702	1,577.63	5.44
11.75	5.06	673	1,577.61	5.11
12.00	4.76	645	1,577.60	4.82
12.25	4.47	617	1,577.58	4.52
12.50	4.25	595	1,577.56	4.29
12.75	4.06	575	1,577.55	4.09
13.00	3.86	556	1,577.54	3.90
13.25	3.67	536	1,577.53	3.71
13.50	3.47	516	1,577.51	3.51
13.75	3.27	495	1,577.50	3.31
14.00	3.07	474	1,577.48	3.11
14.25	2.88	453	1,577.47	2.91
14.50	2.80	442	1,577.46	2.81
14.75	2.75	437	1,577.46	2.76
15.00	2.71	433	1,577.46	2.72
15.25	2.68	429	1,577.45	2.68
15.50	2.64	424	1,577.45	2.65
15.75	2.60	420	1,577.45	2.61
16.00	2.56	416	1,577.44	2.57
16.25	2.53	411	1,577.44	2.53
16.50	2.49	407	1,577.44	2.50
16.75	2.45	402	1,577.43	2.46
17.00	2.41	398	1,577.43	2.42
17.25	2.37	393	1,577.43	2.38
17.50	2.33	389	1,577.42	2.34
17.75	2.29	384	1,577.42	2.30
18.00	2.25	379	1,577.42	2.26
18.25	2.21	374	1,577.41	2.22
18.50	2.17	369	1,577.41	2.18
18.75	2.13	364	1,577.41	2.13
19.00	2.08	359	1,577.40	2.09
19.25	2.04	354	1,577.40	2.05
19.50	2.00	349	1,577.40	2.01
19.75	1.96	344	1,577.39	1.97
20.00	1.92	339	1,577.39	1.93

Summary for Pond 3: Ditch along Iris

Inflow Area = 22.000 ac, 0.00% Impervious, Inflow Depth > 2.51" for 5 yr event
Inflow = 34.79 cfs @ 10.16 hrs, Volume= 4.605 af
Primary = 34.79 cfs @ 10.16 hrs, Volume= 4.605 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond 3: Ditch along Iris



Hydrograph for Pond 3: Ditch along Iris

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
5.00	0.00		0.00	18.25	2.22		2.22
5.25	0.12		0.12	18.50	2.18		2.18
5.50	0.19		0.19	18.75	2.13		2.13
5.75	0.26		0.26	19.00	2.09		2.09
6.00	0.33		0.33	19.25	2.05		2.05
6.25	0.39		0.39	19.50	2.01		2.01
6.50	0.48		0.48	19.75	1.97		1.97
6.75	0.60		0.60	20.00	1.93		1.93
7.00	0.74		0.74				
7.25	0.89		0.89				
7.50	1.03		1.03				
7.75	1.15		1.15				
8.00	1.28		1.28				
8.25	1.42		1.42				
8.50	1.76		1.76				
8.75	2.30		2.30				
9.00	2.91		2.91				
9.25	3.61		3.61				
9.50	4.65		4.65				
9.75	6.75		6.75				
10.00	**21.24**		**21.24**				
10.25	**30.80**		**30.80**				
10.50	14.80		14.80				
10.75	9.20		9.20				
11.00	6.97		6.97				
11.25	5.96		5.96				
11.50	5.44		5.44				
11.75	5.11		5.11				
12.00	4.82		4.82				
12.25	4.52		4.52				
12.50	4.29		4.29				
12.75	4.09		4.09				
13.00	3.90		3.90				
13.25	3.71		3.71				
13.50	3.51		3.51				
13.75	3.31		3.31				
14.00	3.11		3.11				
14.25	2.91		2.91				
14.50	2.81		2.81				
14.75	2.76		2.76				
15.00	2.72		2.72				
15.25	2.68		2.68				
15.50	2.65		2.65				
15.75	2.61		2.61				
16.00	2.57		2.57				
16.25	2.53		2.53				
16.50	2.50		2.50				
16.75	2.46		2.46				
17.00	2.42		2.42				
17.25	2.38		2.38				
17.50	2.34		2.34				
17.75	2.30		2.30				
18.00	2.26		2.26				

Summary for Pond Culvert under Iris: Culvert under Iris

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=0.00' (Free Discharge)

Summary for Subcatchment 1: Van Buren Culvert

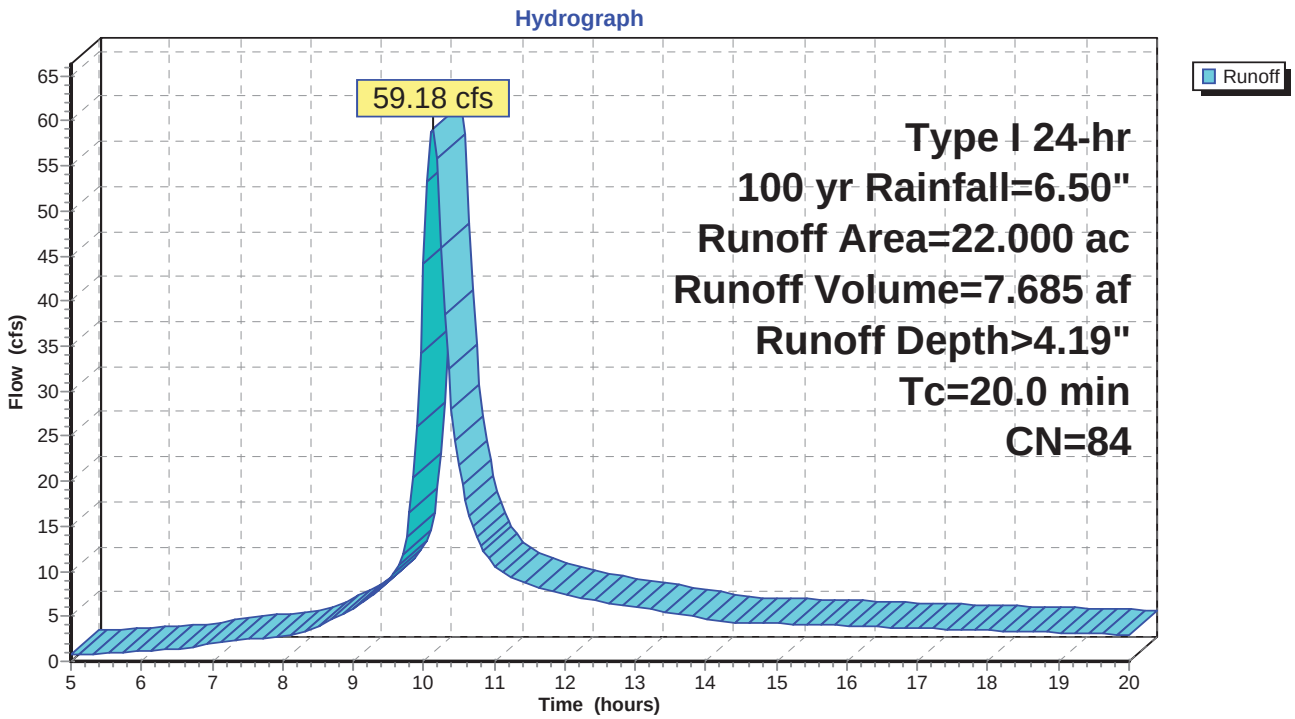
Runoff = 59.18 cfs @ 10.12 hrs, Volume= 7.685 af, Depth> 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type I 24-hr 100 yr Rainfall=6.50"

Area (ac)	CN	Description
22.000	84	Pasture/grassland/range, Fair, HSG D
22.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, My own Tc**

Subcatchment 1: Van Buren Culvert



Hydrograph for Subcatchment 1: Van Buren Culvert

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
5.00	0.65	0.03	0.68	10.30	3.65	2.06	38.45	15.60	5.33	3.58	4.04
5.10	0.67	0.04	0.73	10.40	3.72	2.13	27.92	15.70	5.35	3.59	4.02
5.20	0.68	0.04	0.77	10.50	3.79	2.19	21.85	15.80	5.37	3.61	3.99
5.30	0.70	0.05	0.82	10.60	3.85	2.24	17.80	15.90	5.39	3.63	3.97
5.40	0.71	0.05	0.86	10.70	3.90	2.29	14.89	16.00	5.41	3.65	3.94
5.50	0.73	0.05	0.90	10.80	3.95	2.33	12.91	16.10	5.43	3.66	3.92
5.60	0.75	0.06	0.94	10.90	4.00	2.37	11.62	16.20	5.45	3.68	3.89
5.70	0.76	0.06	0.99	11.00	4.05	2.41	10.70	16.30	5.46	3.70	3.87
5.80	0.78	0.07	1.03	11.10	4.09	2.45	10.01	16.40	5.48	3.71	3.84
5.90	0.80	0.07	1.07	11.20	4.14	2.49	9.46	16.50	5.50	3.73	3.82
6.00	0.81	0.08	1.11	11.30	4.18	2.53	9.03	16.60	5.52	3.75	3.79
6.10	0.83	0.09	1.15	11.40	4.22	2.57	8.72	16.70	5.54	3.76	3.77
6.20	0.85	0.09	1.20	11.50	4.26	2.60	8.48	16.80	5.55	3.78	3.74
6.30	0.87	0.10	1.26	11.60	4.30	2.64	8.26	16.90	5.57	3.80	3.72
6.40	0.88	0.11	1.33	11.70	4.34	2.67	8.06	17.00	5.59	3.81	3.69
6.50	0.90	0.11	1.42	11.80	4.38	2.70	7.86	17.10	5.61	3.83	3.67
6.60	0.92	0.12	1.51	11.90	4.41	2.74	7.67	17.20	5.62	3.85	3.64
6.70	0.95	0.13	1.61	12.00	4.45	2.77	7.47	17.30	5.64	3.86	3.62
6.80	0.97	0.14	1.71	12.10	4.48	2.80	7.28	17.40	5.66	3.88	3.59
6.90	0.99	0.15	1.82	12.20	4.51	2.83	7.09	17.50	5.68	3.89	3.57
7.00	1.01	0.16	1.93	12.30	4.55	2.86	6.92	17.60	5.69	3.91	3.54
7.10	1.04	0.17	2.05	12.40	4.58	2.89	6.78	17.70	5.71	3.93	3.51
7.20	1.06	0.18	2.16	12.50	4.61	2.92	6.64	17.80	5.73	3.94	3.49
7.30	1.09	0.19	2.26	12.60	4.64	2.94	6.51	17.90	5.74	3.96	3.46
7.40	1.11	0.20	2.35	12.70	4.67	2.97	6.39	18.00	5.76	3.97	3.44
7.50	1.13	0.21	2.43	12.80	4.70	3.00	6.27	18.10	5.78	3.99	3.41
7.60	1.16	0.23	2.51	12.90	4.73	3.02	6.14	18.20	5.79	4.00	3.39
7.70	1.18	0.24	2.58	13.00	4.76	3.05	6.02	18.30	5.81	4.02	3.36
7.80	1.21	0.25	2.66	13.10	4.79	3.07	5.89	18.40	5.82	4.03	3.34
7.90	1.24	0.26	2.73	13.20	4.81	3.10	5.77	18.50	5.84	4.05	3.31
8.00	1.26	0.28	2.81	13.30	4.84	3.12	5.64	18.60	5.85	4.06	3.28
8.10	1.29	0.29	2.89	13.40	4.86	3.15	5.51	18.70	5.87	4.07	3.26
8.20	1.32	0.31	2.99	13.50	4.89	3.17	5.39	18.80	5.88	4.09	3.23
8.30	1.35	0.33	3.19	13.60	4.91	3.19	5.26	18.90	5.90	4.10	3.21
8.40	1.39	0.35	3.47	13.70	4.94	3.21	5.13	19.00	5.92	4.12	3.18
8.50	1.42	0.37	3.82	13.80	4.96	3.23	5.01	19.10	5.93	4.13	3.15
8.60	1.46	0.39	4.21	13.90	4.98	3.26	4.88	19.20	5.94	4.14	3.13
8.70	1.51	0.42	4.62	14.00	5.01	3.27	4.75	19.30	5.96	4.16	3.10
8.80	1.55	0.45	5.04	14.10	5.03	3.29	4.62	19.40	5.97	4.17	3.07
8.90	1.60	0.48	5.47	14.20	5.05	3.31	4.51	19.50	5.99	4.19	3.05
9.00	1.65	0.51	5.91	14.30	5.07	3.33	4.42	19.60	6.00	4.20	3.02
9.10	1.71	0.54	6.37	14.40	5.09	3.35	4.36	19.70	6.02	4.21	3.00
9.20	1.76	0.58	6.87	14.50	5.11	3.37	4.32	19.80	6.03	4.23	2.97
9.30	1.83	0.62	7.49	14.60	5.13	3.39	4.29	19.90	6.04	4.24	2.94
9.40	1.90	0.67	8.22	14.70	5.15	3.41	4.26	20.00	**6.06**	**4.25**	2.92
9.50	1.97	0.72	9.03	14.80	5.17	3.43	4.24				
9.60	2.08	0.80	9.96	14.90	5.19	3.45	4.21				
9.70	2.25	0.92	11.88	15.00	5.21	3.47	4.19				
9.80	2.52	1.13	16.56	15.10	5.23	3.48	4.16				
9.90	3.01	1.52	26.14	15.20	5.25	3.50	4.14				
10.00	3.35	1.81	44.14	15.30	5.27	3.52	4.11				
10.10	3.46	1.90	**58.62**	15.40	5.29	3.54	4.09				
10.20	3.56	1.99	53.20	15.50	5.31	3.56	4.07				

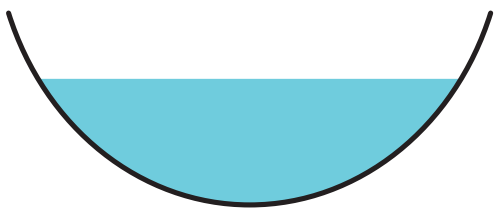
Summary for Reach 2: 2

Inflow Area = 22.000 ac, 0.00% Impervious, Inflow Depth > 4.19" for 100 yr event
Inflow = 59.18 cfs @ 10.12 hrs, Volume= 7.685 af
Outflow = 58.34 cfs @ 10.16 hrs, Volume= 7.668 af, Atten= 1%, Lag= 2.0 min

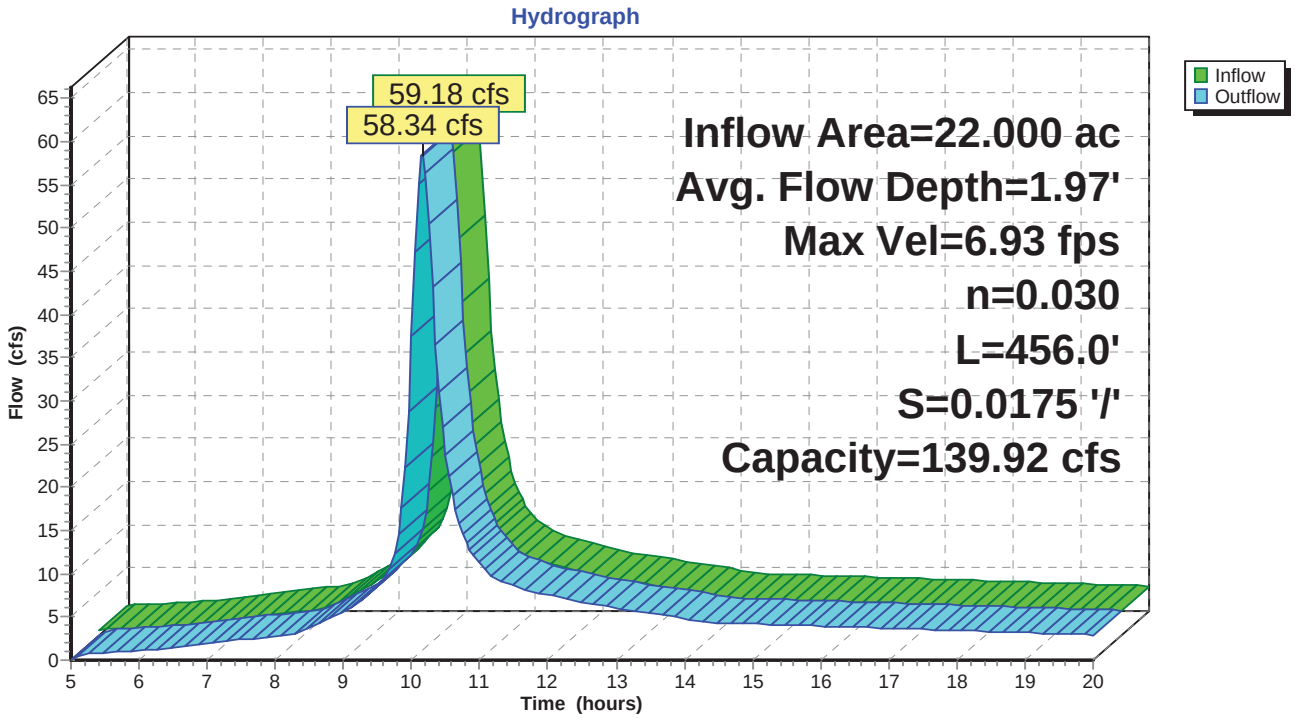
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.93 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 3.35 fps, Avg. Travel Time= 2.3 min

Peak Storage= 3,878 cf @ 10.14 hrs
Average Depth at Peak Storage= 1.97'
Bank-Full Depth= 3.00' Flow Area= 16.0 sf, Capacity= 139.92 cfs

8.00' x 3.00' deep Parabolic Channel, n= 0.030 Earth, grassed & winding
Length= 456.0' Slope= 0.0175 '/'
Inlet Invert= 1,577.00', Outlet Invert= 1,569.00'



Reach 2: 2



Hydrograph for Reach 2: 2

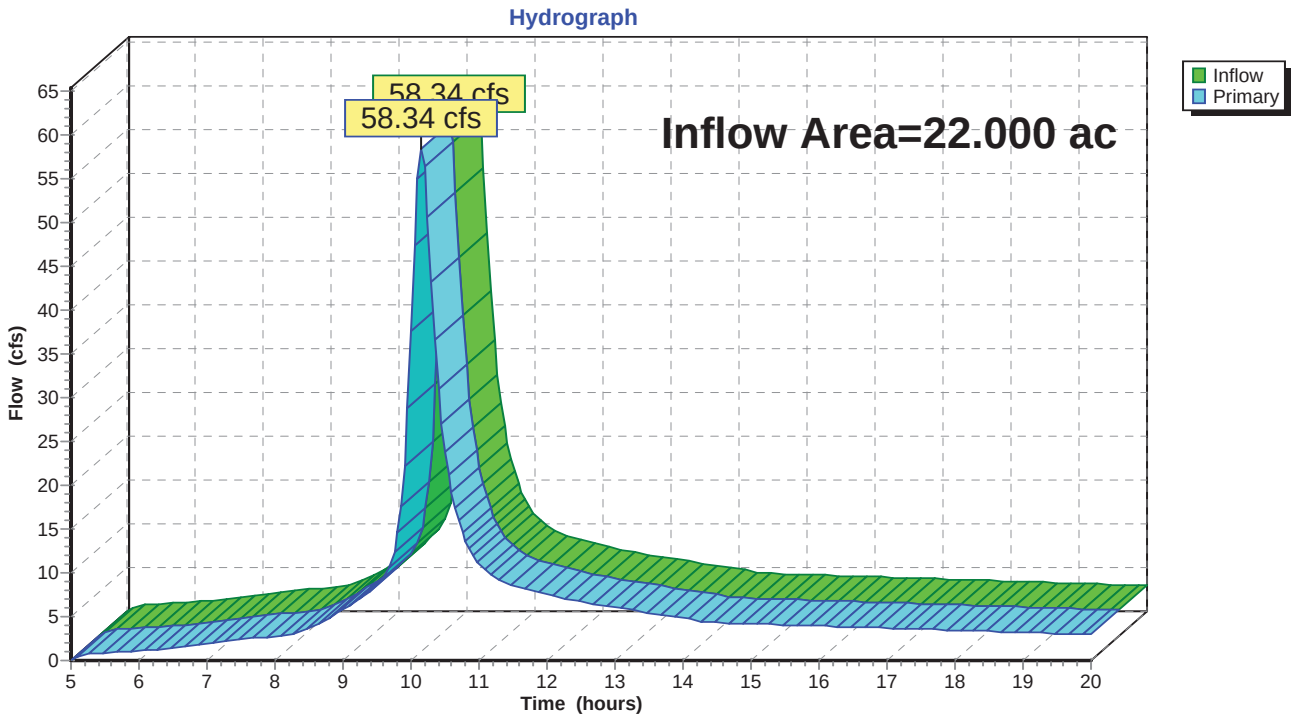
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
5.00	0.68	0	1,577.00	0.00
5.25	0.79	179	1,577.25	0.76
5.50	0.90	197	1,577.27	0.87
5.75	1.01	213	1,577.28	0.98
6.00	1.11	229	1,577.30	1.09
6.25	1.23	244	1,577.31	1.20
6.50	1.42	270	1,577.33	1.37
6.75	1.66	302	1,577.36	1.61
7.00	1.93	335	1,577.38	1.87
7.25	2.21	370	1,577.41	2.15
7.50	2.43	397	1,577.43	2.39
7.75	2.62	419	1,577.45	2.58
8.00	2.81	440	1,577.46	2.77
8.25	3.08	467	1,577.48	3.00
8.50	3.82	539	1,577.53	3.66
8.75	4.83	638	1,577.59	4.64
9.00	5.91	738	1,577.65	5.72
9.25	7.17	845	1,577.71	6.92
9.50	9.03	995	1,577.79	8.70
9.75	13.80	1,308	1,577.95	12.39
10.00	**44.14**	**2,987**	**1,578.65**	**37.59**
10.25	**45.81**	**3,339**	**1,578.78**	**50.48**
10.50	21.85	1,950	1,578.24	23.77
10.75	13.79	1,394	1,578.00	14.63
11.00	10.70	1,153	1,577.88	11.04
11.25	9.23	1,033	1,577.82	9.42
11.50	8.48	970	1,577.78	8.57
11.75	7.96	927	1,577.76	8.04
12.00	7.47	887	1,577.74	7.55
12.25	7.00	847	1,577.71	7.07
12.50	6.64	815	1,577.70	6.70
12.75	6.33	788	1,577.68	6.38
13.00	6.02	760	1,577.66	6.07
13.25	5.70	732	1,577.65	5.76
13.50	5.39	704	1,577.63	5.44
13.75	5.07	674	1,577.61	5.13
14.00	4.75	644	1,577.59	4.81
14.25	4.46	615	1,577.58	4.50
14.50	4.32	601	1,577.57	4.34
14.75	4.25	593	1,577.56	4.26
15.00	4.19	587	1,577.56	4.20
15.25	4.13	581	1,577.56	4.14
15.50	4.07	575	1,577.55	4.08
15.75	4.00	569	1,577.55	4.02
16.00	3.94	563	1,577.54	3.95
16.25	3.88	557	1,577.54	3.89
16.50	3.82	550	1,577.54	3.83
16.75	3.76	544	1,577.53	3.77
17.00	3.69	537	1,577.53	3.70
17.25	3.63	531	1,577.52	3.64
17.50	3.57	524	1,577.52	3.58
17.75	3.50	518	1,577.51	3.51
18.00	3.44	511	1,577.51	3.45
18.25	3.37	504	1,577.51	3.39
18.50	3.31	498	1,577.50	3.32
18.75	3.24	491	1,577.50	3.26
19.00	3.18	484	1,577.49	3.19
19.25	3.11	477	1,577.49	3.13
19.50	3.05	470	1,577.48	3.06
19.75	2.98	463	1,577.48	3.00
20.00	2.92	456	1,577.47	2.93

Summary for Pond 3: Ditch along Iris

Inflow Area = 22.000 ac, 0.00% Impervious, Inflow Depth > 4.18" for 100 yr event
Inflow = 58.34 cfs @ 10.16 hrs, Volume= 7.668 af
Primary = 58.34 cfs @ 10.16 hrs, Volume= 7.668 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond 3: Ditch along Iris



Hydrograph for Pond 3: Ditch along Iris

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
5.00	0.00		0.00	18.25	3.39		3.39
5.25	0.76		0.76	18.50	3.32		3.32
5.50	0.87		0.87	18.75	3.26		3.26
5.75	0.98		0.98	19.00	3.19		3.19
6.00	1.09		1.09	19.25	3.13		3.13
6.25	1.20		1.20	19.50	3.06		3.06
6.50	1.37		1.37	19.75	3.00		3.00
6.75	1.61		1.61	20.00	2.93		2.93
7.00	1.87		1.87				
7.25	2.15		2.15				
7.50	2.39		2.39				
7.75	2.58		2.58				
8.00	2.77		2.77				
8.25	3.00		3.00				
8.50	3.66		3.66				
8.75	4.64		4.64				
9.00	5.72		5.72				
9.25	6.92		6.92				
9.50	8.70		8.70				
9.75	12.39		12.39				
10.00	**37.59**		**37.59**				
10.25	**50.48**		**50.48**				
10.50	23.77		23.77				
10.75	14.63		14.63				
11.00	11.04		11.04				
11.25	9.42		9.42				
11.50	8.57		8.57				
11.75	8.04		8.04				
12.00	7.55		7.55				
12.25	7.07		7.07				
12.50	6.70		6.70				
12.75	6.38		6.38				
13.00	6.07		6.07				
13.25	5.76		5.76				
13.50	5.44		5.44				
13.75	5.13		5.13				
14.00	4.81		4.81				
14.25	4.50		4.50				
14.50	4.34		4.34				
14.75	4.26		4.26				
15.00	4.20		4.20				
15.25	4.14		4.14				
15.50	4.08		4.08				
15.75	4.02		4.02				
16.00	3.95		3.95				
16.25	3.89		3.89				
16.50	3.83		3.83				
16.75	3.77		3.77				
17.00	3.70		3.70				
17.25	3.64		3.64				
17.50	3.58		3.58				
17.75	3.51		3.51				
18.00	3.45		3.45				

Summary for Pond Culvert under Iris: Culvert under Iris

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' TW=0.00' (Free Discharge)

APPENDIX E

USACE JD FORM

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: 6/17/2019

State: CA | City/County: Riverside/Riverside

Nearest Waterbody: Unnamed Drainage

Location: TRS, LatLong or UTM: 33.886836°N /-117.347965°W

Name/ Address of Person Requesting PJD: Gonzales Environmental Consulting, LLC
Teresa Gonzales
358 Crystal Drive
San Jacinto, CA92583

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 499 linear ft | 0.039 | Stream Flow: Ephemeral

Wetlands: acre(s) | Cowardin Class: Riverine

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☐ Field Determination: | Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Riverside East
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey Staff, Natural Resources Conservation
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Google, 2019
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): Jurisdictional Delineation

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Teresa Gonzales

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office: Los Angeles District File/ORM #: | PJD Date: 6/17/ 2019

State: CA City/County: Riverside/Riverside | Person Requestinq PJD: Teresa Gonzales

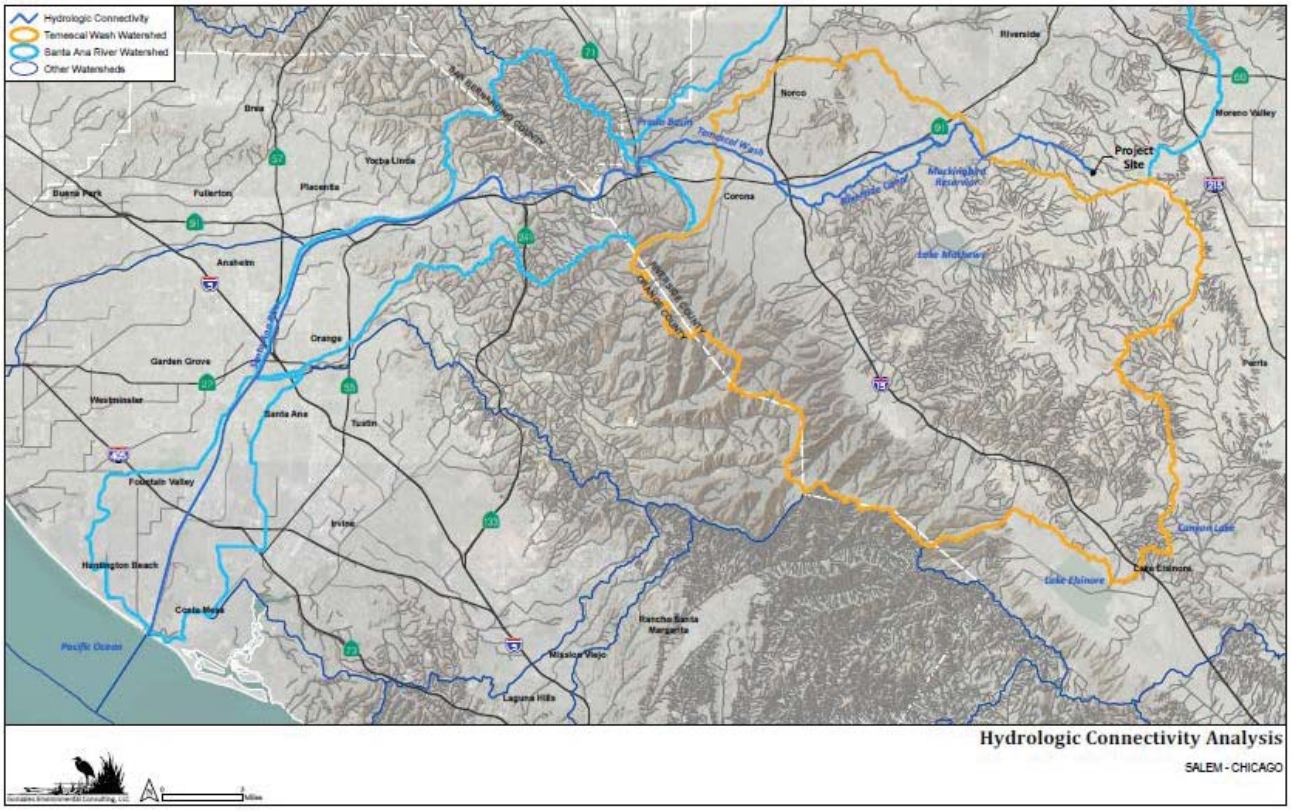
Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
	33.886836°N	-117.347965°W	Riverine	0.039 acres	Non-Section 10 non-wetlan

Notes:

The existing project waters of unnamed flow off site into unnamed drainage which enters Mockingbird Canyon Creek which flows to Santa Ana River. Please see attached connectivity analysis.

APPENDIX F

CONNECTIVITY MAP & ANALYSIS



Hydrologic Connectivity Analysis

SALEM - CHICAGO

The JD for the project concerns an unnamed drainage and tributary ditch [33.886836°N/-117.347965°W] which are tributary to Mockingbird Canyon Creek, Santa Ana River and eventually the Pacific Ocean in the City of Riverside of County of Riverside, California.

The Unnamed drainage and tributary ditch on the project site are anthropogenic affected. A culvert under Van Buren Boulevard directs flow north towards another culvert under Iris Avenue. A tributary ditch along Iris Avenue directs flow from west to east towards the culvert under Iris Avenue. The unnamed drainage flows 4.21 miles to Mockingbird Reservoir which outfalls into Siphon Gage Canal(6.79 miles), which merges with Riverside Canal (4.8 miles), which flows into Temescal Canyon Wash (5.27 miles), which then connects into Prado Basin. D-1 gradient for the project site is 4%, project site to Mockingbird Reservoir to Siphon Gage Canal is 15%. Siphon Gage Canal to Riverside Canal is 8%. Riverside Canal to Temescal Canyon is 12% and the final stretch to Prado Basin is 12%. Arroyo is a 1st order stream which becomes a 6th order stream with the confluence of Siphon Gage Canal.

Unnamed Drainage OHWM of the 499 foot-long dirt channel consists of an incised channel the width of which averages 8 feet. The natural channel contains bare ground, Pepper trees, patch of mulefat, and grass species. Downstream the drainage free flows into Mockingbird Reservoir. The stretch into Santa Ana River consists of a mixed natural channel and lined channel.

Chemical characteristics of flows within the drainage is dictated by the land use of the 7,020 acre drainage area, which consists of primarily rural-urban landscape. Storm and nuisance water contributes along with non-point source chemicals associated with the urban landscape are found throughout the majority of the drainage area. As a result, non-point-source chemicals associated with the urban landscape including residential uses have the potential to be present within storm and nuisance flows.

Furthermore, Santa Ana River Reach 3 is listed for copper, lead and pathogens on the 303(d) list of impaired waters. With respect to storm flows, the 2-year, 24-hour precipitation is 2.5 inches in the project area. The 100-year, 12-hour precipitation is 6.5 inches in the project area. Unnamed drainage Q2 is 12.98 cfs. The Q100 is 59.18 cfs.

In summary Unnamed Drainage and ditch are: (1) tributary to Mockingbird Reservoir and Santa Ana River and located in the City of Riverside of County of Riverside, California; (2) conveys flows from the rural/urban landscape; (3) Unnamed drainage Q2 is 12.98 cfs. The Q100 is 59.18 cfs and (4) supports an OHWM that contains bare ground, Pepper trees, patch of mulefat, and grass species. Based on the above, we conclude that Unnamed Drainage is a relatively permanent water (RPW) per the Rapanos JD process, and therefore is a water of the United States.

Hydrograph data source:

Riverside County Flood Control and Water Conservation District. 1978. Hydrology Manual. 110 pgs.

Rain Gage Data: USGS 11066460 SANTA ANA R A MWD CROSSING CA

DRAFT 10-29-04
MSHCP Plan Area Project Review Checklist

Documents:MSHCP Vol I and II, Implementation Agreement, Errata Letter from County, and FWS Permit Conditions

Location within the MSHCP Plan Area
PQP Lands: Impacts to PQP Lands require a biologically equivalent or superior finding whereby the Wildlife Agencies have review and concurrence (FWS Permit Condition #17; MSHCP pp 3-16); in addition follow applicable policies and procedures.

Outside Criteria Area and PQP lands: Outside of PQP lands
1) See below for Riparian/Riverine and Vernal Pools policy, Narrow Endemic Survey Area, Additional Species Survey Areas
2) If Adjacent to Conservation Area see fuel management and Urban Wildlands Interface below

Within Criteria Area :
1) Follow conservation strategy (MSHCP chapter 3.0) and applicable policies and procedures. NO

In Tule Peak Quino Area? **yes** (see FWS Permit Condition #12) **XX no**

In "blue" cells" (areas targeted for conservation but not captured in FWS conceptual reserve design map)? **yes XXno**

"Policies and Procedures" (need to check if project occurs within a special survey area)

Narrow Endemic Plant Species Survey Area ("NEPSSA") (MSHCP 6.1.3 pp 6-28; see also Errata Correspondence from County dated 5-21-04): **Out XX**
1 2 3 3a 4 5 6 7 8 9
Criteria Area Species Survey Area("CASSA") (MSHCP 6.3.2 pp 6-63; see also Errata Correspondence from County dated 5-21-04):
1 2 3 3a 4 5 6 7 8 Out XX
Amphibian Species Survey Area (6.3.2 pp 6-65):
ARTO RLFR YLFR YLFR+ARTO Out XX
Mammal Species Survey Area (6.3.2 pp 6-65):
AKR+LAPM LAPM SBKR+LAPM OUT XX

Burrowing Owl Survey Area (MSHCP 6.3.2 pp 6-65; also species-specific objective #5 MSHCP Vol II pp B-65) : **XX In Out**

For those projects that occur within a special survey area (e.g. NEPSSA/CASSA/Amphibian/Mammal/Burrowing Owl survey area):
1) Have appropriate surveys been conducted? **YES**

Riparian/Riverine and Vernal Pools Policy **Applies Plan Area Wide** (MSCHP 6.1.2 pp 6-20; FWS Permit Condition #18)
If Riparian, Riverine, Vernal Pool and/or Fairy Shrimp Habitat occur on the site:
1) Can project proponents avoid the habitat, if so ensure long term conservation of avoided areas.**Project designed to minimize impacts to greatest extent possible**
2) If these habitats cannot be avoided then a biological equivalency or superior determination will be necessary.
3) In addition, areas that cannot be avoided will need to be surveyed for fairy shrimp, least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo if suitable habitat is on site. (Note protocol surveys for fairy shrimp will be necessary; see FWS permit condition 14) **Not applicable**

Guidelines Pertaining to the Urban Wildlands Interface (6.1.4 pp 6-42) for actions adjacent to, or that may otherwise affect, the conservation area
1) Quantity and quality of runoff not altered?

2) Night lighting directed away?
3) Noise generating land uses incorporate setbacks/walls?
4) Landscape plan considers MSHCP non-native plant table 6-2?
5) Barriers/fencing incorporated?
6) Manufactured slopes do not extend into Conservation Area?

Fuels Management (6.4 pp 6-72):
Is brush management incorporated into development boundaries (For new development adjacent to Conservation Area)?

Covered Activity within/adjacent to Conservation Area (road, utilities, flood control, agriculture, single family home, reserve management, etc.) (7.0):
Consistent with requirements of MSHCP and FWS Permit (species specific objectives, survey areas, policies, guidelines - siting and design of roads (7.5.1 pp 7-80), general construction (7.5.3 pp 7-87), construction of wildlife crossings (7.5.2 pp 7-81), BMPs (Appendix C), etc.)? **Yes**

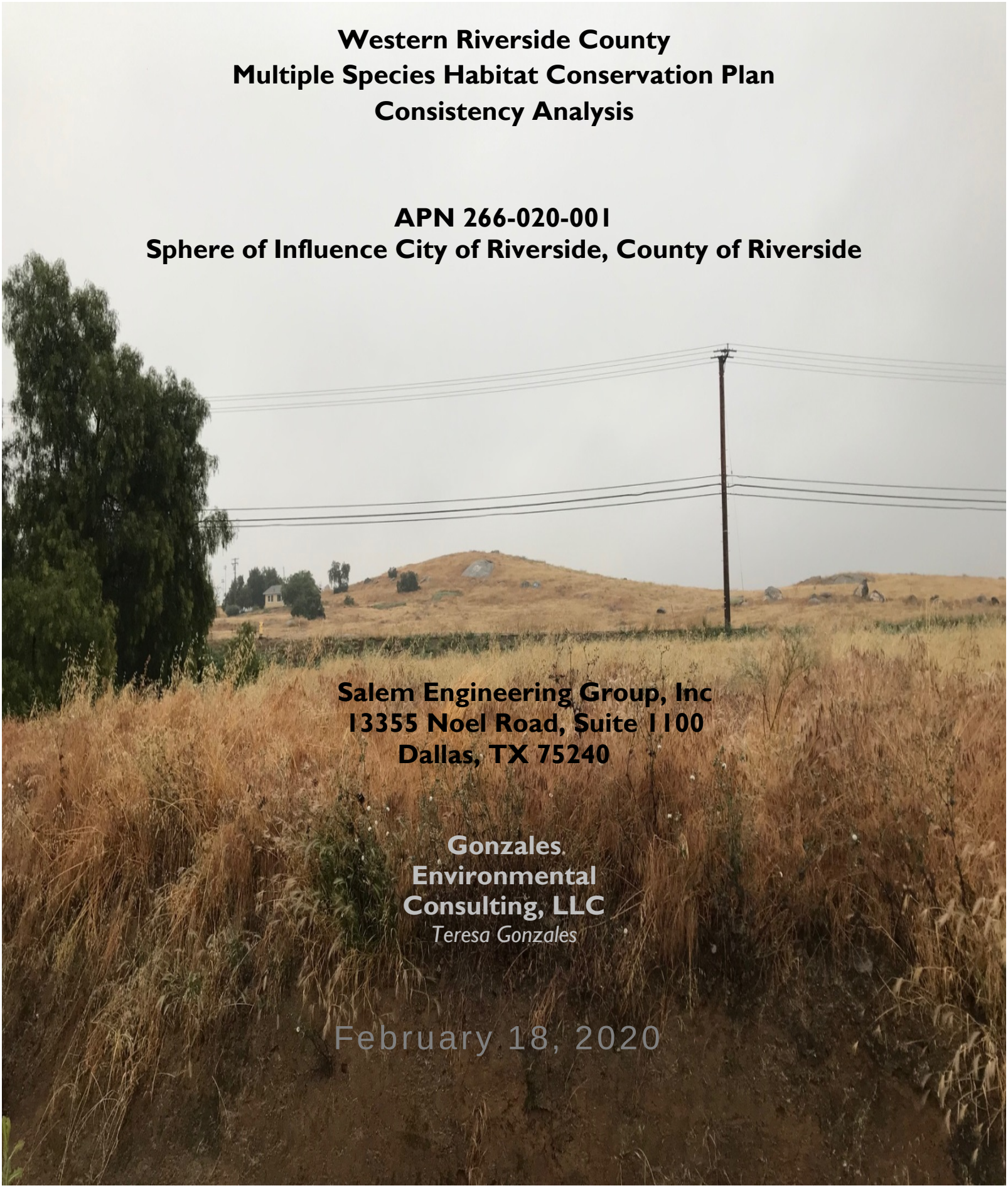
Migratory Bird Treaty Act
see FWS Permit Condition #5 (e.g. take of non-listed Migratory Birds is not authorized) **Yes**

Appendix I

Consistency Analysis Report

Western Riverside County
Multiple Species Habitat Conservation Plan
Consistency Analysis

APN 266-020-001
Sphere of Influence City of Riverside, County of Riverside



Salem Engineering Group, Inc
13355 Noel Road, Suite 1100
Dallas, TX 75240

Gonzales.
Environmental
Consulting, LLC
Teresa Gonzales

February 18, 2020

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

Date: 2-18-2020

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1 EXECUTIVE SUMMARY

In January, March, April, May, and June 2019 and February 2020, Teresa Gonzales and Paul Gonzales of Gonzales Environmental Consulting, LLC (GEC) conducted biological resources assessment of the project site (site) including focused burrowing owl surveys and streambed/wetland delineation studies. The purpose of our assessment was to characterize biological resources on the site, and to identify any biological constraints to land-use changes. The site consists of vegetation communities, characterized as streambed, *Avena barbata (*Slender oat) Alliance*, Baccharis salicifolia (*Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site. The project site has been subject to anthropogenic disturbances.

Western Riverside Multiple Species Habitat Conservation Plan

The site is in within Lake Mathews/Woodcrest Area Plan of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). No Criteria cell, Core, Linkage, Covered Road, are located in or around the project area. Habitat assessments are required for burrowing owl as it is MSHCP Burrowing Owl Survey Area.

Based on biological resource assessments, the Riverside County Integrated Project Conservation Report Generator, and maps of MSHCP survey areas, it was determined that the following studies would be required for the proposed Project's consistency with the MSHCP:

- Focused surveys for the burrowing owl (*Athene cunicularia*) and fairy shrimp

No burrowing owl were found on the project site.

Endangered, Threatened and Sensitive Species

No special-status plant and animal species have the potential to occur on site, and none were observed on the project site. A circumstance of a negative result is not necessarily evidence that the species does not exist on the site or that the site is not actual or potential habitat of the species. The survey results are only good for one year. Regardless of the survey results, sensitive species cannot be taken under State and Federal law. The survey report and any mitigation measures included do not constitute authorization for incidental take of any sensitive species.

Streambed Resources

There are seasonal watercourses on site which are MSHCP 6.1.2 riparian/riverine resources on the project site. USACE waters of the U.S. (0.039 acres) and CDFW streambed (0.169 acres) and Mulefat scrub alliance (0.169 acres) are found on the site. MSHCP 6.1.2 riverine (0.169 acres) and riparian (0.169 acres) are found on the site.

Permits

The area is under the jurisdiction of the U. S. Army Corps of Engineers, California Department of Fish and Wildlife and California Regional Water Quality Control Board. A California Department of Fish and Wildlife streambed alteration agreement and a California Regional Water Quality Control Board Water Quality Discharge (WDR) permit will be required if there are impacts associated with the drainage. Final authority over the area rests with the appropriate agencies.

Proposed Mitigation

The proposed project will result in unavoidable impacts to 0.033 acre riverine areas. Unavoidable impacts to onsite riverine areas will be impacted by pad development and ingress/egress into the project site. The compensatory mitigation is proposed as follows:

Provision of a one-time fee for 1.0 acre for riparian and riverine habitats in-lieu fee program off-site reestablishment through Riverside-Corona Resource Conservation District (RCRCD), or any other approved in-lieu fee program at time of rough grading permit issuance will be acquired for mitigation of the impacts at a minimum ratio of 2:1 or greater if required by another agency. If reestablishment credits are not available then 1.0 acres for riparian and riverine habitats in-lieu fee program off-site enhancement credits through Riverside-Corona Resource Conservation District (RCRCD), or any other approved in-lieu fee program at time of rough grading permit issuance will be acquired for mitigation of the impacts if required by another agency. Notification to California Department of Fish and Wildlife, California Regional Water Quality Control Board, and U.S. Army Corps of Engineers is required regarding which type of in-lieu fee credits (reestablishment or enhancement) are being utilized. Mitigation for the impacts will be at a minimum 3:1 ratio for riverine or whatever is required by California Department of Fish and Wildlife, California Regional Water Quality Control Board, and U.S. Army Corps of Engineers.

Should sufficient in-lieu fee credits not be available for purchase at the time the project is implemented, or should other agencies not approve in-lieu fee credit purchase, then the Developer must prepare and submit for review and approval a Habitat Mitigation and Monitoring Plan (HMMP) for a site-specific restoration project at a minimum 3:1 mitigation to impact ratio. The plan must meet County of Riverside requirements, as well as

requirements of other resource and wildlife agencies. Appropriate guarantees for the restoration project must be in place (e.g., letter of credit, bond, etc.) prior to issuance of a grading permit.

The Restoration Plan and Habitat Mitigation and Monitoring Program (HMMP) will be reviewed and approved by the RCA and Wildlife Agencies prior to project implementation (any vegetation removal, staging equipment on site, ground disturbance, etc.).

By providing compensatory mitigation through an in-lieu fee program for riverine/riparian impacts equivalent or Superior in Preservation requirements will be met. The habitat on site is fragmented, disturbed and does not connect to any viable riparian and riverine habitat up or down stream. Habitat through an in-lieu fee program will increase existing riverine/riparian habitat and add to it. By doing this it will be Superior in Preservation.

2 INTRODUCTION

The purpose of this Consistency Analysis (Analysis) report is to summarize the biological data for APN 266-020-001 and to document project's consistency with the goals and objectives of the Western Riverside County Multiple Species Habitat Conservation Plan.

2.1 Project Area

The project site (site) discussed in this report is located north of Van Buren Boulevard, east of Chicago Avenue, and south of Iris Avenue in the sphere of influence of the City of Riverside, Riverside County, California. See Figures 1 and 2.

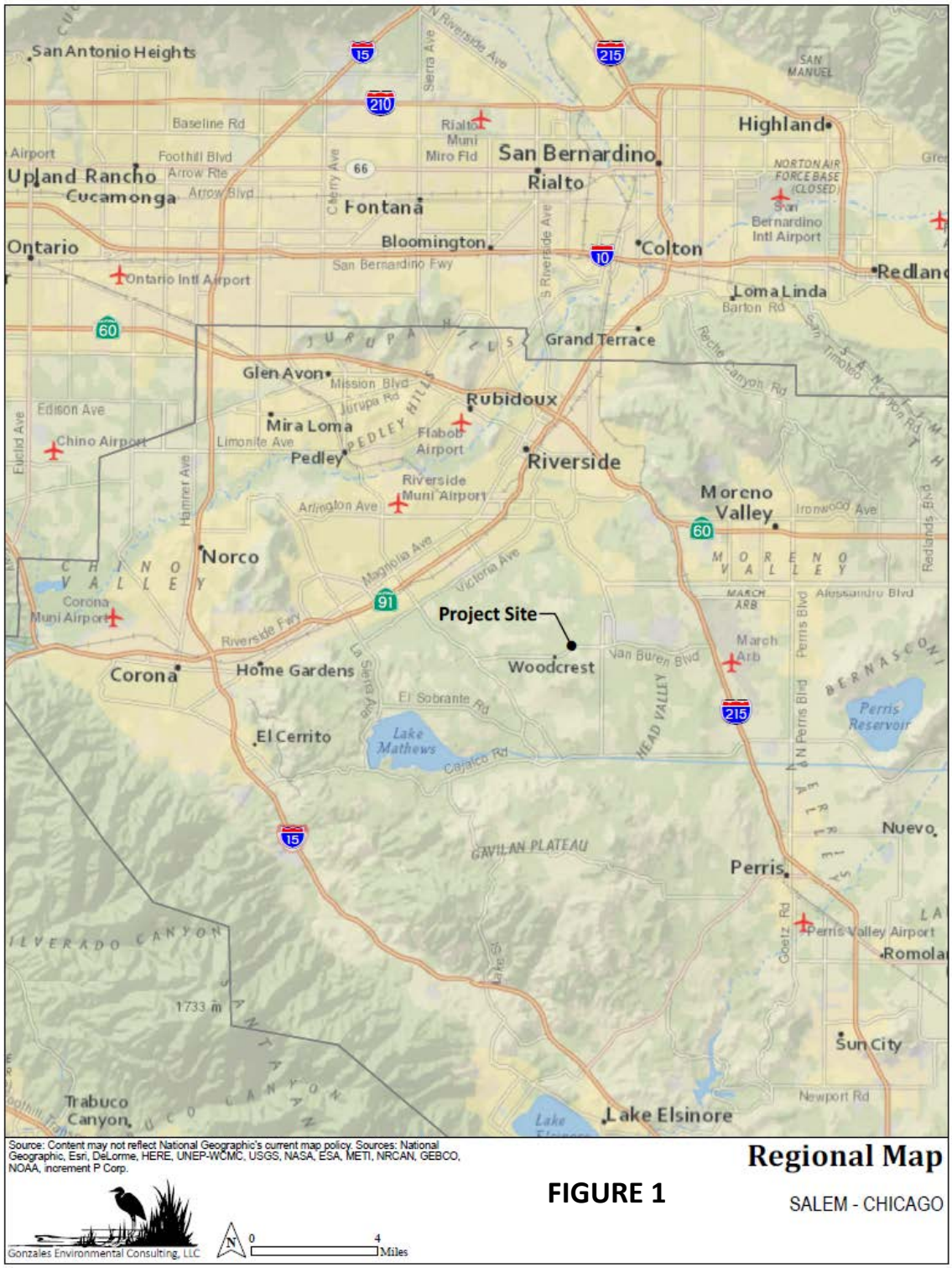
The site is located within San Bernardino Meridian in a portion of Section 30, Township 3 South, Range 4 West in Riverside County, California (Figures 3.1, 3.2, 3.3 and 3.4). This location is shown on the Riverside East, California 7.5-minute U.S. Geological Survey (USGS) quadrangle (Riverside East Photorevised 1980); page 746 Block B3 of the Riverside County Street Guide and Directory (Thomas Brothers Maps Design 2016). The approximate center of the site is located at the center of the project area is 33.886836°N/-117.347965°W.

The proposed project site is sloping to the north and northwest, depending on the location in the landscape. It occurs at an elevation between 1,560 and 1,584 feet above mean sea level.

The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.

The primary vegetation communities in the project area are streambed, *Avena barbata* (Slender oat) Alliance, *Baccharis salicifolia* (Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site.



Source: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

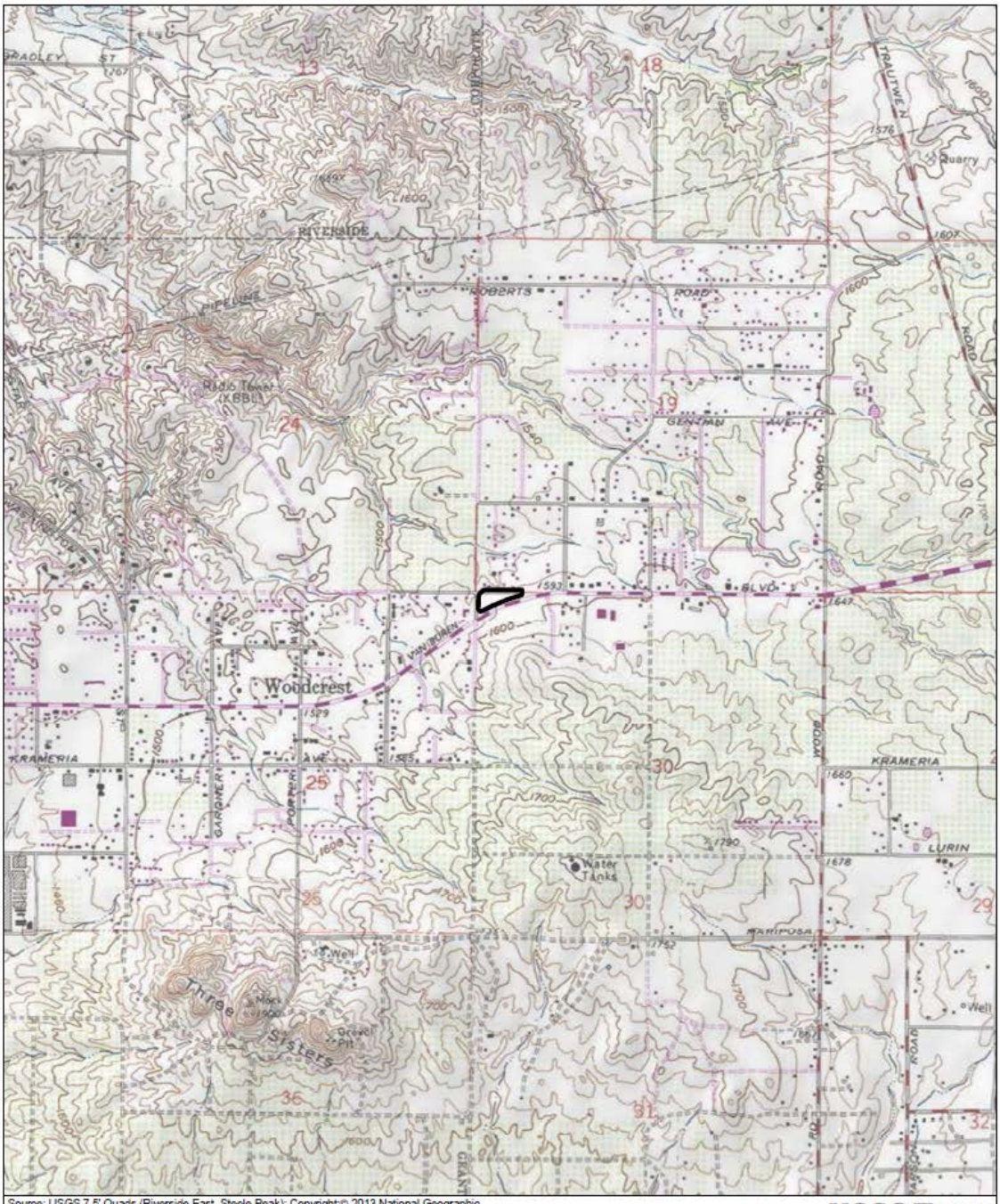
Gonzales Environmental Consulting, LLC

0 4 Miles

FIGURE 1

Regional Map

SALEM - CHICAGO



Source: USGS 7.5' Quads (Riverside East, Steele Peak); Copyright:© 2013 National Geographic Society, i-cubed

FIGURE 2

USGS Topo

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 2,000 Feet

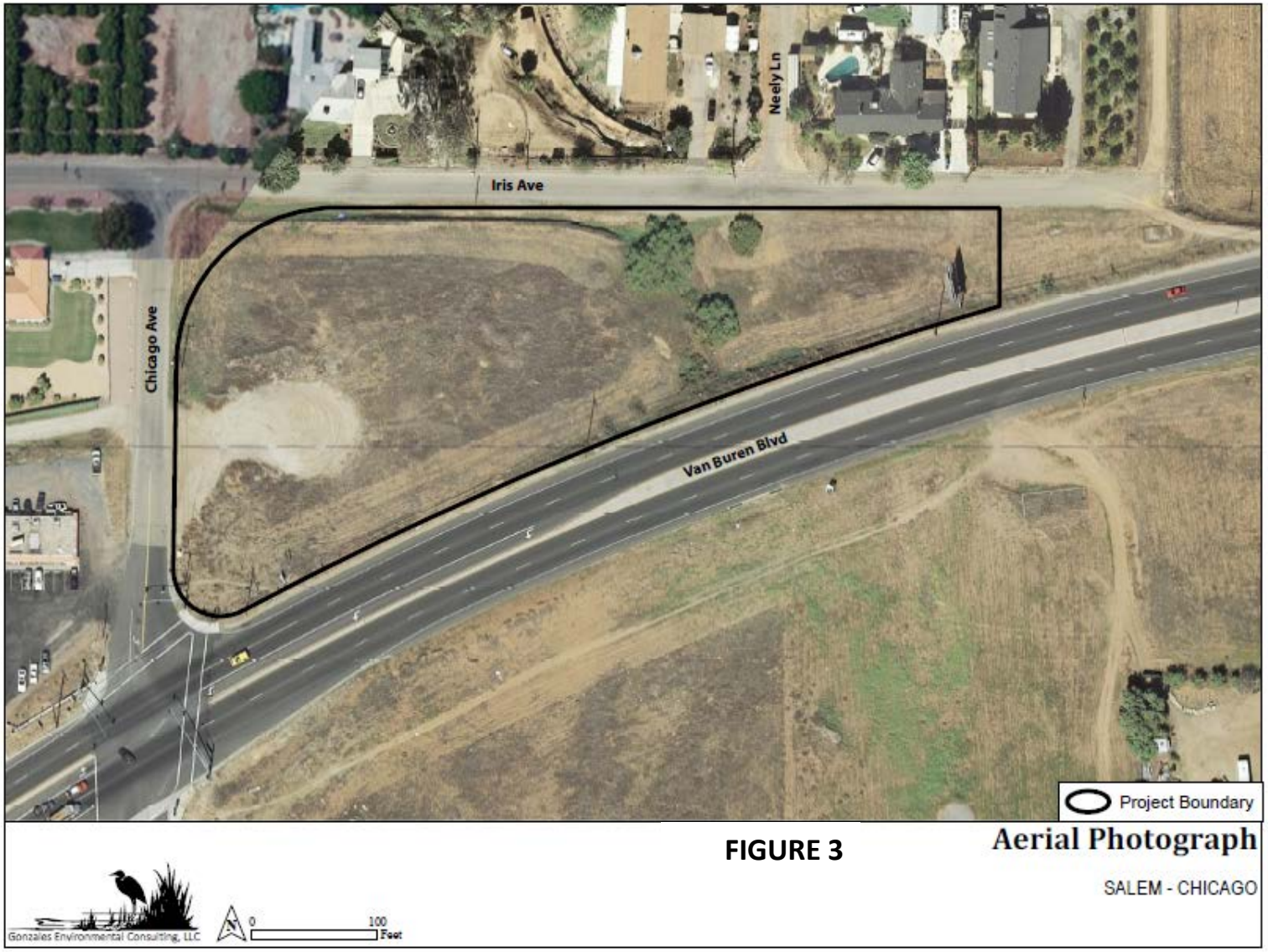


FIGURE 3

Aerial Photograph

SALEM - CHICAGO

2.2 Project Description

The proposed project consists of the development of APN 266-020-001 (2.84 acres). The site is comprised of 2.84 acres of undeveloped property situated in the Sphere of Influence of the City of Riverside in Riverside County, California. The project consists of the installation of a gas station which includes an AM/PM store, fueling station, carwash, associated parking and driveway.

Estimated Duration of Construction:
Estimated duration of construction is 4 months of grading and 1.5-2 years for full build out.

Full Avoidance Infeasibility:
The project, as designed proposes to disturb only where required in order to allow for construction of the project site. Where avoidance was not possible, mitigation of these impacts is being provided offsite as a part of this project.

Existing Conditions

Elevation of the assessment area ranges from a from a low of 1560± feet above mean sea level (msl) in the northern portion of the assessment area to a high of 1584± feet above msl in the southeastern portion of the assessment area. This represents an elevational change across the assessment area of 14± feet. The entire site consists of slightly sloping land.

Land immediately adjacent to the site's northern boundary is single family residences. Land to the west is a mix of residential and commercial. The land to the east is a disturbed narrow strip of natural habitat. The project will not impact public/quasi-public (PQP) land.

Soils

The soil associations mapped for the area are Cieneba-Rock Land-Fallbrook association. Cieneba-Rock Land-Fallbrook association: Well-drained and somewhat excessively drained, undulating to steep, very shallow to moderately deep soils that have a surface layer of sandy loam and fine sandy loam; on granitic rock. The soil series mapped for the area are described in Table 1. The soils found are similar in texture and color to those mapped, but were highly disturbed from anthropogenic activities. The soils were compacted and unstratified over the majority of the project site. Figure 4 depicts the soils on site.

TABLE 1

SOIL SERIES MAPPED FOR THE AREA

Name	Description
Bonsall fine sandy loam 2-8% slopes	Developed in material deeply weathered from granodiorite or tonalite. These moderately well-drained soils occur on uplands and have slopes 2-8%. Elevations range from 1,000-1,800 feet. The average annual rainfall ranges from 10-14 inches, the average annual temperature from 62-65 degrees F, and the average frost-free season from 240-300 days. Vegetation is chiefly annual grasses, forbs and chamise.
Cieneba rocky sandy loam, 15-50% slopes, eroded	Somewhat excessively drained soils on uplands. Slopes of 15-50%. These soils formed in coarse-grained igneous rock. Elevations range from 900-3,500 feet. The average annual rainfall ranges from 9-16 inches, the average annual temperature from 59-65 degrees F, and the average frost-free season from 220-300 days. Vegetation is chiefly annual grasses, chamise, and flat-top buckwheat.
Fallbrook sandy loam, 8-15% slopes, eroded	Well-drained soils that lie on uplands and have slopes of 8-15%. These soils developed on granodiorite and tonalite. Elevations range from 700-3,500 feet. The average annual rainfall ranges from 10-14 inches, the average annual temperature from 59-65 degrees F, and the average frost-free season from 200-280 days. Vegetation is chiefly annual grasses, oaks, flat-topped buckwheat and chaparral.
Monserate sandy loam, 0-5% slopes	Well-drained soils that developed in alluvium from predominately granitic materials and have slopes of 0-5%. These soils are on terraces and on old alluvial fans. Elevations range from 700-2,500 feet. The average annual rainfall ranges from 9-14 inches, the average annual temperature from 61-64 degrees F, and the average frost-free season from 220-280 days. Vegetation is chiefly annual grasses, forbs, salvia and chamise.
Vista coarse sandy loam, 8-15% slopes, eroded	Well-drained soils of uplands. These soils have slopes of 8-15%. Developed on weathered granite and granodiorite. Elevations range from 1,000-3,500 feet. The average annual rainfall ranges from 10-15 inches, the average annual temperature from 59-64 degrees F, and the average frost-free season from 200-260 days. Vegetation is chiefly annual grasses, forbs and chaparral.

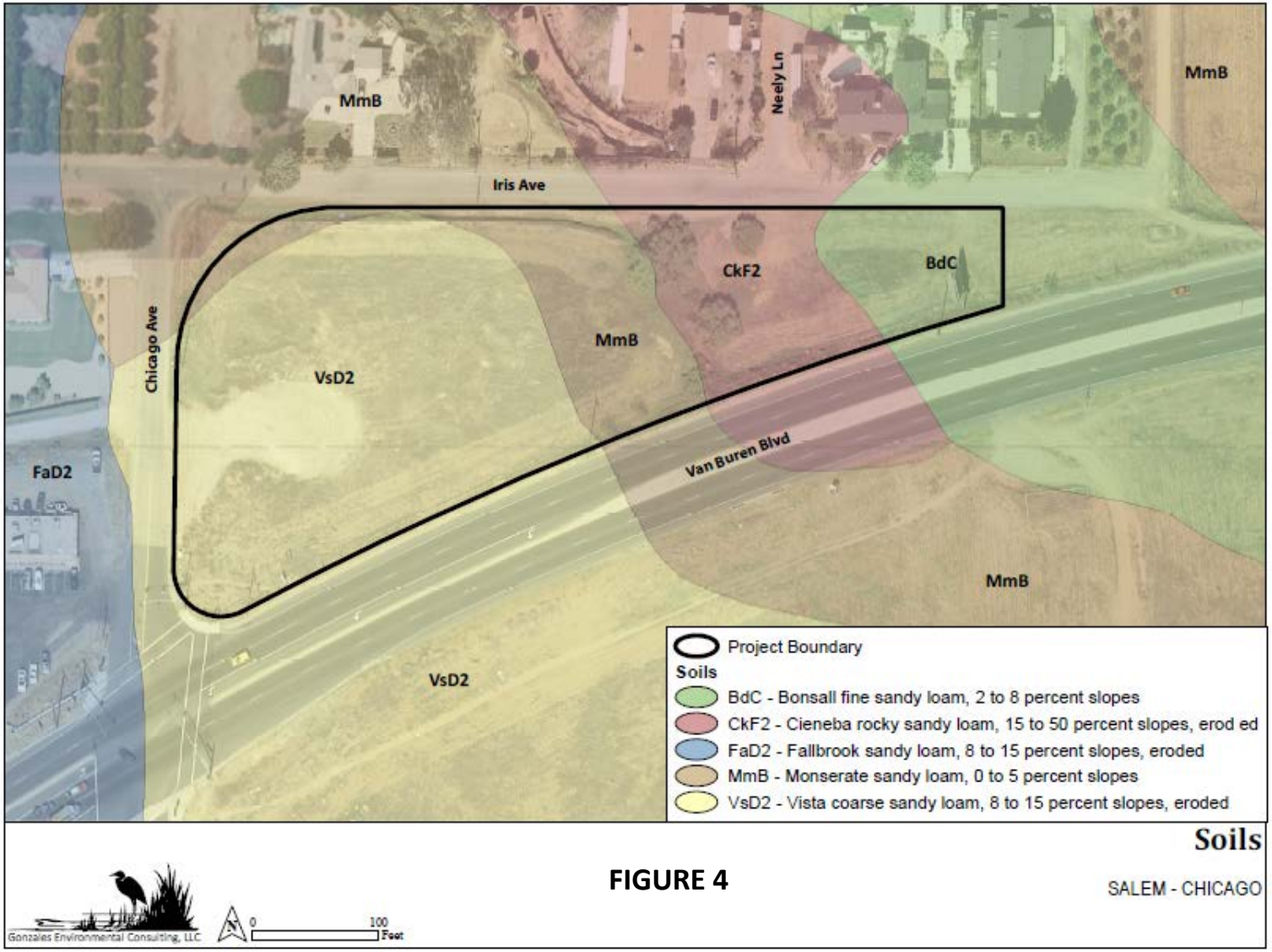

MmB
Neely Ln
MmB
Iris Ave
CkF2
BdC
Chicago Ave
MmB
VsD2
Van Buren Blvd
FaD2
MmB
VsD2
Project Boundary
Soils
BdC - Bonsall fine sandy loam, 2 to 8 percent slopes
CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, erod ed
FaD2 - Fallbrook sandy loam, 8 to 15 percent slopes, eroded
MmB - Monserate sandy loam, 0 to 5 percent slopes
VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded
Gonzales Environmental Consulting, LLC
0
100
Feet
Soils
SALEM - CHICAGO

FIGURE 4

2.3 Covered Roads

This section would only apply if the proposed project entails the construction of, or improvements to, one or more Covered Roads. The proposed project does not include the improvement of any of the Covered Roads.

2.4 Covered Public Access Activities

The proposed project does not include Covered Public Access Activities.

2.5 General Setting

The project site is located south and east of existing single family development(s). The project site itself is bordered by Van Buren Boulevard, Chicago Avenue and Iris Avenue. Van Buren Boulevard forms the southern boundary for the project. Chicago Avenue forms the western boundary and Iris Avenue forms the northern boundary. The entire project site has been disturbed by anthropogenic disturbances. Vegetation has been disturbed by non-authorized access and adjacent land uses.

GEC found Section 6.1.2 riverine and riparian areas on the project site. There are seasonal watercourses on site which are MSHCP 6.1.2 riparian/riverine resources on the project site. USACE waters of the U.S. (0.039 acres) and CDFW streambed (0.169 acres) and Mulefat scrub alliance (0.169 acres) are found on the site. MSHCP 6.1.2 riverine (0.169 acres) and riparian (0.169 acres) are found on the site. Impacts to 0.033 acre of riverine are anticipated as part of the project.

3 RESERVE ASSEMBLY ANALYSIS

The project area is located in MSHCP Lake Mathews/Woodcrest Area Plan. The Area Plan is further divided into Subunits that contain Criteria Cells that are targeted for conservation. Target conservation acreages have been established along with a description of the planning species, biological issues and considerations, and criteria for each Subunit within the MSHCP. In some areas, Cells that have a common habitat goal are combined forming a Cell Group. The design for conservation involves core areas of habitat, blocks of habitat, and linkages between the core and block areas. The project area is not in a Subunit or Criteria Cell. The following specific target planning species and conservation goals are included within the biological considerations for Lake Mathews/Woodcrest Area Plan:

- Planning Species:
- Bell's sage sparrow
- Burrowing owl
- Cactus wren
- coastal California gnatcatcher
- Cooper's hawk
- grasshopper sparrow
- loggerhead shrike
- northern harrier
- Southern California rufous-crowned sparrow
- White-tailed kite
- Yellow-breasted chat
- Yellow warbler
- Quino checkerspot butterfly
- Bobcat
- Mountain lion
- Stephens' kangaroo rat
- Western pond turtle
- long-spined spine flower
- many-stemmed dudleya
- Munz's onion
- Palmer's grapplinghook
- Small-flowered microseris
- Small-flowered morning-glory

- Biological Issues and Considerations:
- Conserve clay soils supporting long-spined spine flower.

- Conserve existing intact upland Habitat in the La Sierra Hills augmenting Lake Mathews/Estelle Mountain Reserve.
- Provide for and maintain a connection from the eastern edge of Temescal Wash to the existing Lake Mathews/Estelle Mountain Reserve.
- Conserve clay soils supporting sensitive plant species known to occur in the Lake Mathews Area Plan, including Palmer's grapplinghook, small-flowered morning- glory, long-spined spine flower, and small-flowered microseris.
- Conserve existing wetlands along Cajalco Wash.
- Conserve existing populations of Bell's sage sparrow and coastal California gnatcatcher.
- Maintain Core Area for bobcat.
- Maintain Core Area for mountain lion.
- Maintain Core Area for Stephens' kangaroo rat.
- Maintain Core and Linkage Habitat for western pond turtle.
- Maintain opportunities for Core and Linkage Habitat for Quino checkerspot butterfly.
- Conserve existing upland Habitat in Dawson Canyon area augmenting the existing Estelle Mountain Reserve.
- Conserve existing populations of the coastal California gnatcatcher and Bell's sage sparrow.
- Maintain linkage area for mountain lion.
- Maintain Core Area for Stephens' kangaroo rat.
- Conserve upland Habitat to form connections between Harford Springs Reserve, Steele Peak Reserve, and BLM parcels in the area.
- Conserve clay soils supporting sensitive plant species known to occur in this Subunit, including Munz's onion, Palmer's grapplinghook, small-flowered morning glory, long-spined spine flower, small-flowered microseris, and many-stemmed dudleya.
- Conserve existing populations of Bell's sage sparrow.
- Provide opportunities for reintroduction of Quino checkerspot butterfly. This includes areas within the Northwest Riverside County Recovery Unit and the Gavilan Hills habitat complex as identified in the January 2001 U.S. Fish and Wildlife Service Draft Recovery Plan for the Quino Checkerspot Butterfly (U.S. Fish and Wildlife Service, 2001). This focus area generally extends west from the Steele Peak Reserve to Lake Mathews and includes areas identified for Conservation between the unnamed BLM parcels north of the Steele Peak Reserve and the Motte-Rimrock Reserve.
- Maintain linkage area for bobcat.
- Maintain linkage area for Stephens' kangaroo rat.

- Conserve upland Habitat to form connections between North Peak Reserve, Steele Peak Reserve, and BLM parcels in the area.
- Conserve existing populations of Bell's sage sparrow.
- Conserve existing wetlands with a focus on Conservation of existing riparian, woodland, coastal sage scrub, alluvial fan scrub and open water habitats.
- Maintain Core and Linkage Habitat for bobcat.
- Maintain linkage area for Stephens' kangaroo rat.
- Maintain opportunities for Core and Linkage Habitat for Quino checkerspot butterfly.

Cores and Linkages within Conservation Area

MSHCP Conservation Area is comprised of a variety of existing and proposed cores, extensions of existing cores, linkages, constrained linkages and non-contiguous habitat blocks. These features are generally referenced as cores and linkages. A Core is a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species. Although a more typical definition is population-related and refers to a single species, in the MSHCP this term is habitat-related because of the multi-species nature of the MSHCP Plan. An MSHCP linkage is defined as a connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for "live-in" habitat and/or provide for genetic flow for identified planning species. A constrained linkage is a constricted connection expected to provide for movement of identified planning species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use. Areas identified as linkages in MSHCP may provide movement habitat but not live-in habitat for some species, thereby functioning more as movement corridors.

Project site is not in a Criteria Cell. There are no proposed cores or linkages within the project area.

MSHCP SURVEY REQUIREMENTS

MSHCP survey areas for the proposed project were identified by conducting an initial search of the RCA MSHCP Information Map (RCA 2020). As a result, the study area was identified to be located within the burrowing owl survey area.

TABLE 2

MSHCP PROJECT REVIEW CHECKLIST

Checklist	Yes	No
Is the project located in a Criteria Area or Public/Quasi-Public Land?		✓
Is the project located in Criteria Area Plant Survey Area?		✓
Is the project located in Criteria Area Amphibian Survey Area?		✓
Is the project located in Criteria Area Mammal Survey Area?		✓
Is the project located in Narrow Endemic Plant Species Survey Area?		✓
Are riverine/riparian/wetland habitats or vernal pools present?	✓	
Is the project located in Burrowing Owl Survey Area?	✓	
Is the project located in a Special Linkage Area?		✓

MSHCP SECTION 6

Section 6 of the MSHCP provides provision for MSHCP implementation. Two particular subsections of this section are relevant to the proposed project:

- *6.1.2 Protection of Species Associated with Riparian/Riverine areas and Vernal Pools*
- *6.1.3 Protection of Narrow Endemic Plant Species*
- *6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface (relevant)*
- *6.3.2 Additional Survey Needs (relevant)*

The MSHCP covers 146 species, 38 of which require additional surveys if the proposed project occurs in the specific survey area for a species. As noted in Table 4 the proposed project occurs within the burrowing owl survey areas. The project area does not traverse *Riparian/Riverine* and *Vernal Pool* habitats as defined by the MSHCP. Based on biological resource assessments, the RCIP Conservation Report Generator, and maps of MSHCP survey areas, it was determined that surveys for *Riparian/Riverine* habitats, *Vernal Pools*, and associated species are not required pursuant to *Sections 6.1.2, 6.1.3, and 6.3.2* of the MSHCP.

Section 6.1.3 of the MSHCP describes the 14 Narrow Endemic Plant Species and the procedures necessary for surveying, mapping and documenting these species. In addition to the Narrow Endemic Plant Species listed in *Section 6.1.3*, additional surveys may be needed for certain species listed in *Section 6.3.2* in conjunction with Plan implementation in order to achieve

coverage for these species. These species are referred to as "Criteria Area Species". Furthermore, per *Section 6.1.2* of the MSHCP, if potential *Riparian/Riverine*, and/or *Vernal Pool* habitat (as defined by the MSHCP) occurs within the project area, additional surveys are necessary for specific species that have potential to occur within these habitats.

The MSHCP does not supersede existing federal and state regulations covering lakes, streams, vernal pools, and other wetland areas. Thus, projects must comply with existing regulations for these aquatic resources pursuant to Clean Water Act (CWA) and California Fish and Game Code (CFGC). However, pursuant to the MSHCP, an assessment of the potentially significant effects of projects on Riparian/Riverine areas, and Vernal Pools as it relates to habitat functions and values for MSHCP-covered species is required. If an avoidance alternative is not feasible and a more practicable alternative is selected instead, a DBESP would be provided to ensure replacement of any lost functions and values of habitat as it relates to the needs of Covered Species that rely on that habitat.
Section 6.1.2 of the MSHCP defines *Riparian/Riverine* and *Vernal Pool* habitats as follows:

Riparian/Riverine Areas: are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or unvegetated, ephemerals that transport water supporting downstream resources in the MSHCP Conservation Area.

Vernal Pools: are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season, but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate and facultative wetland plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season.

In addition to mapping *Vernal Pools*, the MSHCP requires mapping of stock ponds, ephemeral pools, and other features which may be suitable habitat for Riverside fairy shrimp (*Streptocephalus wootton*i), vernal pool fairy shrimp (*Brachinecta lynchi*), and Santa Rosa fairy shrimp (*Linderiella santarosae).*

The MSHCP describes a strategy of impact avoidance, minimization, and mitigation for these resources and further requires that long-term conservation of these areas is assured, and recommends that indirect impacts be reviewed to provide protection for these areas.

Section 6.1.4 of the MSHCP describes a process to ensure that projects located outside of, but adjacent to, the Conservation Area do not undermine conservation planning objectives of the

MSHCP. This process is called the Urban/Wildlands Interface Guidelines (UWIG).

"Future Development in proximity to the MSHCP Conservation Area may result in Edge Effects that will adversely affect biological resources within the MSHCP Conservation Area. To minimize such Edge Effects, the following guidelines shall be implemented in conjunction with review of individual public and private Development projects in proximity to the MSHCP Conservation Area."

Specific elements to be considered in UWIG compliance include:

- Drainage
- Toxics
- Lighting
- Noise
- Invasives
- Barriers
- Grading and land development

As stated in the MSHCP: *"Existing local regulations are generally in place that address the issues presented in this section. Specifically, the County of Riverside and the 18 Cities within the MSHCP Plan Area have approved general plans, zoning ordinances and policies that include mechanisms to regulate the development of land. In addition, project review and impact mitigation that are currently provided through the CEQA process address these issues."* UWIG compliance, therefore, relies heavily on the application of Standard Best Management Practices (BMPs) during site development and project operation. These BMPs can be found in *Appendix C* of the MSHCP. Projects must accordingly demonstrate that they will not adversely affect any Conservation Area and must adequately consider the elements listed above per the UWIG.

MSHCP 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 146 Covered Species addressed in the MSHCP, 118 species are considered to be Adequately Conserved. The remaining 28 Covered Species will be considered to be adequately conserved when certain conservation requirements are met (by RCA) as identified in the species-specific conservation objectives for those species. For 16 of the 28 species, particular species-specific conservation objectives, which are identified in *Table 9-3* of the MSHCP, must be satisfied to shift those particular species to the list of Covered Species Adequately Conserved.

TABLE 3

MSHCP SECTION 6 SPECIES LIST

MSHCP Section	Species
Section 6.1.2 Riparian/ Riverine and Vernal Pools	*Plants:* Brand's phacelia, California orcutt grass, California black walnut, coulter's Matilija poppy, Engelmann oak, fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, orcutt's brodiaea, parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crownscale, San Miguel savory, Santa Ana river woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, and vernal barley. *Invertebrates:* Riverside fairy shrimp and vernal pool fairy shrimp *Fish:* Santa Ana sucker
Section 6.1.3 Narrow Endemic Plant Species	Brand's phacelia, California Orcutt grass, Hammitt's clay-cress, Johnston's rockcress, many-stemmed dudleya, Munz's mariposa lily, Munz's onion, San Diego ambrosia, San Jacinto Mountains bedstraw, San Miguel savory (Santa Rosa Plateau, Steele Rock), slender-horned spine flower, spreading navarretia, Wright's trichocoronis, and Yucaipa onion.
Section 6.3.2 Additional Survey Needs and Procedures	*Plants*:* Coulter's goldfields, Davidson's saltscale, heart-leaved pitcher sage, little mud nama, Nevin's barberry, Parish's brittlescale, prostrate navarretia, round-leaved filaree, San Jacinto Valley crownscale, smooth tarplant, thread-leaved, and Vail Lake ceanothus. *Amphibians*:* arroyo toad, mountain yellow-legged frog, and California red-legged frog *Birds:* burrowing owl *Mammals*:* Aguanga kangaroo rat, San Bernardino kangaroo rat, Los Angeles pocket mouse

*Note: Project does not occur within the plants, amphibian, fish and mammal species survey areas.

**Note: Project does not have appropriate habitat for 6.1.2 and 6.1.3 species.

3.1 Public Quasi-Public Lands

3.1.1 Public Quasi-Public Lands in Reserve Assembly Analysis

The project site is outside of PQP lands.

3.1.2 Project Impacts to Public Quasi-Public Lands

There are no impacts to PQP lands.

4 VEGETATION MAPPING

Aerial photography and digital vegetation maps were reviewed to determine potential community types within the project area. Preliminary ground-truthing surveys concurred with digital vegetation maps, and additional surveys were performed to accurately define the community types and boundaries.

The site consists of five vegetation communities, described below. The site shows signs of recent disturbance, including cutting of vegetation. Portions of the project site have been subject to anthropogenic disturbances. The locations of the native plant communities have been generally the same over the years. The existing plant communities are described in more detail below.

The project encompasses several vegetation community types. The vegetation communities within the project area are primarily *streambed, Avena barbata (*Slender oat) Alliance, *Baccharis salicifolia* (Mulefat) scrub Alliance, landscape and disturbed habitat. A lone California juniper (*Juniperus californicus*) is also on site.

The major plant communities in the survey area are Avena barbata (Slender oat) Alliance.

Streambed

Streambed on the project site consists of *Avena barbata* (Slender oat) Alliance and bare earth.

PICTURE 1
Streambed

Avena barbata (Slender oat) Alliance (Grasslands – Disturbed)

Stands of *Avena barbata* (Slender oat) Alliance form a dense herbaceous layer (75%) at 0-0.5m tall. Shrub and tree layers are absent. Total vegetation cover is 75%.

PICTURE 2
***Avena barbata* (Slender oat) Alliance**

Mule Fat Scrub (*Baccharis salicifolia*) Alliance

An individual mulefat was observed in the drainage between two pepper trees. Wide grass covered space between mulefat and pepper trees was observed.

Landscape

Landscape habitat on site consists of non-native California Pepper tree (*Schinus molle*).

California juniper

A single California Juniper (*Juniperus californica*) was found on the project site.

Disturbed/Developed

Disturbed areas are characterized by predominantly non-native species introduced and established through human action. Disturbed or barren areas are areas that either completely lack vegetation or have a predominance of non-native species.

Table 4 below summarizes vegetation types/land uses and associated acreages on-site. Figure 5 provides a vegetation map for the project site.

TABLE 4

VEGETATION TYPES MAPPED FOR THE AREA

Vegetation	Boundary	Impacts
Avena barbata alliance	2.458	1.159
Disturbed habitat	0.320	0.320
Juniper	0.018	
Mulefat scrub alliance	0.004	
Pepper trees	0.101	
TOTAL (acres)	2.900	1.479

FIGURE 5

Vegetation

SALEM - CHICAGO

Gonzales Environmental Consulting, LLC

N 0 100 Feet

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

5.1 Riparian/Riverine

5.1.1 Methods

General wetland and streambed assessments of the proposed project site were conducted on March 15, March 20, 2019 and January 10, 17, February 6, 2020 by GEC, which included general mapping of habitat(s) that may be subject to jurisdiction of CDFW pursuant to sections 1600-12 of the California Fish and Game Code, ACOE and MSHCP Section 6.1.2. Potential MSHCP Section 6.1.2 seasonal watercourses were found on the project site. Streambed/wetland delineation and MSHCP Section 6.1.2 areas were conducted on March 15, March 20, 2019 and January 10, 17, February 6, 2020.

Data forms were used, onto which recorded information or otherwise compiled notes regarding the descriptive physical and biological attributes from the area. From a combination of field experience, references, assistance from others, and reconnaissance trips information resources were compiled from which the jurisdictional determinations have been made. Photographs were taken on each visit, some of which are included in this document. Field notes and photographs were arranged by date. Section 6.1.2 riverine and riparian were delineated in the field concurrently with the delineation of federal waters/wetlands and state wetlands/streambed.
Data sources used:
a. USGS quadrangle maps
b. Soil Surveys
c. Aerial photos
d. State list of hydric soils
e. National Wetland Plant List 2018
f. Munsell Soil Charts
g.6.1.2 information

The following steps were performed:
1. Project area was identified and mapped on USGS quadrangle map.
2. Vegetation for the project area was summarized and identified utilizing transects and observation points.
3. Area soils were characterized and identified.
4. Hydrology data was gathered utilizing field hydrologic indicators and available data.

Prior to conducting field assessments, transects (ranging from 0.15 to 0.5 miles in length) were drawn on a one-meter resolution aerial photograph. During the field assessment, points where

these transects intercepted potentially jurisdictional waters were mapped on the aerial photographs or with a Trimble GeoXT GPS unit. Field maps were digitized using GIS technology and the total area of jurisdictional features was calculated.

5.1.2 Existing Conditions and Results

All parts of the project site were closely examined for biological resources. An assessment of the potentially significant effects of the proposed project on riparian, riverine and vernal pool areas was conducted. A seasonal watercourse is present and evidence of recent surface water was observed on site. Potential MSHCP 6.1.2 areas were found on the project site. There are no Riparian/Riverine associated species on the project site (i.e. least Bell's vireo, southwestern willow flycatcher, blue grosbeak, etc.) as the drainage area is a seasonal watercourse with lack of appropriate habitat.

Soils found outside of the drainage are consistent with upland soils and not riparian, riverine and/or vernal pools.

The project site supports a primarily grassland vegetated, ephemeral drainage. As required in MSHCP Section 6.1.2, the following is a discussion of the functions and values (hydrologic regime, flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, wildlife habitat, and aquatic habitat) of the MSHCP Riparian/Riverine areas in the study area.

Potential impacts to water quality could occur during construction and operation of the proposed project due to increased erosion and storm water runoff. However, construction BMPs would be implemented during construction of the proposed project to reduce impacts to water quality and beneficial water resource values.

Impacts to these features would result in impacts to conservation of habitats and may result in impacts to covered species. As previously discussed, MSHCP 6.1.2 areas, United States Army Corps of Engineers potential jurisdictional areas, CDFW jurisdictional areas, and Regional Water Quality Control Board (RWQCB) jurisdictional areas are present on the site. The unnamed Drainage and tributary contains non-wetland waters (Riverine), as defined by the MSHCP. A small stand of mulefat is located between pepper trees which is (Riparian) as defined by the MSHCP. The ephemeral drainage has low functions and values for flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, and wildlife and aquatic habitat due to its small size, and anthropogenic impacts by lack of perennial or intermittent sources of water. Implementation of the proposed project would not result in significant impacts to natural and beneficial floodplain values. Post- construction hydrology will be equal to preconstruction conditions, resulting in no net loss to the functions and values of the area.

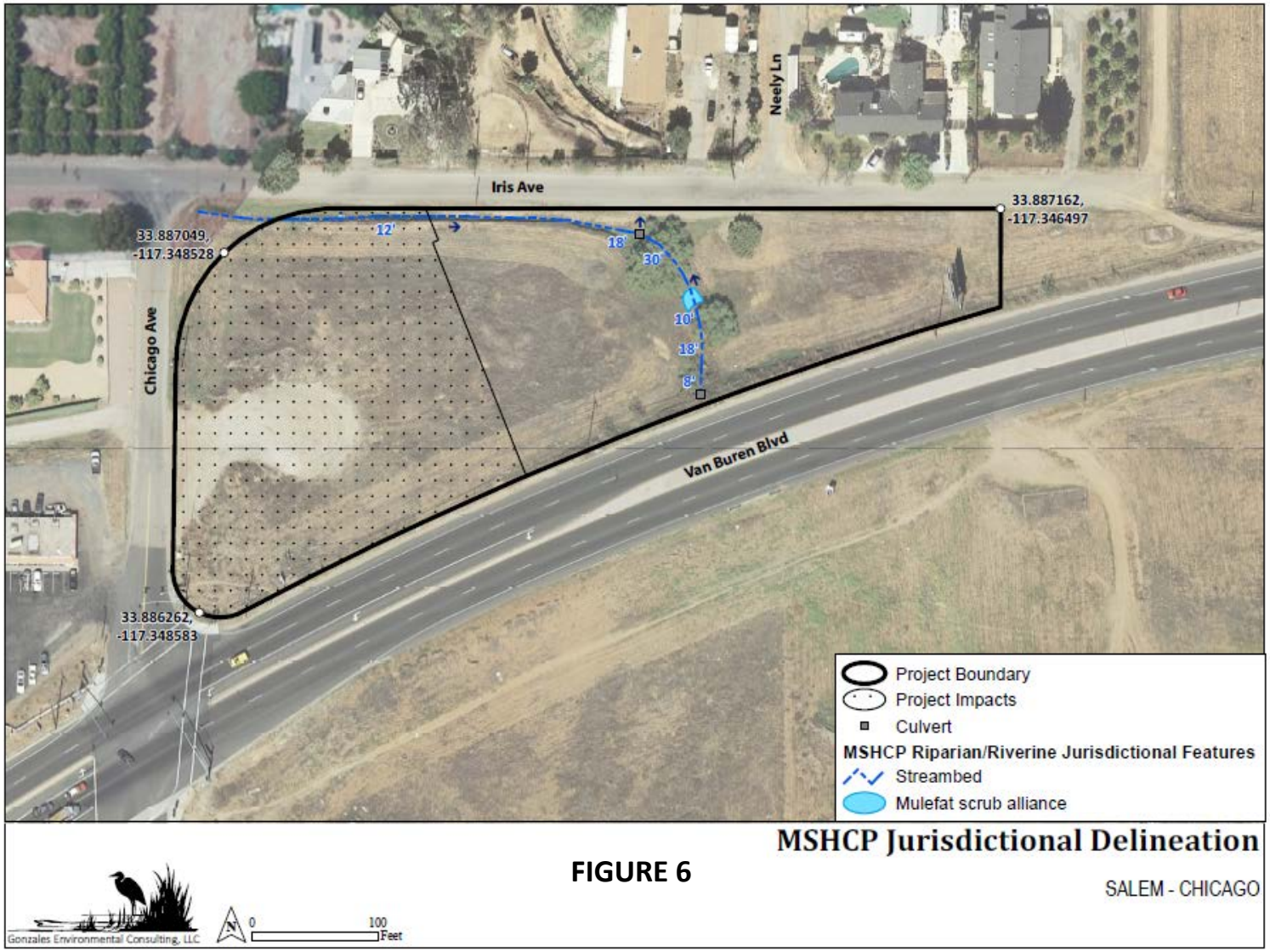
5.1.3 Impacts

GEC found Section 6.1.2 riverine and riparian areas on the project site. Refer to Table 5 and Figure 6 for the locations and acreages of riverine features.

TABLE 5

SUMMARY OF POTENTIAL SECTION 6.1.2 AREAS BY HABITAT

	Existing		Impacts	
MSHCP 6.1.2	Existing On-site	Existing On-site (length in feet)	Impacts On-site	Length in feet
Streambed-Riverine	0.165	499	0.033	121
Mulefat scrub alliance-Riparian	0.004	0	0	0
TOTAL	0.169	499	0.033	121



MSHCP Jurisdictional Delineation

FIGURE 6

SALEM - CHICAGO

5.1.4 Mitigation

The proposed project will result in unavoidable impacts to 0.033 acre riverine areas. Unavoidable impacts to onsite riverine areas will be impacted by pad development and ingress/egress into the project site. The compensatory mitigation is proposed as follows:

Provision of a one-time fee for 1.0 acres for riparian and riverine habitats in-lieu fee program off-site reestablishment through Riverside-Corona Resource Conservation District (RCRCD), or any other approved in-lieu fee program at time of rough grading permit issuance will be acquired for mitigation of the impacts at a minimum ratio of 2:1 or greater if required by another agency. If reestablishment credits are not available then 1.0 acres for riparian and riverine habitats in-lieu fee program off-site enhancement credits through Riverside-Corona Resource Conservation District (RCRCD), or any other approved in-lieu fee program at time of rough grading permit issuance will be acquired for mitigation of the impacts if required by another agency. Notification to California Department of Fish and Wildlife, California Regional Water Quality Control Board, and U.S. Army Corps of Engineers is required regarding which type of in-lieu fee credits (reestablishment or enhancement) are being utilized. Mitigation for the impacts will be at a minimum 3:1 ratio for riverine or whatever is required by California Department of Fish and Wildlife, California Regional Water Quality Control Board, and U.S. Army Corps of Engineers.

Should sufficient in-lieu fee credits not be available for purchase at the time the project is implemented, or should other agencies not approve in-lieu fee credit purchase, then the Developer must prepare and submit for review and approval a Habitat Mitigation and Monitoring Plan (HMMP) for a site-specific restoration project at a minimum 3:1 mitigation to impact ratio. The plan must meet County of Riverside requirements, as well as requirements of other resource and wildlife agencies. Appropriate guarantees for the restoration project must be in place (e.g., letter of credit, bond, etc.) prior to issuance of a grading permit.

The Restoration Plan and Habitat Mitigation and Monitoring Program (HMMP) will be reviewed and approved by the RCA and Wildlife Agencies prior to project implementation (any vegetation removal, staging equipment on site, ground disturbance, etc.).

By providing compensatory mitigation through an in-lieu fee program for riverine/riparian impacts equivalent or Superior in Preservation requirements will be met. The habitat on site is fragmented, disturbed and does not connect to any viable riparian and riverine habitat up or down stream. Habitat through an in-lieu fee program will increase existing riverine/riparian habitat and add to it. By doing this it will be Superior in Preservation.

5.2 Vernal Pools

5.2.1 Methods

The starting point for this study was a field trip to the project site in March 15, March 20, 2019 and January 10, 17, February 6, 2020. Data forms were used, onto which recorded information or otherwise compiled notes regarding the descriptive physical and biological attributes from the area. From a combination of field experience, references, assistance from others, and reconnaissance trips information resources were compiled from which the jurisdictional determinations have been made. Photographs were taken on each visit, some of which are included in this document. Field notes and photographs were arranged by date. Section 6.1.2 vernal pools were delineated in the field concurrently with the delineation of federal waters/wetlands and state wetlands/streambed.

Data sources used:

a. USGS quadrangle maps
b. Soil Surveys
c. Aerial photos
d. State list of hydric soils
e. National Wetland Plant List 2018
f. Munsell Soil Charts
g. 6.1.2 information

The following steps were performed:

1. Project area was identified and mapped on USGS quadrangle map.
2. Vegetation for the project area was summarized and identified utilizing transects and observation points.
3. Area soils were characterized and identified.
4. Hydrology data was gathered utilizing field hydrologic indicators and available data.

Prior to conducting field assessments, transects (ranging from 0.15 to 0.5 miles in length) were drawn on a one-meter resolution aerial photograph. During the field assessment, points where these transects intercepted potentially jurisdictional waters were mapped on the aerial photographs or with a Trimble GeoXT GPS unit. Field maps were digitized using GIS technology and the total area of jurisdictional features was calculated.

Criteria used to determine whether there are vernal pools on the project site included the following: whether there is evidence of a watershed supporting vernal pool hydrology: if the area exhibits upland and wetland characteristics (inundated or not) and length of time if that is the case, evidence of the persistence of wetness using historic information (e.g. aerials),

vegetation, soils, drainage characteristics, uses to which the site has been subjected, and weather and hydrologic records.

5.2.2 Existing Conditions and Results

Vernal Pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season, but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate and facultative wetland plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. We conducted our assessment during the wet season (March 15, March 20, 2019 and January 10, 17, February 6, 2020) when obligate and facultative wetland plant species are normally dominant and found none present on the project site. None of the area, outside of areas described for seasonal drainages 1 and 2 and tire ruts, exhibited upland and wetland characteristics (inundated or not), evidence of the persistence of wetness (current conditions and using historic information (e.g. aerials)), vegetation, soils, drainage characteristics, uses to which the site has been subjected, and weather and hydrologic records appropriate for vernal pools. There are no vegetation, hydric soils or hydrology present on the project site for vernal pools. No evidence of vernal pools was found on the project site. None of the area, outside of the unnamed Drainage and tributary, exhibited upland and streambed characteristics (inundated or not), evidence of the persistence of wetness (current conditions and using historic information (e.g. aerials)), vegetation, soils, drainage characteristics, uses to which the site has been subjected, and weather and hydrologic records.

5.2.3 Impacts

No impacts to vernal pools will occur on the proposed project.

5.2.4 Mitigation

No mitigation for vernal pools will be necessary as there are no vernal pools on the project site.

5.3 Fairy Shrimp

5.3.1 Methods

The starting point for this study was a field trip to the project site in March 15, March 20, 2019 and January 10, 17, February 6, 2020. Data forms were used, onto which recorded information or otherwise compiled notes regarding the descriptive physical and biological attributes from the area. From a combination of field experience, references, assistance from others, and reconnaissance trips information resources were compiled from which the jurisdictional determinations have been made. Photographs were taken on each visit, some of which are

included in this document. Field notes and photographs were arranged by date. Fairy shrimp resources, if present, were delineated in the field concurrently with the delineation of federal waters/wetlands and state wetlands/streambed.

Data sources used:

a. USGS quadrangle maps
b. Soil Surveys
c. Aerial photos
d. State list of hydric soils
e. National Wetland Plant List 2018
f. Munsell Soil Charts
g. fairy shrimp information

The following steps were performed:

1. Project area was identified and mapped on USGS quadrangle map.
2. Vegetation for the project area was summarized and identified utilizing transects and observation points.
3. Area soils were characterized and identified.
4. Hydrology data was gathered utilizing field hydrologic indicators and available data.

Prior to conducting field assessments, transects (ranging from 0.15 to 0.5 miles in length) were drawn on a one-meter resolution aerial photograph. During the field assessment, points where these transects intercepted potentially jurisdictional waters were mapped on the aerial photographs or with a Trimble GeoXT GPS unit. Field maps were digitized using GIS technology and the total area of jurisdictional features was calculated.

Criteria used to determine whether there are fairy shrimp on the project site included the following: stock ponds, ephemeral pools, road ruts, human-made depressions, or other depressions that may pond water.

5.3.2 Existing Conditions and Results

We found no stock ponds, ephemeral pools, road ruts, human-made depressions, or other depressions that may pond water on the project site other than the unnamed Drainage and tributary. No ponding water was observed or signs from ponding water.

5.3.3 Impacts

No impacts to fairy shrimp will occur on the proposed project.

5.3.4 Mitigation

No mitigation for fairy shrimp will be necessary as there are no fairy shrimp on the project site.

5.4 Riparian Birds

5.4.1 Methods

Preliminary investigations included review of information obtained from the USFWS, and CDFW; literature searches; examination of aerial photographs; and database searches including California Native Plant Society (CNPS), the California Natural Diversity Data Base (CNDDB) records, and sensitive species accounts for Riverside County. Reviewed environmental documents included Environmental Impact Reports prepared for other projects in the vicinity. The following resources were used in background research and during field surveys:

- Topographic maps (USGS 7.5 minute quadrangle)
- Aerial photos
- California Natural Diversity Database (CDFW 2020)
- USFWS sensitive species occurrence database (USFWS 2018)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2018)
- Western Riverside Area, California Soil Survey (U.S. Department of Agriculture [USDA] 1971)
- Volume 1, Parts I and II of the MSHCP (County of Riverside 2003)
- County of Riverside Conservation Summary Report Generator (County of Riverside 2020)

A list of special status species was compiled, including all species in the project area that were:

Listed as endangered or threatened, proposed for listing, or candidates for listing under the Federal Endangered Species Act (FESA);

Listed as endangered or threatened, or candidates for listing under the California Endangered Species Act (CESA);

Included in one of the CDFW publications on species of special concern;

"Fully protected" by the State of California;

Included in the CNPS compilation; or

Identified as plants meeting the definition of rare or endangered under CEQA.

Biological Surveys

Baseline biological studies of the proposed project were conducted on March 15, March 20, April 3, May 18, June 15, 2020 and January 10, 17, and February 6, 2020. Existing biological data was collected using Personal Computers (PCs) and Geographic Positioning System (GPS). This allowed for data to be collected in real time. Data layers uploaded onto these PCs included

recent aerial photography, and topographic contours. Biological data was mapped onto the aerial photograph layers as polygon, line, and point attributes.

Checklists of biological information were uploaded onto the PCs, which allowed us to accurately label all data points, ensure consistency, and keep a running electronic account of all species encountered during the surveys. Finally, these checklists allowed for the inclusion of supplemental field notes, most notably, ranking of the quality of the various habitats including dominant and associate species for each vegetation polygon; assessing habitats for the potential presence of sensitive species not observed during the surveys; and identifying areas that would require protocol-level sensitive species surveys (i.e., USFWS protocol-level surveys for federal threatened and endangered species.

Habitats for specific species of wildlife and plants identified during surveys were classified as: not expected, low, moderate, high, or expected. These classifications were based on the quality of the habitat for each species and the proximity of the habitat to a known occurrence of a species obtained from CNDDB data. The definitions of each of the classifications are as follows:

- Not Expected: Species not previously reported in the vicinity of the site, and suitable habitat very marginal due to disturbances, fragmentation, and/or isolation.
- Low: Species previously reported from the vicinity of the site, but suitable habitat is marginal due to disturbances, fragmentation, and/or isolation.
- Moderate: Species previously reported from the vicinity of the site and large areas of contiguous high-quality habitat present; or species previously reported in the vicinity of the site, but suitable habitat quality is moderate due to disturbances, fragmentation, and/or isolation.
- High: Species previously reported from regional vicinity of the site, and large areas of contiguous high-quality habitat are present.
- Expected: Species previously reported from very close vicinity of the site, and large areas of contiguous high-quality habitat are present.

Wildlife Survey and Habitat Assessment Methods

General reconnaissance and habitat assessment surveys were completed to determine habitat suitability for listed species and special status plant, wildlife, and aquatic species. Suitable habitat for listed species and special status species was determined by the presence of specific habitat elements. The surveys coincided with the period during which many wildlife species, including migratory species, would have been most detectable. A faunal inventory of all species observed during the course of the surveys was also prepared.

Special Status Species Methods

Special Status Wildlife Species Survey Methods

Prior to conducting habitat assessment surveys, CNDDB and other sources were reviewed for the records of special status wildlife species potentially occurring in the project area. General reconnaissance and habitat assessment surveys were conducted to assess the presence of special status wildlife species habitats within the project area. Maps depicting all known sensitive wildlife species locations within the regional vicinity of the project were produced to aid in determining the target species to survey. All wildlife species encountered during surveys were documented. Any specific areas (e.g., potential nesting, breeding, and foraging habitat) encountered during the surveys that have a high probability for supporting sensitive wildlife were documented. The likelihood of these species occurrence (not expected, low, moderate, high, expected) was also assessed. Least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo prefer riparian habitat of dense willow-cottonwood forest, streamside thickets near water; moist woodland, bottomlands, woodland edge, scattered cover and hedgerows in cultivated areas; willow-dominated riparian woodlands; and, open woodland, brush in winter.

5.4.2 Existing Conditions and Results

There is no appropriate habitat on the project site for Least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo which prefer riparian habitat of dense willow-cottonwood forest, streamside thickets near water; moist woodland, bottomlands, woodland edge, scattered cover and hedgerows in cultivated areas; willow-dominated riparian woodlands; and, open woodland, brush in winter.

5.4.3 Impacts

No impacts to Least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo will occur on the proposed project.

5.4.4 Mitigation

No impacts to Least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo will occur on the proposed project, therefore no mitigation is required.

6 PROTECTION OF NARROW ENDEMIC PLANT SPECIES (SECTION 6.1.3)

6.1 Methods

Biological surveys were completed on March 15, March 20, April 3, May 18, June 15, 2019 and January 10, 17, February 6, 2020. Surveys were completed by County-approved biologists along 10-meter wide linear transects that spanned the length of each parcel. Surveys included buffer area transects where access was permitted off-site. Botanical surveys were completed on

March 15, March 20, April 3, May 18, June 15, 2019 and January 10, 17, February 6, 2020 and all plant communities were mapped. A habitat assessment for sensitive plant species was completed during the plant community evaluation field surveys. Habitat requirements for these species were reviewed prior to the site visit. During the survey, the site was analyzed for the presence of suitable habitats and/or soils to support these species. Surveys were conducted during a year with average rainfall. No NARROW ENDEMIC PLANT SPECIES have been documented for the project site.

6.2 Existing Conditions and Results

No habitat for narrow endemic plant species is present because clay soils are absent, associated vegetation communities are impacted by anthropogenic activities.

6.3 Impacts

No impacts to narrow endemic plant species will occur on the project site as appropriate soils are not present and existing anthropogenic activities impacts.

6.4 Mitigation

No mitigation for narrow endemic plant species is required as no impacts will occur to these plant species.

7 ADDITIONAL SURVEY NEEDS AND PROCEDURES (SECTION 6.3.2)

The proposed project is not located within a Section 6.3.2 survey area.

7.1 Criteria Area Plant Species

Proposed project does not fall within a mapped survey area for Criteria Area plant species.

7.2 Amphibians

Proposed project does not fall within a mapped survey area for Criteria Area amphibian species.

7.2.1 Methods

Proposed project does not fall within a mapped survey area for Criteria Area amphibian species.

7.2.2 Existing Conditions and Results

Proposed project does not fall within a mapped survey area for Criteria Area amphibian species.

7.2.3 Impacts

Proposed project does not fall within a mapped survey area for Criteria Area amphibian species.

7.2.4 Mitigation

Proposed project does not fall within a mapped survey area for Criteria Area amphibian species.

7.3 Burrowing Owl

The proposed project falls within the mapped survey area for burrowing owl.

7.3.1 Methods

Protocol burrowing owl surveys were completed by the GEC utilizing the following methodology.

Step 1 Habitat Assessment

The habitat assessment followed the BURROWING OWL SURVEY INSTRUCTIONS for the Western Riverside Multiple Species Habitat Conservation Plan Area, dated March 29, 2006 per Section 6.3.2. Of the Western Riverside Multiple Species Habitat Conservation Plan (WRMSHCP).

The habitat assessment was performed to determine the site's suitability to support burrowing owl. The assessment was conducted on March 15, 2019. Several key indicators were used in determining the site's potential to support burrowing owl. Key indicators included the presence of low-growing vegetation within grassland, desert, and scrublands, small fossorial mammals, and isolated features such as cement or wood debris piles, and/or cement culverts.

The Site exhibited multiple key indicators of suitable burrowing owl habitat. The following indicators observed on-site were:

- Disturbed low-growing vegetation, as described in the Vegetation section; and
- Debris piles (varied due to non-authorized dumping on the site)

Additional wildlife observed during surveys is listed in Appendix, *Animal and Plant Compendium.*

The results of the habitat assessment concluded that the site contained suitable burrowing owl habitat. As a result, Focused Burrowing Owl Burrow Survey was warranted.

Step II A Focused Burrowing Owl Burrow Survey

Immediately after the habitat assessment, a burrow survey was conducted on the site to determine if any of the debris piles contained evidence of burrowing owl. Surveys were conducted by Teresa Gonzales and Paul Gonzales. Surveys consisted of slowly walking the site via transects 30 feet apart and the 500-ft buffer zone that was previously delineated for the habitat assessment. All existing fossorial mammal burrows were thoroughly examined for evidence of burrowing owl, including molting feathers, prey remains, cast pellets, eggshell fragments, and excrement.

Focused Burrowing Owl Burrow Survey Results

No burrows were observed on site, however numerous debris piles of wood and trash were found around the site. All debris piles were carefully checked for evidence of burrowing owl, including molting feathers, prey remains, cast pellets, eggshell fragments, and excrement. Results of the surveys found no owl burrows or burrowing owls on the proposed project site or in adjacent areas.

Step II B Focused Burrowing Owl Survey

Immediately after the burrow survey, a burrowing owl survey was conducted on the site to determine if any of the debris piles contained evidence of burrowing owl. Surveys were conducted by Teresa Gonzales and Paul Gonzales. Surveys consisted of slowly walking the site via transects 30 feet apart and the 500-ft buffer zone that was previously delineated for the habitat assessment. All existing birds observed were documented.

Focused Burrowing Owl Burrow Survey Results

No burrowing owls were observed on site. Results of the surveys found no burrowing owls on the proposed project site or in adjacent areas.

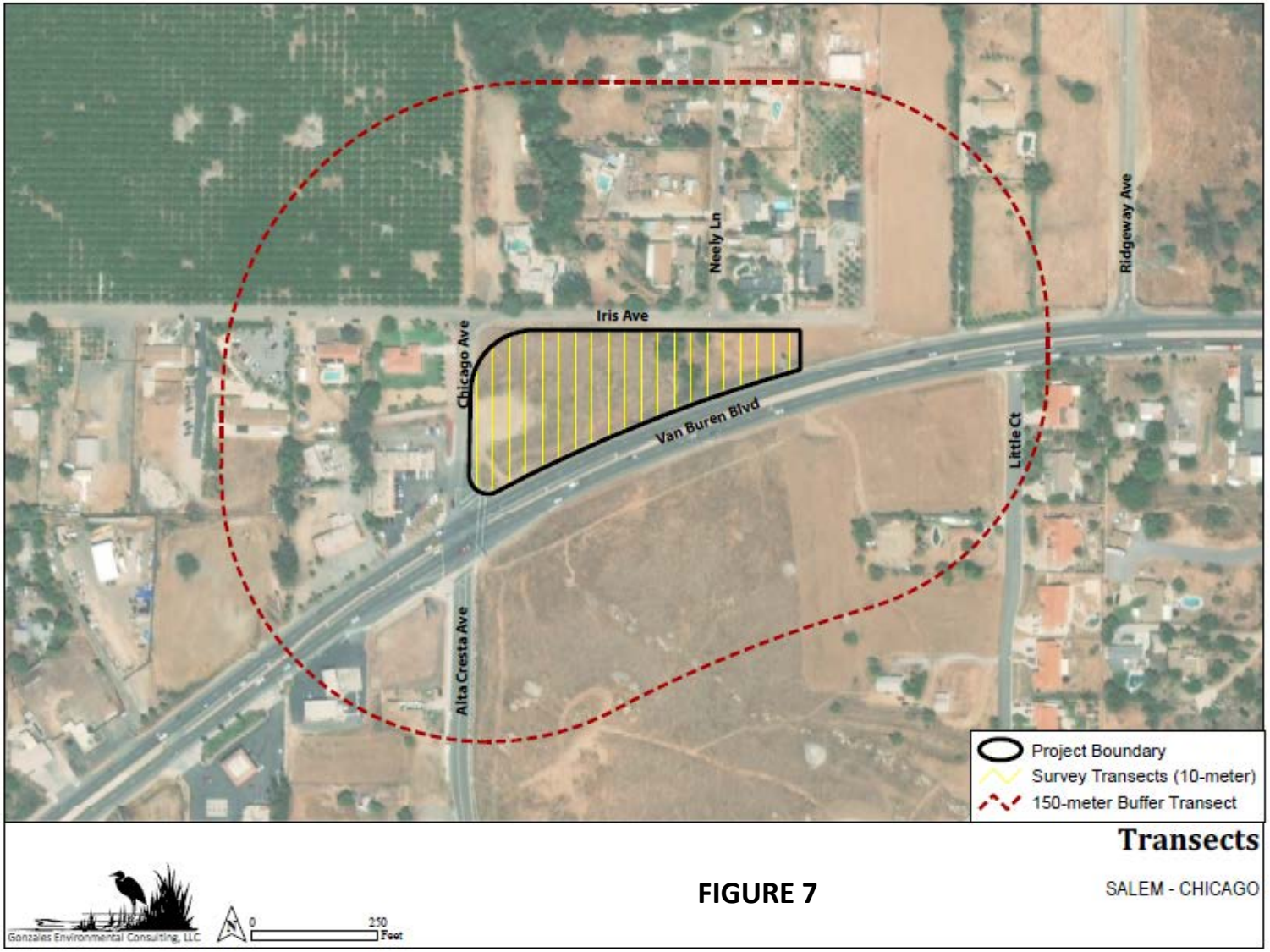
TABLE 6

BURROWING OWL SURVEYS 2019 BY GONZALES ENVIRONMENTAL CONSULTING, LLC

Date	Air Temperature (F)	Wind Speed (mph)	Cloud Cover	Precipitation	Sunrise/Sunset Times	Time-Duration*
January 25	45-53	0-7	20% cloud cover	No	0651/1712	0551/0851 3 hrs
March 20	52-58	0-2	30% cloud cover	No	0652/1901	0552/0852 3 hrs
April 10	51-59	0-2	Clear	No	0624/1917	0524/0824 3 hrs
May 10	57-61	0-3	50% cloud cover	No (morning rain)	0551/1940	0451-0751 3 hrs

*1 hour before sunrise and 2 hours after; 2 hours before sunset and 1 hour after

Although burrowing owls were not detected during the habitat assessment and focused surveys, because habitat is present (low growing vegetation and disturbed vegetation) on the project site, burrowing owl may utilize the site in the future. A pre-construction survey will be required and burrowing owl may be found present at that time and if so, impacts would occur.



Transects

SALEM - CHICAGO

FIGURE 7

Gonzales Environmental Consulting, LLC

0 100 Feet

FIGURE 8

BURROWING OWL HABITAT ON SITE

SALEM - CHICAGO

7.3.2 Existing Conditions and Results

The project site is south and east of existing single family housing. The project site is frequently impacted by anthropogenic activities. No burrows, signs or burrowing owl(s) were observed on-site.

7.3.3 Impacts

No impacts to burrowing owl occur on the project site. Although burrowing owls were not detected during the habitat assessment and focused surveys, because habitat is present on the project site, burrowing owl may utilize the site in the future. A pre-construction survey will be required and burrowing owl may be found present at that time and if so, impacts would occur.

7.3.4 Mitigation

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

7.4 Mammals

The proposed project does not fall within a mapped survey area for mammal species. The project site is within the Stephen's Kangaroo rat fee area.

7.4.1 Methods

Proposed project does not fall within a mapped survey area for Criteria Area for mammals.

7.4.2 Existing Conditions and Results

7.4.3 Impacts

Proposed project does not fall within a mapped survey area for Criteria Area for mammals.

7.4.4 Mitigation

Proposed project does not fall within a mapped survey area for Criteria Area for mammals.

8 INFORMATION ON OTHER SPECIES

8.1 Delhi Sands Flower Loving Fly

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.1 Methods

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.2 Existing Conditions and Results

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.3 Impacts

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.4 Mitigation

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data therefore no mitigation is required.

8.2 Species Not Adequately Conserved

No Species Not Adequately Conserved were found on the proposed project site.

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

To preserve the integrity of areas described as existing or future MSHCP Conservation Areas, the guidelines contained in Section 6.1.4 Urban Wildlands Interface Guidelines (UWIG) shall be implemented by the Permittee in their actions relative to the project.

All proposed projects that are located adjacent or have on-site connection to either existing conservation or land described for conservation are required to address how they plan to implement all of the UWIG guidelines:
The entire site has been previously impacted by anthropogenic activities. Thus, there will be relatively few new impacts to any existing or future portions of the Conservation Area, and such impacts will be minor. Mitigation measures and BMPs are located in Section 10 of this document. Nevertheless, below is a summary of the Urban Wildlands Interface Guidelines and their relationship to the proposed project:

Drainage- Siltation and erosion resulting from the proposed activities are potentially significant indirect impacts associated with this proposed project because of the proximity of the proposed work area to natural areas. Surface water quality could be diminished as a result of scraping and grading, and material laydown. As such, erosion from these activities can remove topsoil necessary for plant growth both in the graded areas and in lower areas affected by increased runoff. The eroded soil can be deposited as silt and alluvium off of the project site. Siltation from these activities can damage wetlands and aquatic habitats and bury vegetation or topsoil. Implementation of avoidance and minimization measures described above under direct impacts is proposed. These measures include implementation of an effective SWPPP or WQMP that employs appropriate BMPs to avoid or limit runoff, erosion, and siltation. With these measures, project related runoff, erosion, and siltation would not result in significant impacts to any offsite water features or sensitive habitats.

Toxics- Toxic substances can kill wildlife and plants or prevent new growth where soils or water are contaminated. Toxic substances can be released into the environment through several scenarios including planned or accidental releases, leaching from stored materials, pesticide or herbicide use, or fires, among others. No intentional releases of toxic substances are planned as part of the proposed project. Accidental releases could occur from several sources such as leaking equipment, or fuel spills during the course of the construction. The implementation of BMPs during construction will reduce the risk of leaks and fuel spills below a level of significance.

A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction activities. The project would result in the additional use of hazardous materials in limited quantities associated with normal residential use such as cleaning products, solvents, herbicides, and insecticides. However,

compliance with regulations will reduce the potential risk of hazardous material exposure to a level that is less than significant. An information pamphlet will be prepared for each homeowner regarding the use of toxics.

Lighting- No nighttime work is anticipated. However, if such work is required in or adjacent to the Conservation Area, lighting would be temporary, shielded, and directed away from the Conservation Area to the extent possible. No permanent lighting will be installed in or near the Conservation Area.

Noise- Although some noise will be generated by project activities in or adjacent to open space, it will be of short duration and will be kept as low as possible. Wildlife within open space should not be subject to noise that would exceed residential noise standards. The implementation of avoidance and minimization measures will be implemented in order to minimize impact to species.

Invasives- Project related landscaping within or adjacent to the Conservation Area, will comply with not utilizing the invasive nonnative plant species listed in *Table 6-2* of *Section 6.1.4* of the MSHCP. Minimization and avoidance measures will be implemented in order to avoid the spread of invasive species within the project area.

Barriers- The proposed project may include theme walls along project perimeter streets adjacent to public streets. The project will include walls and/or fencing located where public view and/or important interfaces are of concern. The project will incorporate special edge treatments designed to separate development areas from open space areas. These areas of native landscaping and fencing will serve to minimize unauthorized public access, domestic animals predation, and illegal trespass and dumping.

Grading/Land Development- All manufactured slopes associated with site development will be within the project site. Manufactured slopes will only occur within the portion of the project where impacts are proposed and not within proposed conservation areas.

10 BEST MANAGEMENT PRACTICES (VOLUME I, APPENDIX C)

Table 7 presents MSHCP BMPs (Appendix C of the MSHCP), Construction Guidelines (*Section 7.5.*3 of the MSHCP), and species specific mitigation measures that have been incorporated in the MSHCP and will be implemented as part of the project.

TABLE 7

MSHCP BMPS AND SPECIES SPECIFIC MITIGATION MEASURES

MSHCP BMPs (MSHCP Vol. I, Appendix C)	
MSHCP BMP-1	Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
MSHCP BMP-2	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, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
MSHCP BMP-3	Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
MSHCP BMP-4	To avoid attracting predators of the species of concern, the project site 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).
MSHCP BMP-5	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.
MSHCP Construction Guidelines (MSHCP Section 7.5.3)	
MSHCP CONST-1	Plans for water pollution and erosion control will be prepared for all Discretionary Projects involving the movement of earth in excess of 50

	cubic yards. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control. Plans will be reviewed and approved by the City of Riverside and participating jurisdiction prior to construction.
MSHCP CONST-2	Timing of construction activities will consider seasonal requirements for breeding birds and migratory non- resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30.
MSHCP CONST-3	Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
MSHCP CONST-4	Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
MSHCP CONST-5	Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re- entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
MSHCP CONST-6	No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
MSHCP CONST-7	The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
MSHCP CONST-8	Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.
MSHCP CONST-9	The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
MSHCP CONST-10	During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland Habitats occupied by Covered Species that are outside of the project footprint will be avoided.
MSHCP CONST-11	Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.

MSHCP CONST-12	Training of construction personnel will be provided.
MSHCP CONST-13	Presence of a biological monitor is required. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
MSHCP CONST-14	Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
MSHCP CONST-15	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
MSHCP CONST-16	Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.
MSHCP CONST-17	Wildlife Biologist required to be present during construction of the project.
MSHCP Species/Habitat Specific Measures	
MSHCP-BUOW	A 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (including but not limited to vegetation clearing, clearing and grubbing, tree removal, site watering) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies, and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure burrowing owl has not colonized the site since it was last disturbed. If burrow owl is found, the same coordination described above will be necessary.

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SUPPORTING APPENDICES

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