Appendix C
MSHCP Habitat Assessment and DBESP

ESA

PASEO DEL SOL SPECIFIC PLAN

Habitat Assessment and MSCHP Consistency Analysis

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August 2015
Updated April 2016

JN: 134628

PASEO DEL SOL SPECIFIC PLAN

TEMECULA, RIVERSIDE COUNTY, CALIFORNIA

PECHANGA USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE
UNSECTIONED, TOWNSHIP 4 SOUTH, RANGE 7 WEST
APN: 959-400-001, 959-400-002, AND 959-400-003

Habitat Assessment and MSHCP Consistency Analysis

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Ryan Winkleman
Biologist
Natural Resources

Thomas J. McGill, Ph.D.
Vice President
Natural Resources

August 2015
Updated April 2016

Executive Summary

This report contains the findings of Michael Baker International's Habitat Assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis for the Paseo del Sol Specific Plan Project located in the City of Temecula, Riverside County, California. The proposed project site is located within the boundaries of the MHSCP in Subunit 2, "Temecula and Pechanga Creeks" of the Southwest Area Plan. Additionally, a portion of the project site is located within Criteria Cell 7273.

The project site primarily consists of vacant, undeveloped land that has been heavily disturbed by human activities and no longer provides natural plant communities. However, there is a single drainage feature (Wetland A) that generally flows in a north to southwest direction across the center of the project site before entering into a detention/sedimentation basin on the southwest corner of the project site.

Based on habitat requirements for specific species along with the availability and quality of habitats needed by each special-status plant species, it was determined that the project site does not provide suitable habitat for special-status plant species known to occur in the general vicinity of the project site. No special-status[1] plant species were observed on the project site during the habitat assessment.

Two special-status wildlife species were observed foraging on the project site during the habitat assessment, Cooper's hawk (*Accipiter cooperii*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the project site has a moderate potential to support burrowing owl; and a low potential to support golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), northern harrier (*Circus cyaneus*), Stephens' kangaroo rat, western pond turtle (*Emys marmorata*), and western mastiff bat (*Eumops perotis californicus*). These species are unlikely to occur, but marginally suitable habitat is present that could support them. All other special-status wildlife species are presumed absent.

The Riverside County Integrated Project (RCIP) Conservation Summary Report Generator was queried to determine if the MSHCP identifies any potential survey requirements for the project site (refer to Appendix A). Additionally, the proposed project site was reviewed against the MSHCP to determine if the site is located within any MSHCP conservation areas including Criteria Cells (core habitat and wildlife movement corridors) and areas proposed for conservation. Based

[1] As used in this report, "special-status" refers to plant and wildlife species that are federally, State, and MSHCP listed, proposed, or candidates; plant species that have been designated a California Native Plant Society Rare Plant Rank; and wildlife species that are designated by the CDFW as fully protected, species of special concern, or watch list species.

on the RCIP query and review of the MSHCP, it was determined that the project site is located within Criteria Cell 7273 and is located within the designated survey area for burrowing owl (*Athene cunicularia*) as depicted in Figure 6-4 in Section 6.3.2 of the MSHCP.

Since the project site is vegetated with a variety of low-growing, early successional plant species that allows for line-of-sight observation favored by burrowing owl, and the site supports a large number of existing California ground squirrel (*Otospermophilus beecheyi*) burrows, it was determined that the project site has the potential to provide suitable habitat for burrowing owl. As a result, Michael Baker biologist conducted a protocol focused survey for burrowing owl in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area.

Despite systematic searches of the suitable burrows found on the project site, no burrowing owls or evidence (i.e., scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owl was observed on or within 500 feet of the project site. It can be concluded that burrowing owl are not currently present on the project site.

As documented in the Delineation of State and Federal Jurisdictional Waters report (RBF 2014), prepared under separate cover, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project site. These features will be considered jurisdictional by the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW). Any impacts to these drainage features will require a Clean Water Act (CWA) Section 404 Permit from the Corps, a CWA Section 401 Water Quality Certification from the Regional Board, and a Section 1602 Streambed Alteration Agreement from CDFW.

In addition, these features will qualify as riparian/riverine habitat under MSHCP Section 6.1.2. As a result, any alteration or loss of these areas will require the preparation of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis under the MSHCP. This analysis is separate from any regulatory approvals/permitting by the Corps, Regional Board, and CDFW.

Pursuant to the Migratory Bird Treaty Act and California Fish and Game Code, future construction activities and/or the removal of any trees, shrubs, or any other potential nesting habitat should be conducted outside the avian nesting season. The nesting season generally extends from February 1 through August 31, beginning as early as January 1 for raptor species, but can vary slightly from year to year based upon seasonal weather conditions. If construction or vegetation clearing activities occur during the avian nesting season a pre-construction nesting bird clearance survey will be required and should specifically focus on the presence/absence of burrowing owl.

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EXHIBITS

APPENDIX

LIST OF ACRONYMS

APN	Assessor's Parcel Number
BMP	Best Management Practices
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
F	Fahrenheit
GIS	Geographic Information System
I	Interstate
MBTA	Migratory Bird Treaty Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NRCS	Natural Resources Conservation Service
RCA	Riverside Conservation Authority
RCIP	Riverside County Integrated Project
Regional Board	Regional Water Quality Control Board
SKR	Stephen's Kangaroo Rat
SKR-HCP	Stephen's Kangaroo Rat – Habitat Conservation Plan
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TPM	Tentative Parcel Map
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Section 1 Introduction

This report contains the findings of Michael Baker International's (Michael Baker) Habitat Assessment and MSHCP Consistency Analysis for the Paseo del Sol Specific Plan (project site or site) located in the City of Temecula, Riverside County, California. A habitat assessment/field investigation was conducted by Michael Baker biologists Travis J. McGill and Ryan S. Winkleman on March 11, 2014 to verify existing site conditions and assess the probability of occurrence for special-status plant and wildlife species that could pose a constraint to development of the proposed project site. In addition, Michael Baker biologists Thomas C. Millington and Ashley Barton conducted a focused burrowing owl survey on July 7, 15, 29, and August 4, 2015. A formal delineation of state and federal jurisdictional waters is prepared under separate cover by Michael Baker.

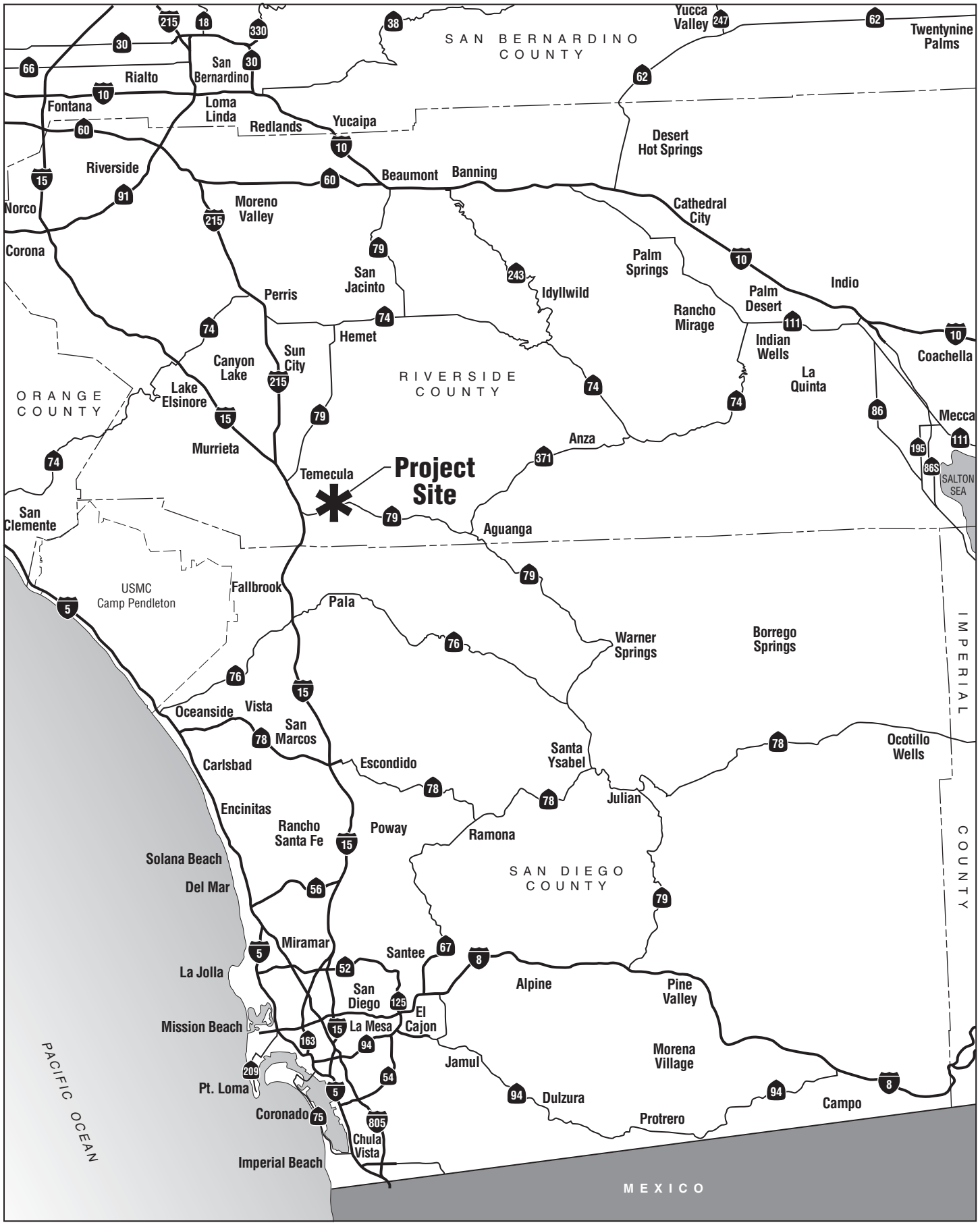
This report provides an in-depth assessment of the suitability of the habitat on-site to support burrowing owl (*Athene cunicularia*), a California species of special concern and several other special-status species identified by the California Natural Diversity Data Base (CNDDB), MSHCP, and other electronic databases as potentially occurring in the vicinity of the project site were also assessed for their potential to occur in the general vicinity of the project site.

1.1 PROJECT LOCATION

The project site is generally located east of Interstate 15 (I-15) and north of State Route 79 (SR-79) in the City of Temecula, Riverside County, California (Exhibit 1, *Regional Vicinity*). The project site is located within the Pechanga quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in an un-sectioned area of Township 8 south, Range 2 west (Exhibit 2, *Site Vicinity*). Specifically, the project site is located north of SR-79, east of Mantova Drive, South of De Portola Road, and west of Butterfield Stage Road. The project site is within Assessor's Parcel Numbers (APN) 959-400-001, 959-400-002, and 959-400-003 (Exhibit 3, *Project Site*).

1.2 PROJECT DESCRIPTION

The proposed project consists of Planning Area 4 of the Paloma Del Sol Villages at Paseo del Sol Specific Plan No. 219, Amendment No. 8 (Specific Plan No. SP-4). The Specific Plan comprises approximately 42.9 acres of high density residential development and approximately 174 dwelling units (Exhibit 4, *Depiction of Proposed Project Site*). The project site had been previously entitled and received approvals from both the City of Temecula and the regulatory agencies during 1996-1998 for a residential and commercial mixed use project.



RBF A Baker Company

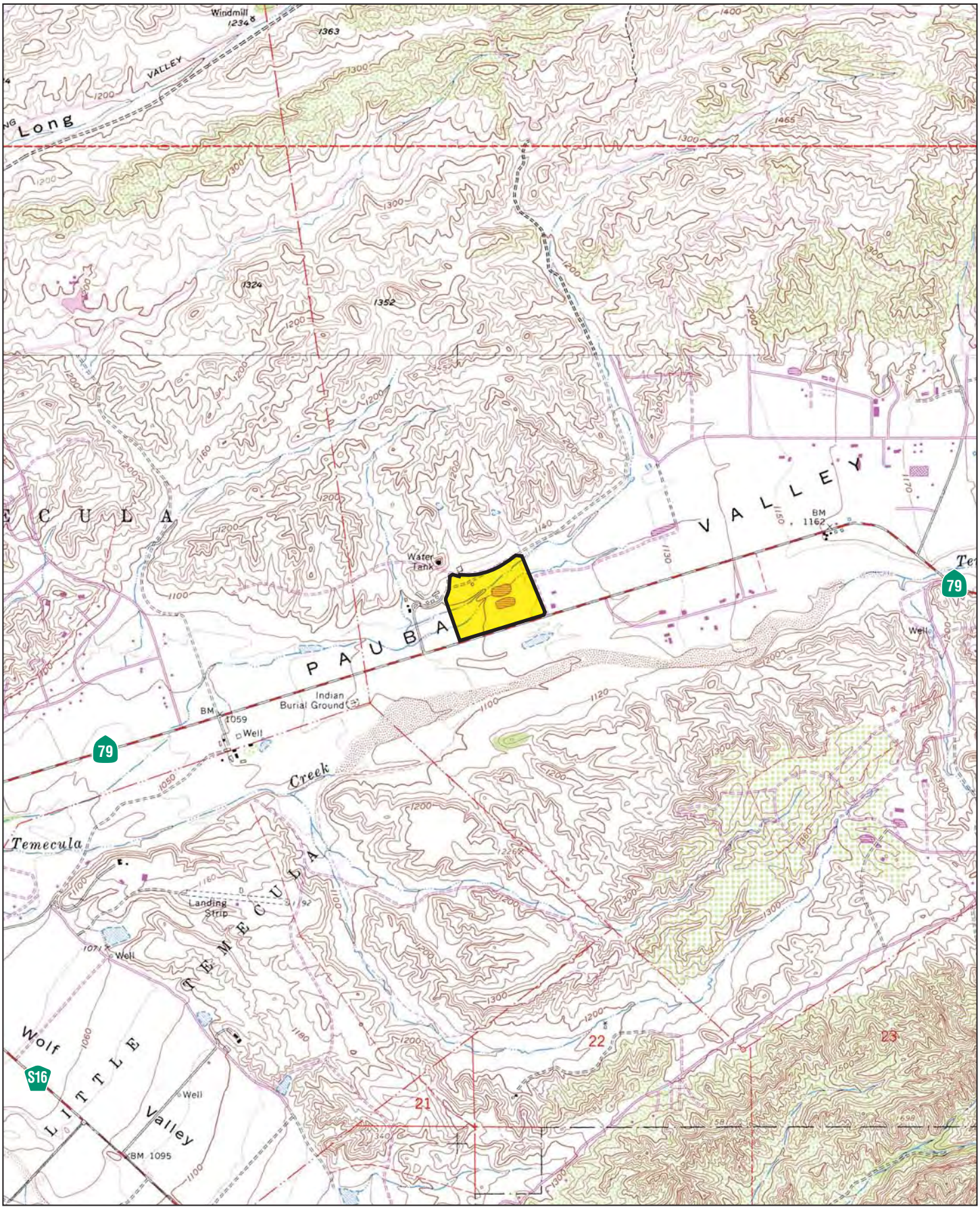
not to scale

9/5/12 JN 10-108909-18646 MAS

PASEO DEL SOL

Regional Vicinity

Exhibit 1



Source: USGS Pechanga, Calif. Quadrangle, Revised 1988, and Bachekor Mtn., Calif. Quadrangle, Revised 1973.

Project Site

PASEO DEL SOL

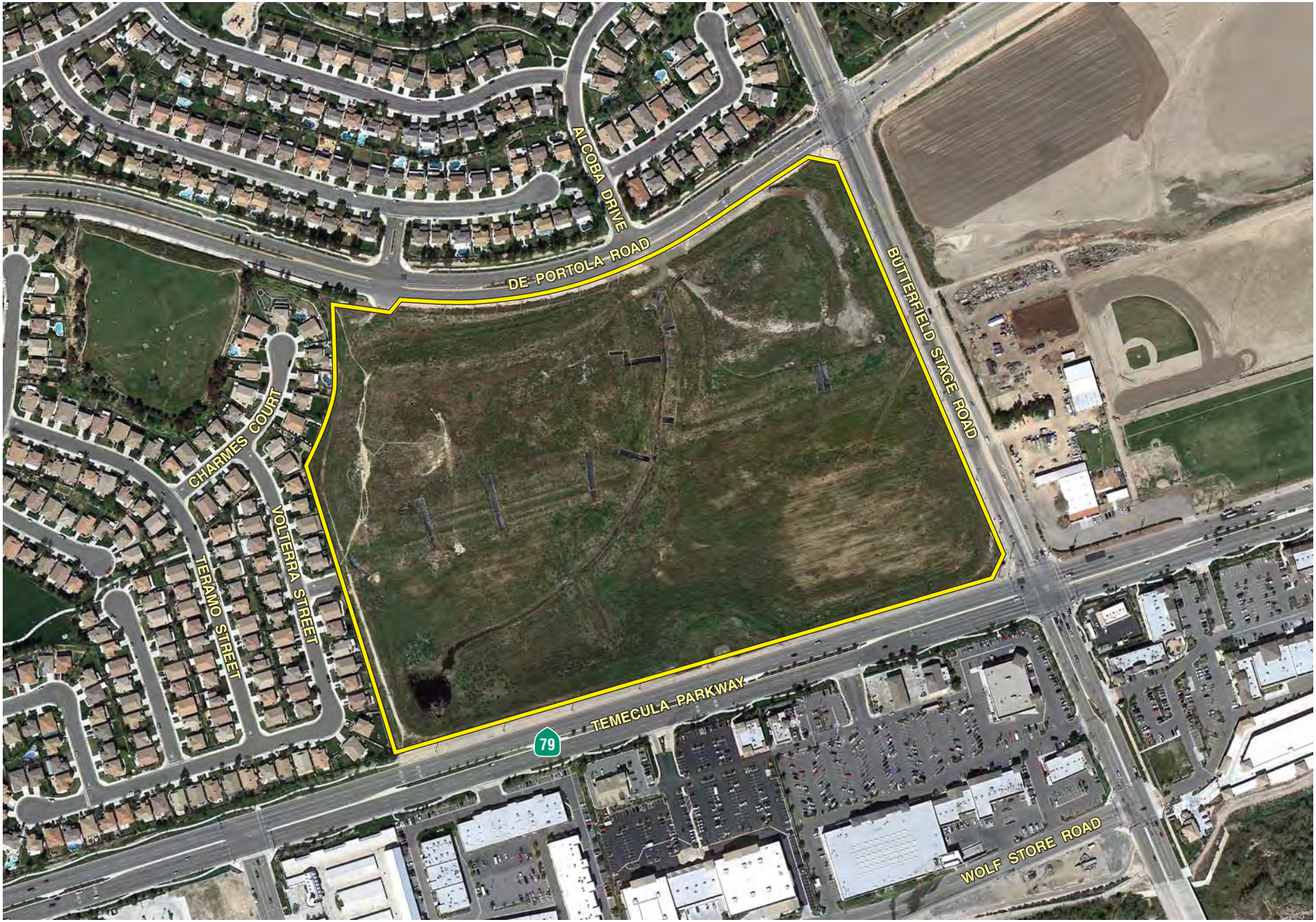
Site Vicinity

RBF A Baker Company

0 2500'
APPROXIMATE

9/5/12 JN 10-108909-18646 MAS

Exhibit 2



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A Baker Company

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9/5/12 JN 10-108909-18646 MAS

PASEO DEL SOL

Project Site

Exhibit 3

not to scale

1/15/16 JN 10-108909 CAJ

PASEO DEL SOL

Depiction of Proposed Project

Exhibit 4

Section 2 Methodology

Michael Baker conducted a thorough literature review and records search to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition, a general habitat assessment and field investigation of the project site was conducted and provided information about the existing conditions on the project site and the potential for special-status biological resources to occur.

2.1 WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS

Newland Communities is a Third Party seeking take authorization under the MSHCP and as such, the project must be consistent with the provisions of the MSHCP. The following provisions apply to the proposed project:

- The policies for the protection of species associated with Riparian/Riverine areas and vernal pools as set forth in Section 6.1.2 of the MSHCP;
- The policies for the protection of narrow endemic plant species as set forth in Section 6.1.3;
- The Urban/Wildlands Interface Guidelines as set forth in Section 6.1.4;
- Vegetation mapping requirements as set forth in Section 6.3.1;
- The requirements for conducting additional surveys as set forth in Section 6.3.2; and
- Fuels management guidelines as set forth in Section 6.4.

The project site was reviewed to determine consistency with the MSHCP. Geographic Information System (GIS) software was utilized to map the project site in relation to MSHCP areas including Criteria Cells (core habitat and wildlife movement corridors) and areas proposed for conservation. The Riverside County Integrated Project (RCIP) Conservation Summary Report Generator was queried to determine if the MSHCP lists potential survey requirements for the project site (Appendix A). The RCIP Conservation Summary Report Generator summary report identified only identified a burrowing owl survey requirements for the project site.

Section 6.1.2 Riparian/Riverine Areas and Vernal Pools

The MSHCP requires that an assessment be completed if impacts to riparian/riverine areas and vernal pools will occur as a result of implementation of the proposed project. According to the MSHCP, the documentation for the assessment shall include mapping and a description of the functions and values of the mapped areas with respect to the species listed in Section 6.1.2 of the MSHCP, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*.

Aerial photography was reviewed prior to conducting the habitat assessment. The aerials were used to locate and inspect any potential natural drainage features and water bodies that may be considered riparian/riverine habitat and/or fall under the jurisdiction of the Corps, Regional Board, or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to State and federal regulatory authorities.

Section 6.1.3 Narrow Endemic Plant Species

Section 6.1.3 of the MSHCP, *Protection of Narrow Endemic Plant Species*, states that the MSHCP database does not provide sufficient detail to determine the extent of the presence/distribution of Narrow Endemic Plant Species within the MSHCP Plan Area. Additional surveys may be needed to gather information to determine the presence/absence of these species to ensure that appropriate conservation of these species occurs. Based on the RCIP query and review of the MSHCP, it was determined that the project site is not located within the designated survey area for Narrow Endemic Plant Species as depicted in Figure 6-1 within Section 6.3.2 of the MSHCP.

Section 6.1.4 Urban/Wildlands Interface Guidelines

Section 6.1.4 of the MSHCP, *Guidelines Pertaining to Urban/Wildlands Interface,* is intended to address indirect effects associated with development in proximity to MSHCP Conservation Areas. The Urban/Wildlife Interface Guidelines are intended to ensure that indirect project-related impacts to the MSHCP Conservation Area, including drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized.

The proposed project site is located within Subunit 2 of the Southwest Area Plan of the MSHCP and is partially located within Criteria Cell 7273 (Exhibit 8, *MSHCP Criteria Area*). Section 5.5 of this report below provides a detailed assessment of the Urban/Wildlands Interface Guidelines specific to this project that will need to be implemented during development.

Section 6.3.1 Vegetation Mapping

Section 6.3.1 of the MSHCP, *Vegetation Mapping*, requires vegetation mapping within project sites that meet certain criteria in order to assess whether conservation is required. These criteria are described in detail in the MSHCP. Vegetation mapping conducted for this project site is described further in Section 2.5 below.

Section 6.3.2 Additional Survey Needs and Procedures

In accordance with Section 6.3.2 of the MSHCP, *Additional Survey Needs and Procedures*, additional surveys may be needed for certain species in order to achieve coverage for these species. The RCIP Conservation Summary Report Generator was queried to determine if the MSHCP lists any survey requirements of the project site. The summary report identified the project site as being

within the designated survey area for burrowing owl. Section 5.2 below provides a detailed assessment of the project site's potential to support this species.

Section 6.4 Fuels Management

Section 6.4 of the MSHCP, *Fuels Management*, focuses on hazard reduction for humans and their property. It requires fuels management practices to be compatible with public safety as well as the conservation of biological resources. A project must comply with MSHCP fuels management requirements in order to be in compliance. Section 5.5.8 below describes this project's compliance with fuel management guidelines.

2.2 LITERATURE REVIEW

Prior to conducting the field visit, a literature review and records search was conducted for sensitive biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project site were determined through a query of the CNDDB Rarefind 5, the California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California*, Calflora Database, compendia of special-status species published by CDFW, and United States Fish and Wildlife Service (USFWS) species listings.

Literature detailing biological resources previously observed in the vicinity of the project site and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on sensitive and non-sensitive biological resources were reviewed for habitat requirements, as well as the following resources:

- Google Earth Pro historic aerial imagery;
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey;
- USFWS Critical Habitat designations for Threatened and Endangered Species; and
- Western Riverside County MSHCP and RCIP Conservation Summary Report.

The literature review provided a baseline from which to inventory the biological resources potentially occurring on the project site. Additional recorded occurrences of these species found on or near the project site were derived from database queries. The CNDDB ArcGIS database was used, together with ArcGIS software, to locate the nearest occurrence and determine the distance from the project site.

2.3 HABITAT ASSESSMENT AND FIELD INVESTIGATION

Michael Baker biologists Travis J. McGill and Ryan S. Winkleman inventoried and evaluated the extent and conditions of the plant communities found within the boundaries of the project site on

March 11, 2014. Plant communities identified on aerial photographs during the literature review were verified by walking meandering transects through the plant communities and along boundaries between plant communities. In addition, field staff identified any jurisdictional features, riparian/riverine habitat, as well as natural corridors and linkages that may support the movement of wildlife through the area.

Special attention was given to any sensitive habitats and/or undeveloped areas, which have higher potentials to support special-status flora and fauna species. Areas providing suitable habitat for burrowing owl were closely surveyed for signs of presence during the habitat assessment. Methods to detect the presence of burrowing owl included direct observation, aural detection, and signs of presence including pellets, white wash, feathers, or prey remains.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features as well as riparian/riverine areas were noted.

2.4 SOIL SERIES ASSESSMENT

On-site and adjoining soils were researched prior to the field visit using the USDA NRCS Soil Survey for Riverside County, California. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes the project site has undergone.

2.5 PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with those described in the MSHCP, Sawyer, Keeler-Wolf and Evens (2008), CDFW (2003) and Holland (1986), delineated on an aerial photograph, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community in acres.

2.6 PLANTS

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field, and recorded in a field notebook. Unusual and less familiar plants were identified in the laboratory using taxonomical guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual. In this report, scientific names are provided immediately following common names of plant species (first reference only).

2.7 WILDLIFE

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of species during surveys included The Sibley Field Guide to the Birds of Western North America (Sibley 2003) for birds, A Field Guide to Western Reptiles and Amphibians (Stebbins 2003) for herpetofauna, and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

2.8 RIPARIAN / RIVERINE HABITAT AND JURISDICTIONAL AREAS

Aerial photography was reviewed prior to conducting the habitat assessment. The aerials were used to locate and inspect any potential natural drainage features and water bodies that may be considered riparian/riverine habitat and/or fall under the jurisdiction of the Corps, Regional Board, or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory authorities.

2.9 STEPHEN'S KANGAROO RAT HABITAT CONSERVATION PLAN

Separate from the consistency review against the requirements of the MSHCP, Riverside County established a boundary for protecting the Stephens' kangaroo rat (*Dipodomys stephensi*, SKR), a federally endangered and state threatened species that is not covered under the MSHCP. SKR is protected by the SKR Habitat Conservation Plan (SKR HCP) (County Ordinance No. 663.10). The project site is located within the Fee Area for SKR. Therefore, the project applicant will need to pay the SKR HCP mitigation fee prior to development of the site.

Section 3 Existing Conditions

3.1 LOCAL CLIMATE

Riverside County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Relative to other areas in southern California, winters are colder with frost and with chilly to cold morning temperatures common. Climatological data obtained from nearby weather stations indicates the annual precipitation averages 12 inches per year. Almost all of the rain occurs in the months between October and April, with hardly any occurring between the months of May and September. The wettest month is generally February, with a monthly average total precipitation of 2.54 inches. The average maximum and minimum temperatures for the region are 80.6 and 47.2 degrees Fahrenheit (F) respectively with July and August (monthly average 98.1° F) being the hottest months and January (monthly average 36.4° F) being the coldest. Temperatures during the site visit were in the low- to mid-60's (degrees Fahrenheit) with calm wind conditions.

3.2 TOPOGRAPHY AND SOILS

Surface elevations at the project site range from approximately 1,100 to 1,120 feet above mean sea level with areas of greater topographic relief located along the northern half of the site. The northern half of the project site is generally higher (in between 10 to 20) feet higher than the southern half of the site; the two halves are separated by two slopes that are bisected by a manmade drainage channel. Based on the United States Department of Agriculture (USDA) Soil Survey, the project site is underlain by the following soil units: Chino silt loam (drained, saline-alkali), Grangeville sandy loam (drained, saline-alkali, 0 to 5 percent slopes), Grangeville fine sandy loam (drained, 0 to 2 percent slopes), Grangeville fine sandy loam (poorly drained, saline-alkali, 0 to 5 percent slopes), Grangeville fine sandy loam (saline-alkali, 0 to 5 percent slopes), Greenfield sandy loam (2 to 8 percent slopes, eroded), Hanford course sandy loam (2 to 8 percent slopes), Hanford course sandy loam (8 to 15 percent slopes, eroded), and rough broken land (Exhibit 5, *Soils*). Descriptions of each of these soil types for the western Riverside area are below.

Chino silt loam, drained, saline-alkali (Cf)

This soil type is somewhat poorly-drained and is developed in alluvium derived from granite. In the western Riverside area it is found in flood plains at an elevation in this area of 3,100 feet. The mean annual precipitation for where this soil type occurs in the western Riverside area is 8 to 20 inches, with a mean annual air temperature range of 61 to 64°F and a frost-free period of 230 to 340 days. The typical profile of this soil for the western Riverside area includes silt loam from 0 to 14 inches, and silty clay loam from 14 to 60 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is 0 inches, and the available water capacity is low at approximately 4.2 inches. This soil type is classified as a farmland of statewide importance.

3/26/2014 JN M:\Mdata\10108909\GIS\Paloma_Del_Sol_Soils.mxd

RBF CONSULTING GIS

0 150 300 600 Feet

Source: Eagle Aerial -- 2013, NRCS Soils

PASEO DEL SOL

Soils Map

Exhibit 5

Grangeville sandy loam, drained, saline-alkali, 0 to 5% (GpB)

This soil type is moderately well-drained and is developed in alluvium derived from granite. In the western Riverside area they are found in alluvial fans at an elevation range of 10 to 1,800 feet. The mean annual precipitation for this soil is 8 to 16 inches, with a mean annual air temperature range of 61 to 64°F and a frost-free period of 200 to 270 days. The typical profile of this soil for the western Riverside area includes sandy loam from 0 to 60 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is 0 inches, and the available water capacity is moderate at approximately 7.2 inches. This soil type is classified as a farmland of statewide importance.

Grangeville fine sandy loam, drained, 0 to 2% (GtA)

This soil type is moderately well-drained and is developed in alluvium derived from granite. In the western Riverside area they are found in alluvial fans at an elevation range of 10 to 1,800 feet. The mean annual precipitation for this soil is 12 inches, with a mean annual air temperature of 63°F and a frost-free period of 200 to 270 days. The typical profile for this soil in the western Riverside area is fine sandy loam from 0 to 36 inches and sandy loam from 36 to 64 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is 0 inches, and the available water capacity is moderate at approximately 8 inches. This soil type is classified as prime farmland if irrigated and drained.

Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5% (GuB)

This soil type is poorly-drained and is developed in alluvium derived from granite. In the western Riverside area it is found in alluvial fans at an elevation range of 10 to 1,800 feet. The mean annual precipitation for this soil is 8 to 16 inches, with a mean annual air temperature range of 61 to 64°F and a frost-free period of 200 to 270 days. The typical profile for this soil in the western Riverside area is fine sandy loam from 0 to 17 inches and sandy loam from 17 to 60 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is 0 inches, and the available water capacity is low at approximately 6 inches. This soil type is classified as a farmland of statewide importance.

Grangeville fine sandy loam, saline-alkali, 0 to 5% (GvB)

This soil type is somewhat poorly-drained and is developed in alluvium derived from granite. In the western Riverside area it is found in alluvial fans at an elevation range of 10 to 1,800 feet. The mean annual precipitation for this soil is 8 to 16 inches, with a mean annual air temperature range of 61 to 64°F and a frost-free period of 200 to 270 days. The typical profile for this soil in the western Riverside area is fine sandy loam from 0 to 17 inches and sandy loam from 17 to 60 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is 0 inches, and the available water capacity is low at approximately 6 inches. This soil type is classified as a farmland of statewide importance.

Greenfield sandy loam, 2 to 8%, eroded (GyC2)

This soil type is well-drained and is developed in alluvium predominantly from granite. In the western Riverside area it is found on alluvial fans and terraces at an elevation range of 100 to 3,500 feet. The mean annual precipitation for this soil is 9 to 20 inches, with a mean annual air temperature of 63°F and a frost-free period of 200 to 300 days. The typical profile for this soil in the western Riverside area is sandy loam from 0 to 26 inches, fine sandy loam from 26 to 43 inches, loam from 43 to 60 inches, and stratified loamy sand to sandy loam from 60 to 72 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is more than 80 inches, and the available water capacity is moderate at approximately 8.3 inches. This soil type is classified as prime farmland if irrigated and drained.

Hanford course sandy loam, 2 to 8% (HcC)

This soil type is well-drained and is developed in alluvium predominantly from granite. In the western Riverside area it is found on alluvial fans at an elevation range of 150 to 900 feet. The mean annual precipitation for this soil is 9 to 20 inches, with a mean annual air temperature of 63 to 64°F and a frost-free period of 250 to 280 days. The typical profile for this soil in the western Riverside area is coarse sandy loam from 0 to 8 inches, fine sandy loam from 8 to 40 inches, and stratified loamy sand to coarse sandy loam from 40 to 60 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is more than 80 inches, and the available water capacity is moderate at approximately 7 inches. This soil type is classified as prime farmland if irrigated and drained.

Hanford course sandy loam, 8 to 15%, eroded (HcD2)

This soil type is somewhat excessively-drained and is developed in alluvium predominantly from granite. In the western Riverside area it is found on alluvial fans at an elevation range of 150 to 900 feet. The mean annual precipitation for this soil is 9 to 20 inches, with a mean annual air temperature of 63 to 64°F and a frost-free period of 250 to 280 days. The typical profile for this soil in the western Riverside area is coarse sandy loam from 0 to 8 inches, fine sandy loam from 8 to 40 inches, and stratified loamy sand to coarse sandy loam from 40 to 60 inches. The depth to a restrictive feature is more than 80 inches, the depth to the water table is 0 inches, and the available water capacity is moderate at approximately 7 inches. This soil type is classified as farmland of statewide importance.

Rough broken land (RuF)

This soil type is developed from residuum derived from mixed sources. The typical profile for this soil in the western Riverside area is unweathered bedrock from 0 to 60 inches. It is not classified as prime farmland.

3.3 SURROUNDING LAND USES

The project site is located in an urbanized area that has undergone a conversion from natural habitats to residential, commercial, and related developments with subsequent improvements to infrastructure. Immediately abutting the western boundary of the project site and across De Portola Road to the north are residential communities, to the northeast across Butterfield Stage Road is an agricultural field (currently planted at the time of the habitat assessment), to the southeast across Butterfield Stage Road is a horse feed facility, and to the south across SR-79 is a shopping center.

Section 4 Discussion

4.1 SITE CONDITIONS

An unnamed, manmade drainage feature bisects the site, flowing in a north to southwest direction. This drainage enters the site roughly in the center of its northern boundary through a concrete culvert, where it then transitions to an earthen ditch, then curves to the southwest and pools on the southwest corner of the site within a temporary detention/sedimentation basin. The temporary detention/sedimentation basin drains via a concrete culvert into Temecula Creek on the southwest corner of the site. The on-site drainage feature is surrounded by vacant, undeveloped land. These vacant areas have been heavily disturbed by previous grading activities and no longer provide undisturbed natural plant communities. In the northwest corner of the project site neighborhood kids have created a BMX bike jump area. Approximately 500 feet west of the intersection of Butterfield Stage Road and SR-79 is an earthen berm that slopes up to the west and extends all the way to the southwest corner of the site. As previously noted, the project site is roughly divided into a distinct elevated northern half and a lower southern half. The slopes separating the northern and southern halves, as well as the east- and west-facing slopes on the northern half that drop into the drainage feature, have numerous visqueen erosions control tarps.

4.2 VEGETATION

As a result of previous grading activities, the majority of the project site is composed of a non-native grassland plant community, with the exception of dirt access roads and a few other disturbed areas, and a manmade channel, which is classified as an emergent freshwater marsh (Exhibit 5, *Vegetation*). These communities are described in further detail below.

4.2.1 Non-Native Grassland

A non-native grassland plant community is found throughout the majority of the project site outside of the unnamed drainage feature. This plant community has been heavily disturbed from previous grading activities and is composed of non-native grasses and successional plant species. Dominant plant species observed within this plant community include ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), shortpod mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), Chinese purslane (*Portulaca oleracea*), silverleaf nightshade (*Solanum elaeagnifolium*), London rocket (*Sisymbrium irio*), and filaree (*Erodium* sp.).

4.2.2 Emergent Wetland

An unnamed, manmade drainage feature bisects the site, flowing in a north to southwest direction. This drainage enters the site roughly in the center of its northern boundary through a concrete culvert, where it then transitions to an earthen ditch, then curves to the southwest and pools on the

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0 150 300 600 Feet

Source: Eagle Aerial -- 2013

PASEO DEL SOL

Vegetation Map

Exhibit 6

southwest corner of the site within a temporary detention/sedimentation basin. Based on the results of the delineation of state and federal jurisdictional waters report, this unnamed drainage feature can be classified as an emergent wetland since is exhibited all three wetland parameters (i.e., hydrology, soils, vegetation). The emergent wetland is dominated by broadleaf cattail (*Typha latifolia*) that has become established in the middle of the channel and along the margins of the temporary detention/sedimentation basin. In addition, there are patches of sandbar willow (*Salix exigua*) within the wetland. The wetland was dry at the time of Michael Baker's site investigation, the temporary detention/sedimentation basin was full of open water.

4.2.3 Disturbed

Disturbed areas on-site are generally unpaved areas that have been subject to high levels of human disturbances and no longer support a native vegetation or comprise a native plant community and are generally un-vegetated except for some weedy plant species. These areas include dirt access roads on the northern half of the project site and along it the eastern edge of the project site, as well as areas on the northwest portion of the project site that have been used for spoil piles (i.e., dirt piles, cement rubble, and other debris).

4.3 WILDLIFE

Plant communities provide foraging habitat, nesting and denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species observed, expected, or not expected to occur on-site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather condition in which the survey was conducted. Wildlife observations were based on calls, songs, scat, tracks, burrows, and actual sightings of animals.

4.3.1 Amphibians

No amphibian species were observed during the habitat assessment. The surrounding area would not support a migration of salamanders into the site, but it is possible that anurans could use the drainage and/or the ponded area on-site. Special-status amphibian species are not expected to occur on-site. The drainage feature is presumably fed by urban runoff from the neighborhood(s) north of the project site, and therefore may be wet year-round. If the pond is perennially wet, the species most likely to occur are non-native: American bullfrog (*Lithobates catesbeianus*) and African clawed frog (*Xenopus laevis*). The native species most likely to occur at this site is the Baja California chorus frog, previously known as the Pacific chorus frog (*Pseudacris hypochondriaca = P. regilla*). The Western Riverside County MSHCP does not identify any covered or special-status amphibian species as potentially occurring on the project site.

4.3.2 Reptiles

The project site is highly disturbed and is surrounded by existing development that has the potential to support a limited number of reptiles adapted to these habitat conditions. The only reptile observed during the habitat assessment was western fence lizard (*Sceloporus occidentalis*). No special-status reptiles were observed during the habitat assessment. As noted, the project site is primarily composed of vacant, undeveloped lands that have been subjected to impacts over the years and it continues to be subjected to a heavy degree of impacts. Besides western fence lizard, common reptilian species that could occur on the site given the rodent prey base and innumerable rodent burrows include gopher snake (*Pituophis catenifer*), southern Pacific rattlesnake (*Crotalus oreganus helleri*), southern alligator lizard (*Elgaria multicarinata webbi*), and common side-blotched lizard (*Uta stansburiana*).

4.3.3 Birds

The project site provides suitable foraging for a variety of avian species. The avian species most commonly observed on the site during the habitat assessment included killdeer (*Charadrius vociferus*), horned lark (*Eremophila alpestris*), European starling (*Sturnus vulgaris*), western meadowlark (*Sturnella neglecta*), and red-winged blackbird (*Agelaius phoeniceus*).

4.3.4 Mammals

The project site provides suitable habitat for mammalian species acclimated to human presence and disturbance. However, most mammal species are nocturnal and are difficult to observe during a diurnal field visit. Mammals detected during the field assessment included California ground squirrel (*Otospermophilus beecheyi*) in large numbers and a single San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). San Diego black-tailed jackrabbit is designated as a species of special concern by the CDFW. Small mammal burrows were present throughout the site, particularly on the slopes, but ground squirrels were primarily observed occupying them.

4.4 NESTING BIRDS

The project site and the surrounding residential neighborhoods have potential to support nesting habitat for avian species. On-site, the emergent wetland, and open non-native grasslands provide suitable nesting opportunities. Although the majority of the on-site vegetation provides limited nesting opportunities for avian species, the project site has the potential to provide suitable nesting opportunities for ground-nesting avian species (e.g. killdeer (*Charadrius vociferous*)).

The habitat assessment was conducted during the avian breeding season, but no actively breeding bird species or birds displaying nesting behavior or carrying nest material were observed. Additionally, no remnant or unoccupied nests were observed on-site during the habitat assessment.

4.5 MIGRATORY CORRIDORS AND LINKAGES

Habitat linkages provide links between larger undeveloped habitat areas that are separated by development. Wildlife corridors are similar to linkages, but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species but inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

No migratory corridors or linkages identified in the MSHCP are located on the project site. However, Proposed Constrained Linkage 24, which consists of the portion of Temecula Creek located between Redhawk Parkway and Pauba Road, is located south of the project site. The project site is located within Criteria Cell 7273 that focuses on vegetation within Temecula Creek. Conservation requirements for Criteria Cell 7273 do not extend into the project site. As a result, development of the project site will not directly affect Proposed Constrained Linkage 24. Although the on-site channel and pond are manmade features, development within the features could result in indirect effects to Proposed Constrained Linkage 24 through sedimentation.

4.6 JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge and/or fill materials into "waters of the United States" pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and associated plant communities pursuant to Section 1602 of the Fish and Game Code, and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Prior to Newland Communities ownership of the property, the previous owner (Eastern Municipal Water District [EMWD]) utilized the project site for settlement ponds for water reclamation discharge during the 1980's. The holding ponds were eventually abandoned and the ponds re-graded to the existing elevation on-site.

Newland Communities acquired the property, which was delineated in 1996 by Glenn Lukos Associates. The delineation authorized the impacts to 4.9 acres of "waters of the United States" (including wetlands) via a Nationwide Permit (NWP). As part of the authorized permit, special conditions required the applicant to mitigate for impacts by preserving 9.4 acres of willow riparian habitat within Temecula Creek. Since that time, Newland Communities had posted financial

assurance for the proposed mitigation which is now complete. Newland Communities received regulatory permits for an approved residential and commerce center project. Specifically, permit authorization to impact various jurisdictional drainages and wetlands was received from the Corps under File No.'s 96-00210-ES and 97-00275-SDM. As part of the previous approvals, a waiver certification was issued by the Regional Board as a result of various water quality components that were proposed for incorporation into the final design.

Grading for the authorized impacts occurred during 1999-2001 and all jurisdictional areas were converted to uplands for the approved development. Following grading operations in 2001, the applicant (as part of an approved stormwater runoff program), graded a narrow storm water conveyance channel to a temporary detention/sedimentation basin at the southwest corner of the project site. The temporary sediment basin had been identified in the Corps NWP. Project construction stopped in 2006 and has not been reinitiated.

On-site waters/wetlands that are present on-site today consist of the same temporary features that were constructed in 2001. Since the halt in construction, the trench has conveyed water from the development to the north of De Portola Road, through the project site, and then offsite through an existing culvert under Temecula Parkway. As noted, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project site No other drainage features or improvements are located on-site.

4.6.1 Wetland A

Wetland A extends along the entire margin of the low-flow earthen channel for approximately 1,350 linear feet. The wetland traverses the site from north to southwest along the margin of the earthen channel and fringes of the temporary detention/sedimentation basin.

Emergent wetland vegetation which consisted of cattail has become established along the margin of both the low-flow channel as well as on the fringe of the detention/sedimentation basin. Certain locations along the low-flow channel contained a few dense stands of Narrow Leaf Willow (*Salix exigua).* Non-native species such as White Sweetclover (*Melilotus albus)* and Spanish False Fleabane (*Pulicaria paludosa)* were observed along the entire margin of the low-flow channel. Surface water was present within the channel during the site visit as well as in the basin. The basin was characterized by significant algal growth due to accumulated high levels of organic material and nutrient-loading from upstream development. A total of 0.69-acre of state jurisdictional wetland is located on-site.

4.6.2 Temporary Detention/Sedimentation Basin

Approximately 0.10-acre of non-wetland waters was observed within the temporary sediment basin located at the southwestern corner of the property. The basin is located at the terminus of the

manmade channel, which was constructed as an interim means of conveying both on-site storm flows and flows from the approved development to the north across the site during the rough graded condition. The basin consisted of open water, ranging in depth from 2" – 16".

4.7 SPECIAL-STATUS BIOLOGICAL RESOURCES

The CNDDB and CNPS were queried for reported locations of listed and special-status plant and wildlife species as well as special-status natural plant communities on the Pechanga USGS 7.5-minute quadrangle. A search of published records of these species was conducted within this quadrangle using the CNDDB Rarefind 5 online software. The CNPS Inventory of Rare and Endangered Vascular Plants of California and MSHCP supplied information regarding the distribution and habitats of vascular plants in the vicinity of the project site. The habitat assessment was used to assess the ability of the plant communities found on-site to provide suitable habitat for relevant special-status plant and wildlife species.

The literature search identified thirty-one (31) special-status plant species, twenty (20) special-status wildlife species, and one (1) special-status plant community as having the potential to occur within the Pechanga quadrangle. Special-status plant and wildlife species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity are presented in Appendix C, Potentially Occurring Special-Status Biological Resources. Appendix C summarizes conclusions from analysis and field surveys regarding the potential occurrence of listed and special-status plant and wildlife species within the project site. Where applicable, species that have a moderate or higher potential to occur on the project site and that are covered by the MSHCP in the project's vicinity are described in further detail.

4.7.1 Special-Status Plants

Thirty-one (31) special-status plant species have been recorded in the CNDDB and CNPS in the Pechanga quadrangle (refer to Appendix C). Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the project site does not provide suitable habitat for any of the special-status plant species determined to occur within the general area. The long history of disturbance and lack of natural vegetation has eliminated suitable habitat for all of the special-status plant species that have the potential to occur in the general vicinity.

4.7.2 Special-Status Wildlife

Twenty (20) special-status wildlife species have been recorded in the CNDDB in the Pechanga quadrangle (refer to Appendix C). Two special-status species, Cooper's hawk and San Diego black-tailed jackrabbit, were observed on-site during the habitat assessment. Based on habitat

requirements for specific species and the availability and quality of on-site habitats, it was determined that the project site has a low potential to support golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), northern harrier (*Circus cyaneus*), Stephens' kangaroo rat, western pond turtle (*Emys marmorata*), and western mastiff bat (*Eumops perotis californicus*). These species are unlikely to occur, but marginally suitable habitat is present that could support them. Burrowing owl has a moderate potential to occur on the project site. Because Cooper's hawk is included as a "planning species" for Subunit 2 of the Southwest Area Plan and because burrowing owl was specifically listed by the RCIP as a requirement for this area, detailed descriptions of these two species are below.

4.7.2.1 Cooper's Hawk

The Cooper's hawk is designated by the CDFW as a watch list species. The Cooper's hawk is generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. This species prefers hardwood stands and mature forests, but can be found in urban and suburban areas where there are tall trees for nesting. In California this species is most often found nesting in oak trees (Curtis et al. 2006). The Cooper's hawk is also relatively common in open areas during nesting season where it forages. This species was observed within 20 feet of the project, perched at a house that abuts the western boundary. While no nesting habitat is present directly on-site, the entire site can be considered foraging habitat, with abundant prey in the form of rodents and passerine birds. This species can be assumed to be present.

4.7.2.2 Burrowing Owl

Burrowing owl is currently designated as a California Species of Special Concern and considered a partially covered species under the MSHCP that could require additional surveys. It is a grassland specialist[2] distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with level to gently-sloping areas characterized by open vegetation and bare ground. The species rarely dig their own burrows and are instead dependent upon the presence of burrowing mammals (i.e., ground squirrels, coyotes, and badgers) whose burrows are often used for roosting and nesting. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. They also require low growth or open vegetation allowing line-of-sight observation of the surrounding

[2] The burrowing owl is a grassland specialist that primarily occurs in open areas with short vegetation and bare ground in desert, grassland, and shrub-steppe environments.

habitat to forage as well as watch for predators. In California, the burrowing owl breeding season extends from the beginning of February through the end of August.

The project site contains a large number of rodent burrows, many of which are suitable to support burrowing owls. These are primarily located on slopes along the northern and southern boundaries of the site and along the east-west centerline of the site, where the higher-elevation northern half drops into the lower-elevation southern half. During the habitat assessment, all burrows encountered were examined for shape, scat, pellets, feathers, tracks, and prey remains. Though all suitable burrows were examined from the outside, no burrowing owls or burrowing owl sign was detected.

As of March 2014, there are only three burrowing owl records in the CNDDB within the Pechanga quadrangle. All three are roughly within a two-mile radius of the project site, and all are more than 10 years old. There are no records in the CNDDB of burrowing owl being recorded at this site. However, as noted above, suitable habitat is present for this species to occur, and owls could likely be supported at this site if they moved into any vacant burrows. Furthermore, burrowing owls are known from this region in general. Burrowing owl is expected to have a moderate potential to occur on the project site.

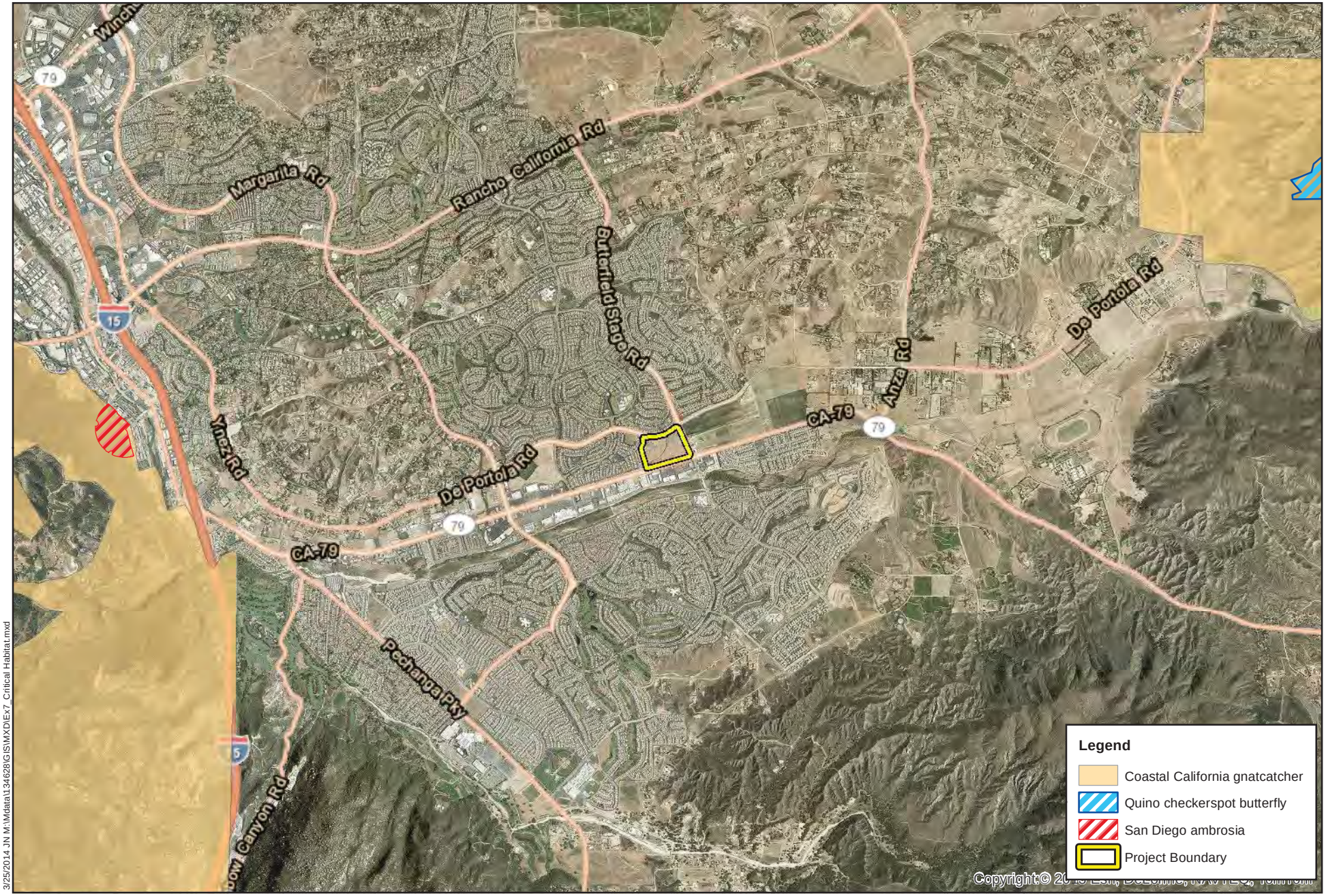
4.7.3 Special-status Plant Communities

The CNDDB lists one special-status plant community, southern willow scrub, as being identified within the Pechanga quadrangle. This plant community was not observed on-site.

4.7.4 Critical Habitat

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to habitat or a specific geographic area that contains the elements and features that are essential for the survival and recovery of the species. In the event that a project may result in take or in adverse effects to a species' designated Critical Habitat, the project proponent may be required to engage in suitable mitigation. However, consultation for impacts to Critical Habitat is only required when a project has a federal nexus (i.e. occurs on federal land, is issued federal permits [e.g. Corps Section 404 permit, or Corps Section 408 permit], or receives any other federal oversight or funding). If a project does not have a federal nexus, Critical Habitat consultations are not required.

The project site is not located within federally designated Critical Habitat for any species (Exhibit 7, *Critical Habitat*).



3/25/2014 JN M:\Mdata\134628\GIS\MXD\Ex7_Critical Habitat.mxd

RBF CONSULTING GIS

0 2,500 5,000 10,000 Feet

Source: U.S Fish & Wildlife Service, Eagle Aerial -- 2013

PASEO DEL SOL

Critical Habitat Map

Exhibit 7

Section 5 Western Riverside County MSHCP Consistency Analysis

5.1 MSHCP REQUIREMENTS

5.1.1 MSHCP Areas

The proposed project site is located within the boundary of the MSHCP. Specifically, the project site is located within Subunit 2 of the Southwest Area Plan of the MSHCP and is partially located within Criteria Cell 7273 (Exhibit 8, *MSHCP Criteria Area*). Subunit 2 encompasses Temecula and Pechanga Creeks. Conservation within Criteria Cell 7273 is intended to contribute to the assembly of Proposed Constrained Linkage 24, and focuses on the conservation of riparian scrub, woodland, forest, and Riversidean alluvial fan sage scrub habitat along Temecula Creek and in adjacent grasslands.

5.1.2 MSHCP Survey Requirements

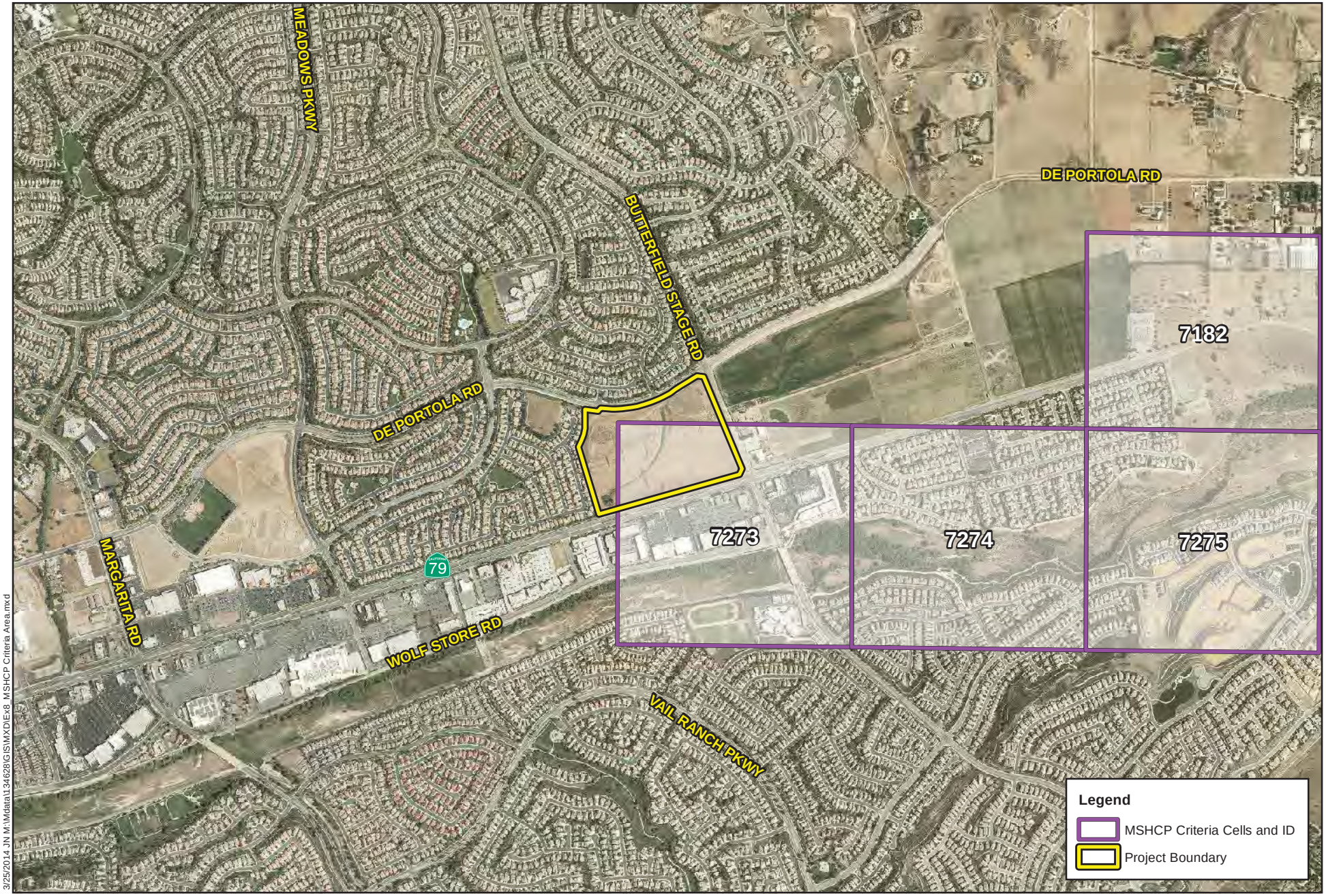
The MSHCP has habitat assessment survey requirements for certain plant, bird, mammal, and amphibian species. Based on the RCIP query and review of the MSHCP, it was determined that the project site is located within the designated survey area for burrowing owl as depicted in Figure 6-4 within Sections 6.3.2 of the MSHCP. Section 5.2 below describes the suitability of the habitat on the project site to support burrowing owl.

5.2 HABITAT ASSESSMENT RESULTS

5.2.1 Burrowing Owl

Burrowing owl is currently designated as a California Species of Special Concern and considered a partially covered species under the MSHCP that could require additional surveys. It is a grassland specialist[3] distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with level to gently-sloping areas characterized by open vegetation and bare ground. The species rarely dig their own burrows and are instead dependent upon the presence of burrowing mammals (i.e., ground squirrels, coyotes, and badgers) whose burrows are often used for roosting and nesting. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made

[3] The burrowing owl is a grassland specialist that primarily occurs in open areas with short vegetation and bare ground in desert, grassland, and shrub-steppe environments.



3/25/2014 JN M:\Mdata\134628\GIS\MXD\Ex8_MSHCP Criteria Area.mxd

RBF CONSULTING GIS

0 750 1,500 3,000 Feet

Source: County of Riverside, Eagle Aerial -- 2013

PASEO DEL SOL

MSHCP Criteria Cells

Exhibit 8

cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage as well as watch for predators. In California, the burrowing owl breeding season extends from the beginning of February through the end of August.

The project site contains a large number of rodent burrows, many of which are suitable to support burrowing owls. These are primarily located on slopes along the northern and southern boundaries of the site and along the east-west centerline of the site, where the higher-elevation northern half drops into the lower-elevation southern half. During the habitat assessment, all burrows encountered were examined for shape, scat, pellets, feathers, tracks, and prey remains. Though all suitable burrows were superficially examined from the outside, no burrowing owls or burrowing owl sign was detected.

Michael Baker conducted a protocol focused survey for burrowing owl in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area. The survey area was assessed on foot by qualified biologists, Tom C. Millington and Ashley M. Barton, who are knowledgeable in the habitats and behavior of burrowing owls on four (4) separate days: July 7, 15, 29, and August 4, 2015. Concurrently with the first focused burrowing owl survey, the focused burrow survey was conducted on July 7, 2015. The survey conducted on July 7, 2015 was completed between 0630 to 0830 hours, and the surveys conducted on July 15, 29, and August 4, 2015 were completed between 0730 to 0930 hours.

Despite systematic searches of the suitable burrows found on the project site, no burrowing owls or evidence (i.e., scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owl was observed on or within 500 feet of the project site. It can be concluded that burrowing owl are not currently present on the project site.

The project site supports suitable ground squirrel burrows and non-natural substrates capable of supporting burrowing owls. However, the project site is not currently occupied by burrowing owls. The weed abatement activities (i.e., disking) on-site has discouraged burrowing owls from occupying the project site. As long as these disking activities continue on the project site, it is presumed that burrowing owls will not occupy the suitable burrows.

5.3 JURISDICTIONAL DRAINAGES, RIPARIAN/RIVERINE AREAS, AND VERNAL POOLS

Jurisdictional Drainages, Riparian/Riverine Areas

Under MSHCP Section 6.1.2, riparian/riverine areas are defined as areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the

year. Conservation of these areas is intended to protect habitat that is essential to a number of listed, water-dependent amphibians, birds, fish, invertebrates, and plants. If all impacts to riparian/riverine habitat cannot be avoided, a mitigation strategy called a Determination of Biologically Equivalent or Superior Preservation (DBESP) must be developed that addresses the replacement of lost functions of habitats in regards to the listed species. This assessment is independent from considerations given to "waters of the U.S." and "waters of the State" under the CWA and the California Fish and Game Code.

Based on the results of a Delineation of State and Federal Jurisdictional Waters Report (RBF 2014), prepared under separate cover, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project. These features will be considered riparian/riverine habitat under MSHCP Section 6.1.2. As a result, any alteration or loss of these areas will require the preparation of a DBESP analysis under the MSHCP. This analysis would be separate from any regulatory review/permitting by the Corps, Regional Board, and CDFW.

Vernal Pools and Fairy Shrimp Habitat

One of the factors for determining the suitability of the habitat for fairy shrimp would be demonstrable evidence of seasonal ponding in an area of topographic depression that is not subject to flowing waters. These astatic pools are typically characterized as vernal pools. More specifically, vernal pools are seasonal wetlands that occur in depression areas without a continual source of water. They have wetland indicators of all 3 parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology is made on a case-by-case basis. Such determinations should be considered the length of time the areas exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. The seasonal hydrology of vernal pools provides for a unique environment, which supports plants and invertebrates specifically adapted to a regime of winter inundation, followed by an extended period when the pool soils are dry.

Vernal pools are seasonally inundated, ponded areas that only form in regions where specialized soil and climatic conditions exist. During fall and winter rains typical of Mediterranean climates, water collects in shallow depressions where downward percolation of water is prevented by the presence of a hard pan or clay pan layer (duripan) below the soil surface. Later in the spring when rains decrease and the weather warms, the water evaporates and the pools generally disappear by May. The shallow depressions remain relatively dry until late fall and early winter with the advent of greater precipitation and cooler temperatures. Vernal pools provide unusual "flood and drought"

habitat conditions to which certain plant and wildlife species have specifically adapted as well as invertebrate species such as fairy shrimp.

The MSHCP lists two general classes of soils known to be associated with listed and sensitive plant species; clay soils and Traver-Domino Willow association soils. The specific clay soils known to be associated with listed and sensitive species within the MSHCP plan area include Bosanko, Auld, Altamont, and Porterville series soils, whereas, Traver-Domino Willows association includes saline-alkali soils largely located along floodplain areas of the San Jacinto River and Salt Creek. Without the appropriate soils to create the restrictive layer, water does not pool for extended periods of time sufficient to support fairy shrimp development. None of these soils occur on the project site and no clay or restrictive soils have been mapped on-site.

A review of recent (1995-2014) and predevelopment aerial photographs of the site and its immediate vicinity did not provide visual evidence of an astatic or vernal pool on or in the near vicinity of the project site. No ponding was observed on-site, further supporting the fact that the drainage patterns currently occurring on the project site do not follow hydrologic regime needed for vernal pools. From this review of historic aerial photos and field observation, it can be concluded that there is no indication of vernal pools or suitable fairy shrimp habitat occurs on the project site.

During initial grading activities in 2001 for development, all jurisdictional areas were converted to uplands for the approved development except for the narrow storm water conveyance channel and temporary detention/sedimentation basin at the southwest corner of the project site. The narrow storm water conveyance channel conveys water from the development to the north of De Portola Road, through the project site into the ponded area, and then offsite through an existing culvert under Temecula Parkway. The continual nuisance flows from surrounding development prevents the ponding of water in a manner that would create an astatic or vernal pool habitat. Grading activities in 2001 altered the hydrology of the site to flow through the temporary detention/sedimentation basin and offsite. As a result, there is no ponding of water for a sufficient time to create vernal pool habitat.

Available information and observations of the on-site drainage features showed that the jurisdictional features on-site to maintain water during prolonged dry periods as a result of nuisance flows from surrounding development. While prolonged ponding occurs on-site, it is the result of continuous flows from surrounding development and does not suggest suitability for fairy shrimp which require astatic conditions. The continuous flows from surrounding development would preclude the pond from developing into an astatic pond; and therefore, would not develop the conditions to needed to support the plant and wildlife species, including fairy shrimp, that are specifically adapted to astatic or vernal pools.

Based on the historical aerial review, existing grading activities, and current hydrologic regimes of the project site, it can be conclude that the project site lacks astatic conditions, and, therefore, would not provide suitable fairy shrimp habitat. Fairy shrimp require astatic conditions and a complete drying of occupied ponds so that the fairy shrimp cysts will not rot. The continual flow of nuisance water precludes the on-site pond from drying out, and, therefore, preclude the development of the astatic conditions needed by fairy shrimp. It can be concluded that the on-site pond is not a vernal pool and does not provide fairy shrimp habitat. As a result, none of the sensitive plant or wildlife species associated with vernal pools are expected to occur on the project site. Sensitive plant and wildlife species associated with vernal pools and clay soils, including fairy shrimp, are presumed absent from the project site.

5.4 NESTING BIRDS

The project site and the surrounding residential neighborhoods have potential to support nesting habitat for avian species. On-site, the emergent wetland, and open non-native grasslands provide suitable nesting opportunities. Although the majority of the on-site vegetation provides limited nesting opportunities for avian species, the project site has the potential to provide suitable nesting opportunities for ground-nesting avian species (e.g. killdeer).

The habitat assessment was conducted during the avian breeding season, but no actively breeding bird species or birds displaying nesting behavior or carrying nest material were observed. Additionally, no remnant or unoccupied nests were observed on-site during the habitat assessment.

5.5 URBAN/WILDLANDS INTERFACE GUIDELINES

According to Section 6.1.4 of the MSHCP, *Guidelines Pertaining to Urban/Wildlands Interface*, the guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area (MSHCP, p. 6-42). The proposed project site is located within Criteria Area Cell 7273, which contributes to Proposed Constrained Linkage 24 (refer to Exhibit 8). The Urban/Wildlife Interface Guidelines, as discussed below, will be incorporated into the project to ensure that indirect project-related impacts, including drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized.

5.5.1 Drainage

The project's stormwater should be directed to a stormwater basin on the project site. The basin will be designed in accordance with all federal, state, regional, and local standards and regulations concerning water quality. These measures will assure that the project stormwater discharges are no greater in volume and velocity than current undeveloped conditions and that the water leaving the site complies with all applicable water quality standards.

5.5.2 Toxics

The proposed project is a residential development and may have the potential to cause the release of hazardous materials from pesticide and herbicide use. According to the MSHCP, measures shall be incorporated to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area.

During the construction of the project, construction activities do have the potential to cause release of toxic materials that could impact the MSHCP Conservation Area. To address these potential short-term impacts, the project is required to stage construction operations as far away from the MSHCP Conservation Area to the maximum extent feasible. These mitigation measures will be imposed by the County.

5.5.3 Lighting

The project site is residential in nature and would not significantly increase lighting and glare. Surrounding developed areas also include residential neighborhoods and shopping centers. However, light sources should be designed with internal baffles to direct the lighting towards the ground and the developed areas and have a zero side angle cut off to the horizon.

5.5.4 Noise

The project site should have a physical separation or barrier between the proposed development and the conservation area to buffer noise impacts on migrating wildlife. A barrier would significantly lessen any noise exposure to any MSHCP-covered species.

Construction-related noise will be mitigated consistent with the County's Noise Ordinances by limiting construction activities to daytime hours and requiring construction equipment to be tuned and equipped with mufflers.

5.5.5 Invasive Plant Species

Plant species acceptable for the project's landscaping must not be considered an invasive species pursuant to Table 6.2 of the MSHCP. To ensure this, the final landscape plans must be reviewed and verified by the County for consistency with the plant species list in Table 6.2 of the MSHCP.

5.5.6 Barriers

As previously indicated, barriers may be needed to separate the project from the MSHCP migratory route and Proposed Constrained Linkage 24. This barrier would restrict direct access to the MSHCP Conservation Area by domestic animals. The barrier would and should be placed within the boundaries of the development and will be outside of the confines of the open space/MSHCP Conservation Area.

5.5.7 Grading/Land Development

The project has been designed to keep all manufactured slopes within the boundaries of the development footprint and to not encroach into the open space/MSHCP Conservation Area.

5.5.8 Fuels Management

Fuels management focuses on hazard reduction for humans and their property (MSHCP, p. 6-72). According to the Fuels Management Guidelines, for new development that is planned adjacent to the MSHCP Conservation Area or other undeveloped areas, brush management shall be incorporated in the development boundaries and shall not encroach into the MSHCP Conservation Area (MSHCP, p.6-72).

The proposed project would decrease the fuel load within the project boundary with the implementation of residences, roads, and landscaping. Any areas planted with fire-resistant, non-invasive plants must not encroach into the Conservation Area. Accordingly, with these measures, the project is consistent with the MSHCP Fuels Management Guidelines.

Section 6 Habitat Evaluation and Acquisition Negotiation Strategy (HANS) Review

6.1 THE HANS PROCESS

Proposed development within a Criteria Cell is subject to review under the HANS process. Project applicants whose properties fall within Criteria Areas are required to file a habitat assessment of their project site to determine if all or part of the property is necessary for inclusion in any MSHCP Conservation Areas. A HANS application will be submitted.

If it is determined by the Riverside Conservation Authority (RCA), the County, Cities, or various State and Federal Agencies that all or part of the property is needed for inclusion in the MSHCP Conservation Area, the property owner will enter in negotiations with such agencies to determine the extent of development allowed within the project area that will not significantly impact the function of the conservation areas in question.

6.2 THE RELATIONSHIP OF THE PROPOSED PROJECT TO THE MSHCP CONSERVATION CRITERIA

Exhibit 8 shows the location of Criteria Cell 7273 and Proposed Constrained Linkage 24 in relation to the project site. Criteria Cell 7273 is intended to contribute to the assembly of Proposed Constrained Linkage 24, which is comprised of Temecula Creek between Redhawk Parkway and Pauba Road and provides habitat for wetland species and a connection to Core Areas in Wilson Valley.

6.2.1 Proposed Constrained Linkage 24

Proposed Constrained Linkage 24 encompasses the portion of Temecula Creek located between Redhawk Parkway and Pauba Road. It provides habitat for wetland species and a connection to Core Areas in Wilson Valley. This linkage is constrained by existing roadways and planned development. Proposed Constrained Linkage 24 is intended to maintain habitat quality and existing floodplain processes that are beneficial to a number of species. Continued maintenance of the riparian corridor in Temecula Creek is vital to the movement of wildlife through this area, particularly bobcats (*Lynx rufus*).

The project site is not in or immediately adjacent to Proposed Constrained Linkage 24. This area is located south of the project site and is separated from it by SR-79 and a shopping center.

6.2.2 Criteria Cell 7273

The project site is located within the northwest corner of Criteria Cell 7273. This cell is intended to contribute to the assembly of Proposed Constrained Linkage 24, with conservation within the cell focusing on riparian scrub, woodland, forest, and Riversidean alluvial fan sage scrub habitat along Temecula Creek and the adjacent grasslands. Conservation within the cell is limited to approximately 5-15% of the cell and is concentrated in its eastern central portion. The project site is outside of the portion of the cell that is proposed for conservation.

6.3 ANTICIPATED IMPACTS

Based on the graphic depiction shown in Exhibit 8, development of the project site will not have a direct effect on Proposed Constrained Linkage 24 or the habitats that are protected within it. During development of the site, a stormwater pollution prevention plan (SWPPP) will be implemented to reduce the chances for indirect effects to Proposed Constrained Linkage 24.

Section 7 Recommendations

7.1 MSHCP CRITERIA CELL

The project site lies outside of areas targeted for conservation for Proposed Constrained Linkage 24 by the MSHCP. While the areas proposed for conservation occur in the central eastern section of Criteria Cell 7273 in Temecula Creek, encompassing only 5-15% of the total cell area, the project site is located in the northwest corner of the cell and is outside of this area. A HANS application will be filed with the County to address the potential development of the project site and to confirm that development of the site does not conflict with the assembly of Proposed Constrained Linkage 24.

7.2 HABITAT ASSESSMENT/FOCUSED SURVEYS

7.2.1 Burrowing Owl

Michael Baker conducted a protocol focused survey for burrowing owl in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area. The survey area was assessed on foot by qualified biologists, Thomas C. Millington and Ashley M. Barton, who are knowledgeable in the habitats and behavior of burrowing owls on four (4) separate days: July 7, 15, 29, and August 4, 2015. Concurrently with the first focused burrowing owl survey, the focused burrow survey was conducted on July 7, 2015. The survey conducted on July 7, 2015 was completed between 0630 to 0830 hours, and the surveys conducted on July 15, 29, and August 4, 2015 were completed between 0730 to 0930 hours.

Despite systematic searches of the suitable burrows found on the project site, no burrowing owls or evidence (i.e., scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owl was observed on or within 500 feet of the project site. It can be concluded that burrowing owl are not currently present on the project site.

The project site supports suitable ground squirrel burrows and non-natural substrates capable of supporting burrowing owls. However, the project site is not currently occupied by burrowing owls. The weed abatement activities (i.e., disking) on-site has discouraged burrowing owls from occupying the project site. As long as these disking activities continue on the project site, it is presumed that burrowing owls will not occupy the suitable burrows.

7.3 URBAN/WILDLANDS INTERFACE GUIDELINES

The project site is adjacent to a proposed MSHCP Conservation Area (Proposed Constrained Linkage 24). As a result, the project will implement the Urban/Wildlands Interface Guidelines as detailed in Section 5.5 of this document.

7.4 JURISDICTIONAL DRAINAGES, RIPARIAN/RIVERINE AREAS, AND VERNAL POOLS

Based on the results of a Delineation of State and Federal Jurisdictional Waters Report (RBF 2014), prepared under separate cover, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project. These features fall under the jurisdiction of the Corps, Regional Board, and CDFW. Activities impacting these drainage features will require a CWA Section 404 permit from the Corps, CWA Section 401 Water Quality Certification from the Regional Board, and a Section 1602 Streambed Alteration Agreement from CDFW.

Additionally, these features will be considered riparian/riverine habitat under MSHCP Section 6.1.2. The extent of the riparian/riverine habitat on the project site is synonymous with the jurisdiction of CDFW. As a result, any alteration or loss of these areas will require the preparation of a DBESP analysis under the MSHCP. This analysis would be separate from any regulatory review/permitting by the Corps, Regional Board, and CDFW.

7.5 MIGRATORY BIRD TREATY ACT

Pursuant to the Migratory Bird Treaty Act (MBTA) and Fish and Game Code, removal of any trees, shrubs, or any other potential nesting habitat should be conducted outside the avian nesting season. The nesting season generally extends from early February through August, but can vary slightly from year to year based upon seasonal weather conditions. If ground disturbance and vegetation removal cannot occur outside of the nesting season, a pre-construction clearance survey for nesting birds should be conducted within three days of the start of any ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active bird nests will occur. If an active avian nest is discovered during the preconstruction clearance survey, construction activities should stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer is expanded to 500-feet. It is recommended that a biological monitor be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, normal construction activities can occur. As part of the nesting bird clearance survey, a pre-construction burrowing owl clearance survey shall be conducted to ensure that burrowing owls are not present on the project site at the time of construction.

Section 8 Conclusions

The project site is within the Western Riverside County MSHCP Southwest Area Plan and a portion of the project site extends into Criteria Cell 7273. This criteria cell was designated to contribute to Proposed Constrained Linkage 24 which protects riparian habitat in Temecula Creek and provides movement for large mammals including bobcat and mountain lion (*Puma concolor*). The project site is located north of Proposed Constrained Linkage 24 and is separated from Temecula Creek by SR-79 and a shopping center. The applicant will implement Best Management Practices (BMPs) as outlined in the project's SWPPP to reduce the potential for indirect impacts (e.g., sedimentation) due to erosion and runoff during site construction through an existing underground channel that carries storm runoff from the project site to Temecula Creek. In addition, a separate basin will be excavated on-site to contain construction-related sediment and materials.

The project site falls within a Burrowing Owl Survey Area. Michael Baker conducted a protocol focused survey for burrowing owl in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area. Despite systematic searches of the suitable burrows found on the project site, no burrowing owls or evidence (i.e., scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owl was observed on or within 500 feet of the project site. It can be concluded that burrowing owl are not currently present on the project site.

As documented in the Delineation of State and Federal Jurisdictional Waters report (RBF 2014), prepared under separate cover, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project site. As a result of Michael Baker's delineation and subsequent consultations, it is expected that any impacts to these features will be regulated by the Corps, Regional Board, and CDFW. These features qualify as riparian/riverine habitat under MSHCP Section 6.1.2. As a result, any alteration or loss of these areas will require the preparation of a DBESP analysis under the MSHCP. This analysis would be separate from any regulatory review/permitting by the Corps, Regional Board, and CDFW.

With completion of recommendations provided in Section 7 of this document, successful completion of the HANS process, and payment of the MSHCP mitigation fees, development of the project site is fully consistent with the Western Riverside County MSHCP.

Section 9 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: April 13, 2016 Signed: 

Thomas J. McGill, Ph.D.

Section 10 References

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Appendix A RCIP Conservation Summary Report

Riverside County Transporation and Land Management Agency - TLMA

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
959400001	Not A Part	Independent	6.4	Southwest Area	Not a Part
959400001	7273	Independent	14.57	Southwest Area	SU2 - Temecula & Pechanga Creeks
959400002	Not A Part	Independent	11.73	Southwest Area	Not a Part
959400002	7273	Independent	9.61	Southwest Area	SU2 - Temecula & Pechanga Creeks
959400003	7273	Independent	0.23	Southwest Area	SU2 - Temecula & Pechanga Creeks

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HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
959400001	NO	YES	NO	NO	NO	NO
959400002	NO	YES	NO	NO	NO	NO
959400003	NO	YES	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

Western Riverside County Regional Conservation Authority
3403 10th Street, Suite 320
Riverside, CA 92501

Phone: 951-955-9700
Fax: 951-955-8873

www.wrc-rca.org

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Appendix B Site Photographs

Photograph 1: Facing southwest, looking at the ruderal plant community across the northeastern portion of the site.

Photograph 2: Dirt piles, cement rubble, and debris on the northeastern portion of the site.

Photograph 3: Facing southwest from the eastern side of the project site looking at the transition area between the upper terrace (northern half) and lower field (southern half).

Photograph 4: Facing northeast, looking at the slope between the upper terrace and the lower portion of the site. Ruderal plant community in the foreground on the southern half of the project site.

Photograph 5: A bermed area runs along the southwest border of the site.

Photograph 6: An example of a burrow that has the potential to provide suitable nesting opportunities for burrowing owl. No burrowing owl or sign was observed in or around the burrow.

Photograph 7: A portion of the northwest corner of the site has been turned into a bike jump area. This terrace area is highly disturbed.

Photograph 8: Looking at the culvert that delivers urban and stormwater runoff from the neighborhoods to the north onto the project site.

Photograph 9: Looking northeast within the manmade channel at emergent freshwater wetland dominated by cattails with sparse sandbar willow.

Photograph 10: In the southwest corner of the project site, the manmade channel empties into a manmade sedimentation basin with open water.

Appendix C Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Wildlife Species				
Accipiter cooperii Cooper's hawk	Fed: None CA: WL	Generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests, but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	Yes	**Present**. This species was observed within 20 feet of the site boundaries in a residential backyard. Because of the trees surrounding the site, the open space, and the abundant prey, this species should be considered present.
Aimophila ruficeps canescens southern California rufous-crowned sparrow	Fed: None CA: WL	Typically found between 3,000 and 6,000 feet in elevation. Breed in sparsely vegetated scrubland on hillsides and canyons. Prefers coastal sage scrub dominated by California sagebrush (*Artemisia californica*), but they can also be found breeding in coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats.	No	**Presumed absent**. No suitable habitat present. The site does not contain the hilly patches of sage scrub that this species is typically associated with.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Anaxyrus californicus arroyo toad	Fed: **END** CA: CSC	Typically found in sandy and/or gravelly washes and creeks with moderate in-stream vegetation dominated by willows (*Salix* sp.) and mulefat (*Baccharis salicifolia*). Will forage along the bases of in-stream vegetation or at the bases of trees, including California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), or oaks (*Quercus* sp.). Typically breeds in waters that are still or slowly moving, generally around six to eight inches in depth. Burrows along sandy terraces but may in some cases burrow directly in streambeds.	No	**Presumed absent**. No suitable habitat present. The water going through the site does not contain the constituents that this species is associated with.
Aquila chrysaetos golden eagle	Fed: None CA: **FP**, WL	Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	No	**Low**. The site contains suitable foraging habitat and an abundant California ground squirrel (*Spermophilus beecheyi*) prey base. Agricultural fields to the east may provide additional foraging opportunities. The extensive development around the site may preclude the species' presence.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Aspidoscelis hyperythra orangethroat whiptail	Fed: None CA: CSC	Semi-arid brushy areas typically with loose soil and rocks, including washes, streamsides, rocky hillsides, and coastal chaparral. Rare to absent in marginal or developed areas.	No	**Presumed absent**. No suitable habitat present.
Athene cunicularia burrowing owl	Fed: None CA: CSC	Occurs in dry, open areas such as grasslands, prairies, savannas, deserts, farmlands, golf courses and other urban areas	No	**Moderate**. There is suitable habitat for this species on-site and a large number of existing burrows. However, no burrowing owls or burrowing owl sign was observed during the 2015 focused surveys.
Buteo regalis ferruginous hawk	Fed: None CA: WL	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Nests in foothills or prairies; on low cliffs, buttes, cut banks, shrubs, trees, or in other elevated structures, natural or human-made. Requires large, open tracts of grasslands, sparse shrub, or desert habitats.	No	**Low**. The site contains suitable foraging habitat and an abundant California ground squirrel prey base. Agricultural fields to the east may provide additional foraging opportunities.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Buteo swainsoni Swainson's hawk	Fed: None CA: **THR**	Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.	No	**Low**. The site contains suitable foraging habitat and an abundant California ground squirrel prey base. Agricultural fields to the east may provide additional foraging opportunities.
Chaetodipus fallax fallax northwestern San Diego pocket mouse	Fed: None CA: CSC	Open habitat on the Pacific slope from southwestern San Bernardino County to northwestern Baja California.	No	**Low**. The site is disturbed and the southeastern portion appears to be disked more often than the rest of the site. However, there is already a sizable rodent/small mammal population on-site, and this species could occur despite the surrounding development.
Circus cyaneus northern harrier	Fed: None CA: CSC	Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Mostly found in flat, or hummocky, open areas of tall, dense grasses moist or dry shrubs, and edges for nesting, cover, and feeding.	No	**Low**. The site contains suitable foraging habitat and an abundant California ground squirrel prey base. Agricultural fields to the east may provide additional foraging opportunities.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Dipodomys stephensi Stephens' kangaroo rat	Fed: **END** CA: **THR**	Occur in arid and semi-arid habitats with some grass or brush. Prefer open habitats with less than 50% protective cover. Require soft, well-drained substrate for building burrows and are typically found in areas with sandy soil.	No	**Low**. The site is disturbed and the southeastern portion appears to be disked more often than the rest of the site. However, there is already a sizable rodent/small mammal population on-site, and this species could occur despite the surrounding development.
Emys marmorata western pond turtle	Fed: None CA: CSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 feet (1,800 m).	No	**Low**. This species could occur within the marshy habitat on-site but is unlikely given the extensive urbanization surrounding the site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Eumops perotis californicus western mastiff bat	Fed: None CA: CSC	Primarily a cliff-dwelling species, roost generally under exfoliating rock slabs. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters below the entrance for flight. In California, it is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas.	No	**Low**. This species could forage on-site, but there are no roosting opportunities on-site.
Euphydryas editha quino Quino checkerspot butterfly	Fed: **END** CA: None	Prefers sunny openings within chaparral and coastal sage scrub throughout Riverside and San Diego counties.	No	**Presumed absent**. No suitable habitat present.
Lepus californicus bennettii San Diego black-tailed jackrabbit	Fed: None CA: CSC	Occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats.	Yes	**Present**. This species was flushed during the habitat assessment conducted on 3/11/14.
Perognathus longimembris brevinasus Los Angeles pocket mouse	Fed: None CA: CSC	Occurs in lower elevation grasslands and coastal sage scrub communities in and around the Los Angeles Basin. Prefers open ground with fine sandy soils. May not dig extensive burrows, but instead will seek refuge under weeds and dead leaves instead.	No	**Presumed absent**. No suitable habitat present.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Phrynosoma blaivillii coast horned lizard	Fed: None CA: CSC	Found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	No	**Presumed absent**. No suitable habitat present. The site does not contain a suitable prey base or suitable vegetative cover for this species, and is surrounded by development.
Polioptila californica californica coastal California gnatcatcher	Fed: **THR** CA: CSC	Obligate resident of sage scrub habitats that are dominated by California sagebrush (*Artemisia californica*). This species generally occurs below 750 feet elevation in coastal regions and below 1,500 feet inland. It prefers habitat with more low-growing vegetation.	No	**Presumed absent**. No suitable habitat present. The site does not contain coastal sage scrub.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Spea hammondii western spadefoot	Fed: None CA: CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	No	**Presumed absent**. No suitable habitat present. Given the high amounts of disturbance at this site, the site does not contain suitable burrowing/aestivation habitat for this species.
Streptocephalus woottoni Riverside fairy shrimp	Fed: **END** CA: None	Restricted to seasonal, cool-water vernal pools and alkali vernal pools.	No	**Presumed absent**. No suitable habitat present.
Plant Species				
Abronia villosa* var. *aurita chaparral sand-verbena	Fed: None CA: None CNPS: 1B.1	Grows in sandy soils in coastal sage scrub and in chaparral. From 262 to 5,249 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Arctostaphylos rainbowensis rainbow manzanita	Fed: None CA: None CNPS: 1B.1	Grows in gabbro chaparral in Riverside and San Diego Counties. From 886 to 2,592 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Berberis nevinii Nevin's barberry	Fed: **END** CA: **END** CNPS: 1B.1	Occurs on steep, north-facing slopes in low-grade sandy washes within chaparral, cismontane woodland, coastal scrub, and riparian scrub. From 951 to 5,167 feet in elevation.	No	**Presumed absent**. No suitable habitat present.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Brodiaea orcuttii Orcutt's brodiaea	Fed: None CA: None CNPS: 1B.1	Occurs mostly on mesic, clay habitats and sometimes in serpentine soils. Usually found in vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows and seeps, and other small drainages. From 98 to 5,561 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Caulanthus simulans Payson's jewel-flower	Fed: None CA: None CNPS: 4.2	Occurs on granitic sandy soils in chaparral and coastal scrub habitats. From 295 to 7,218 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Ceanothus cyaneus Lakeside ceanothus	Fed: None CA: None CNPS: 1B.2	Found in chaparral and closed-cone coniferous forest from 771 to 2,477 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Ceanothus ophiochilus Vail Lake ceanothus	Fed: **THR** CA: **END** CNPS: 1B.1	Occurs in gabbro seams in chaparral on north-facing ridges on the eastern sides of mountains. From 2,034 to 2,707 feet in elevation.	No	**Presumed absent**. No suitable habitat present and the site is outside of this species' known elevation range.
Chorizanthe leptotheca peninsular spineflower	Fed: None CA: None CNPS: 4.2	Found in alluvial fan and granitic areas within chaparral, coastal scrub, and lower montane coniferous forest. From 984 to 6,234 feet in elevation.	No	**Presumed absent**. No suitable habitat present.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Chorizanthe polygonoides* var. *longispina long-spined spineflower	Fed: None CA: None CNPS: 1B.2	Typically found on clay lenses which are largely devoid of shrubs. Can be found on the periphery of vernal pool habitat and even on the periphery of montane meadows near vernal seeps. From 98 to 5,020 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Clarkia delicata delicate clarkia	Fed: None CA: None CNPS: 1B.2	Often found on gabbro soils within cismontane woodland and chaparral. From 771 to 3,281 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Deinandra paniculata paniculate tarplant	Fed: None CA: None CNPS: 4.2	Usually found in vernally mesic or sometimes sandy soils within coastal scrub, valley and foothill grassland, and vernal pools. From 82 to 3,084 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Dodecahema leptoceras slender-horned spineflower	Fed: **END** CA: **END** CNPS: 1B.1	Found on flood-deposited terraces and washes in chaparral, cismontane woodland, and coastal scrub. Often in alluvial fan sage scrub. Associated with plants in the *Encelia*, *Dalea*, and *Lepidospartum* genera. From 656 to 2,493 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Harpagonella palmeri Palmer's grapplinghook	Fed: None CA: None CNPS: 4.2	Occurs on clay soils in chaparral, coastal scrub, valley and foothill grasslands. From 66 to 3,133 feet in elevation.	No	**Presumed absent**. No suitable habitat present.

Scientific Name Common Name	Status	Habitat	Observed Onsite	Potential to Occur
Horkelia cuneata* var. *puberula mesa horkelia	Fed: None CA: None CNPS: 1B.1	Found in sandy or gravelly areas in chaparral, cismontane woodland, or coastal scrub. From 230 to 2,657 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Lasthenia glabrata* ssp. *coulteri Coulter's goldfields	Fed: None CA: None CNPS: 1B.1	Usually alkaline soils in marshes, playas, vernal pools, and valley and foothill grassland. From 3 to 4,593 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Lepechinia cardiophylla heart-leaved pitcher sage	Fed: None CA: None CNPS: 1B.2	Occurs in closed-cone coniferous forest, chaparral, and cismontane woodland. From 1,706 to 4,495 feet in elevation.	No	**Presumed absent**. No suitable habitat present and the site is outside of this species' known elevation range.
Lepidium virginicum* var. *robinsonii Robinson's pepper-grass	Fed: None CA: None CNPS: 1B.2	Dry soils on chaparral and coastal sage scrub. From 3 to 2,904 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Lilium humboldtii* ssp. *ocellatum ocellated Humboldt lily	Fed: None CA: None CNPS: 4.2	Occurs in openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland. From 98 to 5,906 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Microseris douglasii* ssp. *platycarpha small-flowered microseris	Fed: None CA: None CNPS: 4.2	Found in clay soils within cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. From 49 to 3,511 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Mimulus diffusus Palomar monkeyflower	Fed: None CA: None CNPS: 4.3	Occurs in sandy or gravelly soils in chaparral and lower montane coniferous forest. From 4,003 to 6,004 feet in elevation.	No	**Presumed absent**. No suitable habitat present and the site is outside of this species' known elevation range.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Monardella hypoleuca* ssp. *intermedia intermediate monardella	Fed: None CA: None CNPS: 1B.3	Found in lower montane coniferous forest and chaparral plant communities between 1,312 to 4,101 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Monardella hypoleuca* ssp. *lanata felt-leaved monardella	Fed: None CA: None CNPS: 1B.2	Occurs in chaparral and cismontane woodland. From 984 to 5,167 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Monardella macrantha* ssp. *hallii Hall's monardella	Fed: None CA: None CNPS: 1B.3	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley & foothill grassland. From 2,395 to 7,201 feet in elevation.	No	**Presumed absent**. No suitable habitat present and the site is outside of this species' known elevation range.
Navarretia fossalis spreading navarretia	Fed: THR CA: None CNPS: 1B.1	Occurs in vernal pools, marshes, swamps, and playas. Associated with San Diego hardpan and San Diego clayplan vernal pools. From 98 to 2,149 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Nolina cismontana chaparral nolina	Fed: None CA: None CNPS: 1B.2	Generally associated with sandstone or gabbro soils in chaparral and coastal scrub from 459 to 4,183 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Packera gander Gander's ragwort	Fed: None CA: Rare CNPS: 1B.2	Occurs in chaparral in recently burned areas or in gabbro outcrops. From 1,312 to 3,937 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Pickeringia montana* var. *tomentosa woolly chaparral-pea	Fed: None CA: None CNPS: 4.3	Occurs in gabbroic, granitic, or clay soils within chaparral from 0 to 5,577 feet in elevation.	No	**Presumed absent**. No suitable habitat present.

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Polygala cornuta* var. *fishiae Fish's milkwort	Fed: None CA: None CNPS: 4.3	Occurs in chaparral, cismontane woodland, and riparian woodland from 328 to 3,281 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Quercus engelmannii Engelmann oak	Fed: None CA: None CNPS: 4.2	Occurs in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. From 164 to 4,265 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Selaginella cinerascens ashy spike-moss	Fed: None CA: None CNPS: 4.1	Found in chaparral and coastal scrub from 66 to 2,100 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
Tetracoccus dioicus Parry's tetracoccus	Fed: None CA: None CNPS: 1B.2	Occurs on stony, decomposed gabbro soils within chaparral and coastal scrub. From 492 to 3,281 feet in elevation.	No	**Presumed absent**. No suitable habitat present.
CDFW SENSITIVE HABITATS				

Scientific Name Common Name	**Status**	**Habitat**	**Observed Onsite**	**Potential to Occur**
Southern Willow Scrub	**CDFW Sensitive Habitat**	Dense, broadleaved, winter-deciduous riparian thickets dominated by several *Salix* species, with scattered emergent *Populus fremontii* and *Plantanus racemosa*. Most stands are too dense to allow much understory development. Loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This early seral type required repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest.	No	**Absent**

U.S. Fish and Wildlife Service (USFWS) - Federal
END- Federal Endangered
THR- Federal Threatened

California Department of Fish and Wildlife (CDFW) - California
END- California Endangered
THR- California Threatened
CSC- California Species of Concern
FP- California Fully Protected
WL- California Watch List

California Native Plant Society (CNPS)
California Rare Plant Rank
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
4 Plants of Limited Distribution – A Watch List

Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California
0.3- Not very threatened in California

Appendix D Flora and Fauna Compendium

Flora Compendium

Scientific Name	Common Name
Baccharis pilularis	Coyote bush
Baccharis salicifolia	Mulefat
Brassica nigra	Black mustard
Bromus diandrus	Ripgut brome
Bromus hordeaceus	Soft chess
Bromus madritensis	Red brome
Cirsium vulgare	Bull thistle
Corethrogyne filaginifolia	Cudweed aster
Croton californicus	California croton
Datura wrightii	Jimsonweed
Equisetum sp.	Horsetail
Eriogonum fasciculatum	California buckwheat
Erodium sp.	Filaree
Eucalyptus sp.	Eucalyptus
Heterotheca grandiflora	Telegraph weed
Hirschfeldia incana	Shortpod mustard
Isocoma menziesii	Menzies' goldenbush
Lepidospartum squamatum	Scalebroom
Portulaca oleracea	Chinese purslane
Robinia pseudoacacia	Black locust
Salix exigua	Sandbar willow
Salix lasiolepis	Arroyo willow
Salsola tragus	Russian thistle
Simmondsia chinensis	Jojoba
Sisyumbrium irio	London rocket
Solanum elaeagnifolium	Silverleaf nightshade
Typha latifolia	Broadleaf cattail

Fauna Compendium

Scientific Name	Common Name
Birds	
Accipiter cooperii	Cooper's hawk
Agelaius phoeniceus	Red-winged blackbird
Buteo jamaicensis	Red-tailed hawk
Butorides virescens	Green heron
Calypte anna	Anna's hummingbird
Carduelis psaltria	Lesser goldfinch
Charadrius vociferus	Killdeer
Colaptes auratus	Northern flicker
Columba livia	Rock pigeon
Corvus brachyrhynchos	American crow
Eremophila alpestris	Horned lark
Geothlypis trichas	Common yellowthroat
Melospiza melodia	Song sparrow
Quiscalis mexicanus	Great-tailed grackle
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Setophaga coronate	Yellow-rumped warbler
Stelgidopteryx serripennis	Northern rough-winged swallow
Streptopelia decaocto	Eurasian collared-dove
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Thryomanes bewickii	Bewick's wren
Tyrannus vociferans	Cassin's kingbird
Zenaida macroura	Mourning dove
Zonotrichia leucophrys	White-crowned sparrow
Mammals	
Lepus californicus bennettii	San Diego black-tailed jackrabbit
Spermophilus beecheyi	California ground squirrel
Reptiles	
Sceloporus occidentalis	Western fence lizard

Appendix E 2015 Burrowing Owl Focused Survey Report

PASEO DEL SOL SPECIFIC PLAN

CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA

Burrowing Owl Focused Survey Report

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August 2015
JN 134628

PASEO DEL SOL SPECIFIC PLAN

CITY OF TEMECULA, RIVERSIDE COUNTY, CALIFORNIA

Burrowing Owl Focused Survey Report

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Thomas C. Millington
Biologist
Natural Resources

Thomas J. McGill, Ph.D.
Vice President
Natural Resources

August 2015
JN 134628

Executive Summary

This report contains the findings of a focused burrowing owl (*Athene cunicularia*) survey for the Paseo Del Sol Specific Plan Project located in the City of Temecula, Riverside County, California (project site or site). The surveys for burrowing owl were conducted in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Area. The burrowing owl focused surveys were conducted by Michael Baker International biologists Thomas C. Millington and Ashley M. Barton on July 7, 15, 29, and August 4, 2015. Concurrently with the first focused burrowing owl survey, the focused burrow survey was conducted on July 7, 2015.

Based on the results of the focused burrow survey conducted on July 7, 2015, it was determined the project site provides suitable burrows/nesting opportunities for burrowing owls. Despite systematic searches of all suitable burrows on the project site, no burrowing owls or evidence (i.e. scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owls were observed on or within 500 feet of the project footprint. It can be concluded that burrowing owls are not currently present on the project site and are presumed absent.

Routine weed abatement activities occurs on site and likely has discouraged burrowing owls from occupying the project site. As long as these disking activities continue on the project site, it is presumed that burrowing owls will not use the suitable burrows for nesting opportunities.

Table of Contents

EXHIBITS

APPENDIX

Section 1 Introduction

Michael Baker International (Michael Baker) conducted a focused burrowing owl survey for the proposed Paseo Del Sol project located in the City of Temecula, Riverside County, California. Michael Baker biologists Tom C. Millington and Ashley M. Barton surveyed the project site in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area.

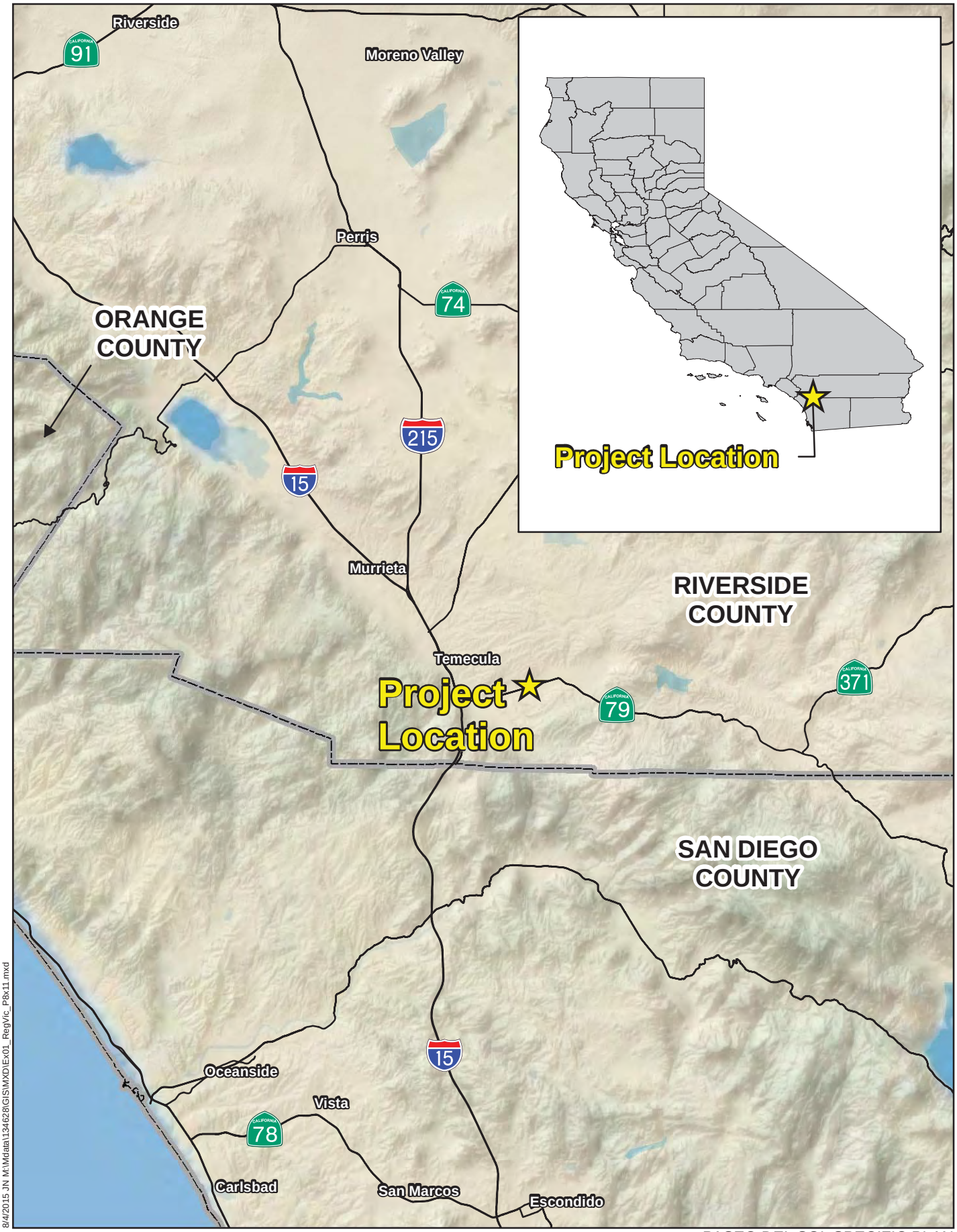
The focused burrowing owl survey included a single focused burrow survey and four (4) separate burrowing owl focused surveys during the 2015 avian breeding season. The surveys were conducted to determine, first, if the project site provides suitable burrows to support burrowing owl and, second, if burrowing owls currently occupy the project site. Based on the focused burrow survey conducted on July 7, 2015, the project site provides suitable burrows for burrowing owls. The four focused burrowing owl surveys were conducted on July 7, 15, 29, and August 4, 2015. The survey conducted on July 7, 2015 was completed between 0630 to 830 hours and the surveys conducted on July 15, 29, and August 4, 2015 were completed between 0730 to 0930 hours. Surveys could not be conducted the week starting July 20, 2015 due to rain events July 18 and 19, 2015.

1.1 PROJECT LOCATION

The project site is generally located east of Interstate 15 and north of State Route 79 Temecula Parkway in the City of Temecula, Riverside County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Pechanga quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in an un-sectioned area of Township 8 south, Range 2 west (Exhibit 2, *Site Vicinity*). Specifically, the project site is located north of State Route 79 Temecula Parkway, east of Mantova Drive Street, south of Del Portola Road, and west of Butterfield Stage Road. The project site is within Assessor's Parcel Numbers (APN) 959-400-001, 959-400-003 (Exhibit 3, *Project site and Survey Area*).

1.2 PROJECT DESCRIPTION

Newland Communities is an approved mixed-use development of residential and commercial uses. The project was approved in January 1998. The proposed project consists of Planning Area 4 of the Paloma Del Sol Villages at Paseo Del Sol Specific Plan No. 219, Amendment No. 8 (Specific Plan No. SP-4). The proposed project would construct approximately 175 dwelling units of high density residential development on 42.9 acres. The previously planned commercial component approved as part of the original entitlements has been eliminated.



8/4/2015 JN M:\Mdata\134628\GIS\MXD\Ex01_RegVic_P8x11.mxd

Michael Baker INTERNATIONAL

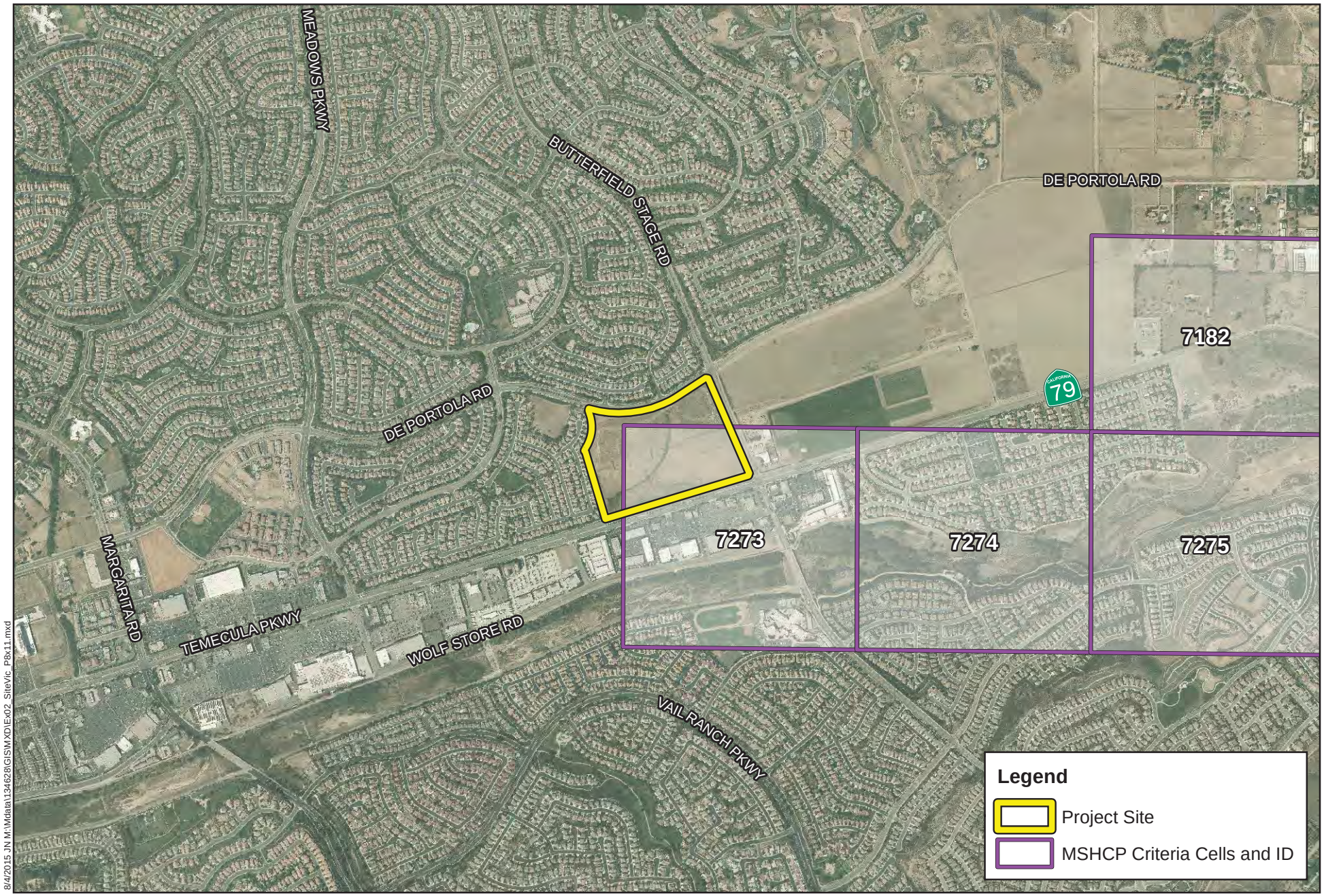
0 3 6 Miles

Source: ESRI Basemap

PASEO DEL SOL SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY REPORT

Regional Vicinity

Exhibit 1



8/4/2015 JN M:\Mdata\134628\GIS\MXD\Ex02_SiteVic_P8x11.mxd

Michael Baker INTERNATIONAL

0 750 1,500 Feet

Source: Eagle Aerial Imgaery, 2014

PASEO DEL SOL SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY REPORT

Site Vicinity

Exhibit 2

8/6/2015 JN M:\Mdata\134628\GIS\MXD\Ex03_ProjSite_SurveyArea_P8x11.mxd

Michael Baker INTERNATIONAL

0 200 400 Feet

Source: Eagle Aerial Imgaery, 2014

PASEO DEL SOL SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY REPORT

Project Site and Survey Area

Exhibit 3

Section 2 Species Background

2.1 SPECIES BACKGROUND

The burrowing owl is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with well-drained, level to gently-sloping areas characterized by sparse vegetation and bare ground (Haug and Didiuk 1993; Dechant et al. 1999). Burrowing owls are dependent upon the presence of fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*), whose burrows are used for roosting and nesting (Haug and Didiuk 1993). The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. Burrowing mammals may burrow beneath rocks and debris or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. Large, hard objects at burrow entrances stabilize the entrance from collapse and may inhibit excavation by predators.

Burrowing owl have crepuscular (dawn and dusk) hunting habits but are often observed perched in or near the burrow entrance during the day. They prey upon invertebrates and small vertebrates (Thomsen 1971) through the low vegetation which allows for foraging visibility. The nesting season occurs between February 1 and August 31. Burrowing owl in California may migrate southerly, but often remain in the breeding area during the non-breeding period.

The burrowing owl was once abundant and widely distributed within coastal southern California, but it has declined precipitously in counties such as Los Angeles, Orange, San Diego, Riverside, and San Bernardino. A petition was filed to list the California population of the western burrowing owl as an Endangered or Threatened species (Center for Biological Diversity 2003); however, the California Department of Fish and Wildlife (CDFW) declined to list the burrowing owl as either Endangered or Threatened. The CDFW currently lists the burrowing owl as a California Species of Special Concern.

2.2 REGULATORY FRAMEWORK

The burrowing owl is a migratory bird species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA reflects agreements made between the U.S., England, Mexico, the former Soviet Union, and Japan to protect all of North America's migratory bird populations. The MBTA protects migratory bird nests from possession, sale, purchase, barter, transport, import and export, and collection. The other prohibitions of the MBTA - capture, pursue, hunt, and kill - are inapplicable to nests. The regulatory definition of take, as defined in Title 50 C.F.R. part 10.12, means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to hunt, shoot, wound, kill, trap, capture, or collect. Only the verb "collect" applies to nests. It is illegal to collect, possess, and by any means transfer possession of any migratory bird nest. The MBTA prohibits the destruction of a

nest when it contains birds or eggs, and no possession shall occur during the destruction (United States Fish and Wildlife Service, Migratory Bird Permit Memorandum, April 15, 2003). Certain exceptions to this prohibition are included in 50 C.F.R. section 21. Pursuant to CDFW Code section 3513, the Department enforces the MBTA consistent with rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

Additionally, burrowing owl is protected under Sections 3503, 3503.3, 3511, and 3513 of the CDFW Code which prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (March 1 - August 15, annually). CDFW Code Section 3503.5 protects birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks and owls, including burrowing owls) which makes it unlawful to take, posses, or destroy their nest or eggs.

The Western Riverside County MSHCP offer long-term assurances for conservation of this species in exchange for biologically appropriate levels of incidental take and/or habitat loss as defined in the approved plan. California's NCCP Act (FGC §2800 et seq.) governs such plans at the state level, and was designed to conserve species, natural communities, ecosystems, and ecological processes across a jurisdiction or a collection of jurisdictions. Complementary federal HCPs are governed by the Endangered Species Act (7 U.S.C. § 136, 16 U.S.C.§ 1531 et seq.) (ESA). Regional conservation plans (and certain other landscape-level conservation and management plans), may provide conservation for unlisted as well as listed species. Because the geographic scope of NCCPs and HCPs may span many hundreds of thousands of acres, these planning tools have the potential to play a significant role in conservation of burrowing owls, and grasslands and other habitats.

Guidelines for the Implementation of the California Environmental Quality Act (CEQA) provide that a species be considered as endangered or "rare" regardless of appearance on a formal list for the purposes of the CEQA (Guidelines, Section 15380, subsections b and d). The CEQA requires a mandatory findings of significance if impacts to threatened or endangered species are likely to occur (Sections 21001(c), 21083. Guidelines 15380, 15064, 15065). Avoidance or mitigation must be presented to reduce impacts to less than significant levels.

Section 3 Methodology

General weather conditions during each of these surveys were suitable for detections of burrowing owls. Minus the first survey on July 7, 2015 which included cloudy conditions and minimal wind, the surveys following that date had clear skies and minimal wind. Surveys are not accepted if they are conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90°F. Rain events occurred during the survey window on April 18 and 19, 2015. However, surveys were not conducted within the five (5) days following these rain events. The protocol survey for burrowing owl requires a systematic survey of all areas that provide suitable habitat plus a 150-meter (approximately 500 feet) zone of influence on all sides of suitable habitat. Survey transects were conducted at 30-meter (approximately 100 feet) intervals to ensure 100% visual coverage of all areas in suitable habitat, as applicable based on topography of the site (refer to Exhibit 3, *Project site and Survey Area*). The focused burrowing owl surveys were conducted during the recognized timeframe in the morning one hour before sunrise to two hours after sunrise.

Areas providing potential habitat for burrowing owls were surveyed for suitable burrows, consisting of natural and non-natural substrates in areas with low, open vegetation. All burrows encountered were examined for shape, scat, pellets, white-wash, feathers, tracks, and prey remains. The location of all suitable burrowing owl habitat, potential owl burrows, burrowing owl sign, and any owls observed were recorded and mapped, with a hand-held GPS unit. Methods to detect presence of burrowing owls included direct observation, aural detection, and signs of presence; including pellets, white wash, feathers, or prey remains. Suitable burrows/sites, including rock piles and non-natural substrates, were thoroughly examined for signs of presence. The survey included identifying avian species in the area and observing behaviors that suggested nesting activity. Binoculars were used to observe distant birds and their activity around potential nesting habitat.

The burrowing owl focused survey was conducted near the end of the 2015 breeding season (February 1 to August 31) in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area. The survey area was assessed on foot by qualified biologists, Tom C. Millington and Ashley M. Barton, who are knowledgeable in the habitats and behavior of burrowing owls on four (4) separate days: July 7, 15, 29, and August 4, 2015. Concurrently with the first focused burrowing owl survey, the focused burrow survey was conducted on July 7, 2015. The survey conducted on July 7, 2015 was completed between 0630 to 0830 hours, and the surveys conducted on July 15, 29, and August 4, 2015 were completed between 0730 to 0930 hours.

Section 4 Results

4.1 EXISTING CONDITIONS

The project site is approximately 43-acres in size and is currently undeveloped. The sites elevation ranges from 1,098 to 1,143 feet above mean sea level. The project site is roughly divided into a distinct elevated northern half and a lower southern half. The slopes separating the northern and southern halves, as well as the east and west-facing slopes on the northern half that drop into an unnamed manmade drainage, have numerous large, black, plastic tarps presumably used for erosion control. The unnamed manmade drainage feature bisects the site, flowing in a north to southwest direction. Approximately 500 feet west of the intersection of Butterfield Stage Road and State Route 79 Temecula Parkway is an earthen berm that slopes up to the west and extends all the way to the southwest corner of the site. An unofficial bike jump area is located in the northwest corner of the project site. Dirt access roads run through the northern half of the project site and along its eastern edge. The undeveloped site has been heavily disturbed by human activities (primarily disking) and no longer provides undisturbed natural plant communities.

The project site is composed almost entirely of a heavily disturbed annual grassland plant community that is sparsely vegetated with a variety of non-native and early successional weedy plant species. The manmade channel crossing southwest across the site and the area that it opens into can be classified as an emergent freshwater marsh dominated by broadleaf cattail (*Typha latifolia*) and sandbar willow (*Salix exigua*). Other plant species observed within the project site boundaries include annual bur ragweed (*Ambrosia acanthicarpa*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis ssp. rubens*), red stemmed filaree (*Erodium cicutarium*), heliotrope (*Heliotropium* sp.) short-podded mustard (*Hirschfeldia incana*), telegraph weed (*Heterotheca grandiflora*), Russian thistle (*Salsola tragus*), and horse nettle (*Solanum elaeagnifolium*). Isolated patches of California croton (*Croton californicus*) and California buckwheat (*Eriogonum fasciculatum*) also occur within the project site.

4.2 BURROWING OWL FOCUSED SURVEY

Based on the results of the focused burrow survey conducted on July 7, 2015, it was determined the project site contains a large number of ground squirrel burrows, many of which are suitable to support burrowing owls. The majority of the suitable burrows on-site are composed of natural substrates while a few were composed of non-natural substrates (i.e. rock and debris piles). These burrows are located throughout the project site on the ground, along the east-west centerline of the site where the higher-elevation northern half drops into the lower-elevation southern half, and along the earthen berm on the southern border. (Exhibit 4, *Survey Results*).

8/6/2015 JN M:\Mdata\134628\GIS\MXD\Ex04_SurveyResults_P8x11.mxd

Michael Baker INTERNATIONAL

0 200 400 Feet

Source: Eagle Aerial Imgaery, 2014

PASEO DEL SOL SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY REPORT

Survey Results

Exhibit 4

Although the project site supports ground squirrel/fossorial mammal burrows and non-natural substrates capable of supporting burrowing owls, no burrowing owls or burrowing owl sign (i.e., scat, pellets, feathers, tracks, and prey remains) was observed at the entrance or adjacent to these burrows on or within 500 feet of the project site.

Avian species detected during the focused surveys included Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), horned lark (*Eremophila alpestris*), American kestrel (*Falco sparverius*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottos*), lesser goldfinch (*Spinus psaltria*), northern rough-winged swallow (*Stelgidopteryz serripennis*), and mourning dove (*Zenaida macroura*). Refer to Appendix B for a complete list of species observed during the surveys.

Section 5 Conclusion and Recommendations

Despite systematic searches of the suitable burrows found on the project site, no burrowing owls or evidence (i.e., scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owl was observed on or within 500 feet of the project site. It can be concluded that burrowing owl are not currently present on the project site.

The project site supports suitable ground squirrel burrows and non-natural substrates capable of supporting burrowing owls. However, the project site is not currently occupied by burrowing owls. The weed abatement activities (i.e., disking) on-site has discouraged burrowing owls from occupying the project site. As long as these disking activities continue on the project site, it is presumed that burrowing owls will not occupy the suitable burrows.

Section 6 References

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Appendix A Site Photographs

Photograph 1: Looking south/southeast along the eastern border of the project site.

Photograph 2: Looking east/northeast at agricultural land uses to the east of the project site. Suitable habitat within 500 feet of the project site was surveyed from public thoroughfares along Butterfield State Road and De Portola Bridle Path.

Photograph 3: Looking northeast along the northern boundary of the project site.

Photograph 4: Looking south at drainage feature on the central portion of the project site.

Photograph 5: Looking east across the northern portion of the project site.

Photograph 6: Looking north at the northwest corner of the project site.

Photograph 7: Looking north at suitable ground squirrel burrows on the eastern portion of the project site.

Photograph 8: Looking southwest across the central portion of the project site.

Photograph 9: Looking north at suitable ground squirrel burrows within sediment mounds and demolition debris piles on the northern portion of the project site.

Photograph 10: Looking east at suitable ground squirrel burrows along illegal BMX bike track on the northern portion of the project site.

Photograph 11: Looking south at non-jurisdictional roadside ditches along the Ramona Expressway immediately west of the project site.

Photograph 12: Looking north at remnant concrete pipes and suitable ground squirrel burrows on the central portion of the project site.

Photograph 13: Looking north/northwest across the southeast portion of the project site.

Photograph 14: Looking northeast across the western portion of the project site.

Photograph 15: Looking east/southeast along the southern portion of the project site.

Photograph 16: Looking east at suitable ground squirrel burrows along the southern boundary of the project site.

Photograph 17: Looking west/southwest along the southern boundary of the project site.

Photograph 18: Looking northeast at freshwater marsh on the southwest corner of the project site.

Appendix B Fauna Compendium

Table B-1: Wildlife Species

WILDLIFE SPECIES	
Scientific Name	**Common Name**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Butorides virescens	Green heron
Calypte anna	Anna's hummingbird
Charadrius vociferus	Killdeer
Columba livia	Rock pigeon
Corvus brachyrhynchos	American crow
Eremophila alpestris	Horned lark
Falco sparverius	American kestrel
Geothlypus trichas	Common yellowthroat
Haemorhous mexicanus	House finch
Mimus polyglottos	Northern mockingbird
Otospermophilus beecheyi	California ground squirrel
Passer domesticus	House sparrow
Passerina caerulea	Blue grosbeak
Sayornis saya	Say's phoebe
Spinus psaltria	Lesser goldfinch
Stelgidopteryx serripennis	Northern rough-winged swallow
Sturnus vulgaris	European swallow
Tyrannus vociferans	Cassin's kingbird
Zenaida macroura	Mourning dove

Appendix F Regulatory Background

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

Federally listed threatened and endangered species and their habitats are protected under provisions of the Federal Endangered Species Act (ESA). Section 9 of the ESA prohibits "take" of threatened or endangered species. "Take" under the ESA is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the United States Fish and Wildlife Service (USFWS) may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an ESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) makes it unlawful to pursue, capture, kill, possess, or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered "take." This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines "endangered" and "rare" species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, "endangered" species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in "take" of individuals (defined in CESA as; "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden

eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere

1B- Plants Rare, Threatened, or Endangered in California and Elsewhere

2A- Plants Presumed Extirpated in California, But More Common Elsewhere

2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3- Plants about Which More Information is Needed - A Review List

4- Plants of Limited Distribution - A Watch List

Threat Ranks

.1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

Local Regulations

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The MSHCP is a comprehensive, multi-jurisdictional HCP focusing on conservation of species and their associated habitats in western Riverside County. The goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue "take" authorizations for all species covered by the MSHCP, including state- and federal-listed species as well as other identified sensitive species and/or their habitats. Each city or local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the County and compliance with the survey requirements of the MSHCP where required, full mitigation in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), CESA, and FESA will be granted. The Development Mitigation Fee varies according to project size and project description. The fee for residential development ranges from approximately $800 per unit to $1,600 per unit depending on development density (County Ordinance 810.2). Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, CESA, and FESA for impacts to the species and habitats covered by the MSHCP pursuant to agreements with the USFWS, the CDFG, and/or any other appropriate participating regulatory agencies and as set forth in the IA for the MSHCP.

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of "waters of the U.S.," including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." In order to further define the scope of waters protected under the CWA, the Corps and EPA published the Clean Water Rule on June 29, 2015. Pursuant to the Clean Water Rule, the term "*waters of the United States*" is defined as follows:

(i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

(ii) All interstate waters, including interstate wetlands[1].

(iii) The territorial seas.

(iv) All impoundments of waters otherwise defined as waters of the United States under the definition.

(v) All tributaries[2] of waters identified in paragraphs (i) through (iii) mentioned above.

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[1] 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.

[2] The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

(vi) All waters adjacent[3] to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

(vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernals pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) meantioned above.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

The following features are not defined as "waters of the United States" even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(ii) Prior converted cropland.

(iii) The following ditches:

(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
(B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
(C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.

(iv) The following features:

(A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
(B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
(C) Artificial reflecting pools or swimming pools created in dry land;
(D) Small ornamental waters created in dry land;

[3] The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

(E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;

(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

PASEO DEL SOL SPECIFIC PLAN

Determination of Biologically Equivalent or Superior Preservation

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March 2016
Updated March 2017
JN: 134628

PASEO DEL SOL SPECIFIC PLAN

TEMECULA, RIVERSIDE COUNTY, CALIFORNIA

PECHANGA USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE
UNSECTIONED, TOWNSHIP 4 SOUTH, RANGE 7 WEST
APN: 959-400-001, 959-400-002, AND 959-400-003

Determination of Biologically Equivalent or Superior Preservation

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The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Travis J. McGill
Biologist
Natural Resources

Thomas J. McGill, Ph.D.
Vice President
Natural Resources

March 2016
Updated March 2017

Table of Contents

EXHIBITS

TABLES

APPENDIX

LIST OF ACRONYMS

APN	Assessor Parcel Number
BMP	Best Management Practices
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRAM	California Rapid Assessment Method
Corps	United States Army Corp of Engineers
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NWP	Nationwide Permit
RBF	RBF Consulting
RCIP	Riverside County Integrated Project
RCP	Reinforced Concrete Pipe
Regional Board	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoS	Waters of the State
WoUS	Waters of the United States

Section 1 Summary

This report contains the results of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis to demonstrate compliance with the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) for impacts to riparian/riverine resources as a result of the development of residential lots on an approximately 42.96-acre property. The 42.96-acre property is comprised of 3 Assessor Parcel Numbers (APNs): 959-400-001, 959-400-002, and 959-400-003. The Paseo Del Sol Specific Plan project ("project site" or "site") is located in the City of Temecula, Riverside County, California. The project site is located within the boundary of the MSHCP.

Based on the results of the Habitat Assessment and MSHCP Consistency Analysis report (RBF Consulting 2015) and Delineation of State and Federal Jurisdictional Waters report (RBF Consulting 2014), prepared under separate covers, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project site that qualify as riparian/riverine habitat under the MSHCP.

Among the jurisdictional features found on-site, an estimated 0.71-acre (consisting of 0.10-acre non-wetland waters and 0.61-acre wetland waters) of United States Army Corps of Engineers (Corps) Waters of the United States (WoUS) and Regional Water Quality Control Board (Regional Board) Waters of the State (WoS) are subject to jurisdiction under Sections 404 and 401 of the Clean Water Act (CWA). In addition, an estimated 0.79-acre (consisting of 0.69-acre vegetated streambed and 0.10-acre unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdictional streambed is subject to jurisdiction under Section 1600 of the Fish and Game Code. The extent of the riparian/riverine habitat on the project site is synonymous with the jurisdiction of CDFW.

Based on the proposed design plan, the project proposes to permanently impact a total of 0.71-acre (0.10 non-wetland waters and 0.61-acre of wetland waters) of Corps/Regional Board jurisdiction and 0.79-acre (0.10-acre of streambed and 0.69-acre) of CDFW jurisdiction. The extent of the riparian/riverine habitat on the project site is synonymous with the jurisdiction of CDFW.

To offset impacts to 0.79-acres of riparian/riverine habitat, the applicant proposes creation/establishment of 3.3 acres of riparian/riverine habitat on-site. The project proposes to relocate the on-site wetland and drainage corridor along the southerly portion of the project site. This would include the establishment of 1.39 acres of wetland habitat, establishment of 1.58 acres of riparian scrub habitat, and establishment 0.33 acre of non-wetland unvegetated waters/streambed on-site. The on-site mitigation area would be owned and likely maintained by a third party approved by the regulatory agencies.

The post-project riparian/riverine function and values will be by biologically superior by providing the following:

- The permanent loss of 0.79 acre of riparian/riverine habitat (0.69-acre of wetland (CDFW vegetated streambed) and 0.10-acre of CDFW unvegetated streambed) will be offset by establishment of 1.39 acres of wetland habitat, establishment of 1.58 acres of riparian scrub habitat, and establishment of 0.33 acre of non-wetland unvegetated waters/streambed on-site, totaling 3.3 acres.

- Implementation of the Urban/Wildlands Interface Guidelines will ensure that all indirect project-related impacts to riparian/riverine habitat, including that which may result from drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized to the greatest extent feasible.

The creation of 3.3 acres of riparian/riverine habitat that is biologically superior habitat to the 0.79 acres of riparian/riverine habitat that currently exists on-site that will increase biological diversity and the ecological functions and values of the riparian/riverine habitats in the Plan area.

The above actions would result in a net increase in the function and value of riparian/riverine habitat within the region. The proposed mitigation measures would increase the functions and ecological values of the wetland habitat as compared to the existing on-site jurisdictional features, which consist of open water and a monoculture of *Typha* spp. Water quality, nutrient uptake, particulate removal, and other hydrology benefits to Temecula Creek, a 303(d) listed water, provided by the detention basin would be significantly increased and enhanced. The proposed mitigation would provide an increase of habitat value for aquatic, wetland, and riparian species. The buffer/open space constructed contiguously to the proposed on-site basin will enhance landscape connectivity and buffer quality along the entire frontage of the project site. The proposed mitigation site will create significant species and habitat quality and diversification when compared to the existing condition or a condition where residential units back to the existing on-site jurisdictional features.

Section 2 Introduction

Section 6.1.2 of the Western Riverside County MSHCP requires an assessment of the potentially significant effects of a project on Covered Species, riparian/riverine[1] habitat, and vernal pools. This assessment is independent from considerations given to "WoUS" and "WoS" under the CWA and the California Fish and Wildlife Code. Projects that propose to impact riparian/riverine or vernal pool resources within the MSHCP Plan Area, that cannot be avoided, require a mitigation strategy called a DBESP analysis to be completed to ensure that the proposed alternative provides for "replacement of any lost functions and values of Habitat as it relates to Covered Species." Conservation of these areas is intended to protect habitat that is essential to a number of listed, water-dependent amphibians, birds, fish, invertebrates, and plants.

As required by the MSHCP, a DBESP analysis must be conducted to address any impacts to riparian/riverine habitat. The objective of this report is to demonstrate that proposed mitigation would provide an equivalent or superior preservation of habitat function and value of riparian/riverine resources. This DBESP analysis includes a detailed discussion of the riparian/riverine habitat on-site that is proposed to be impacted, and incorporates avoidance, minimization, and mitigation measures adequate to offset these impacts and bring them to a level of less than significant.

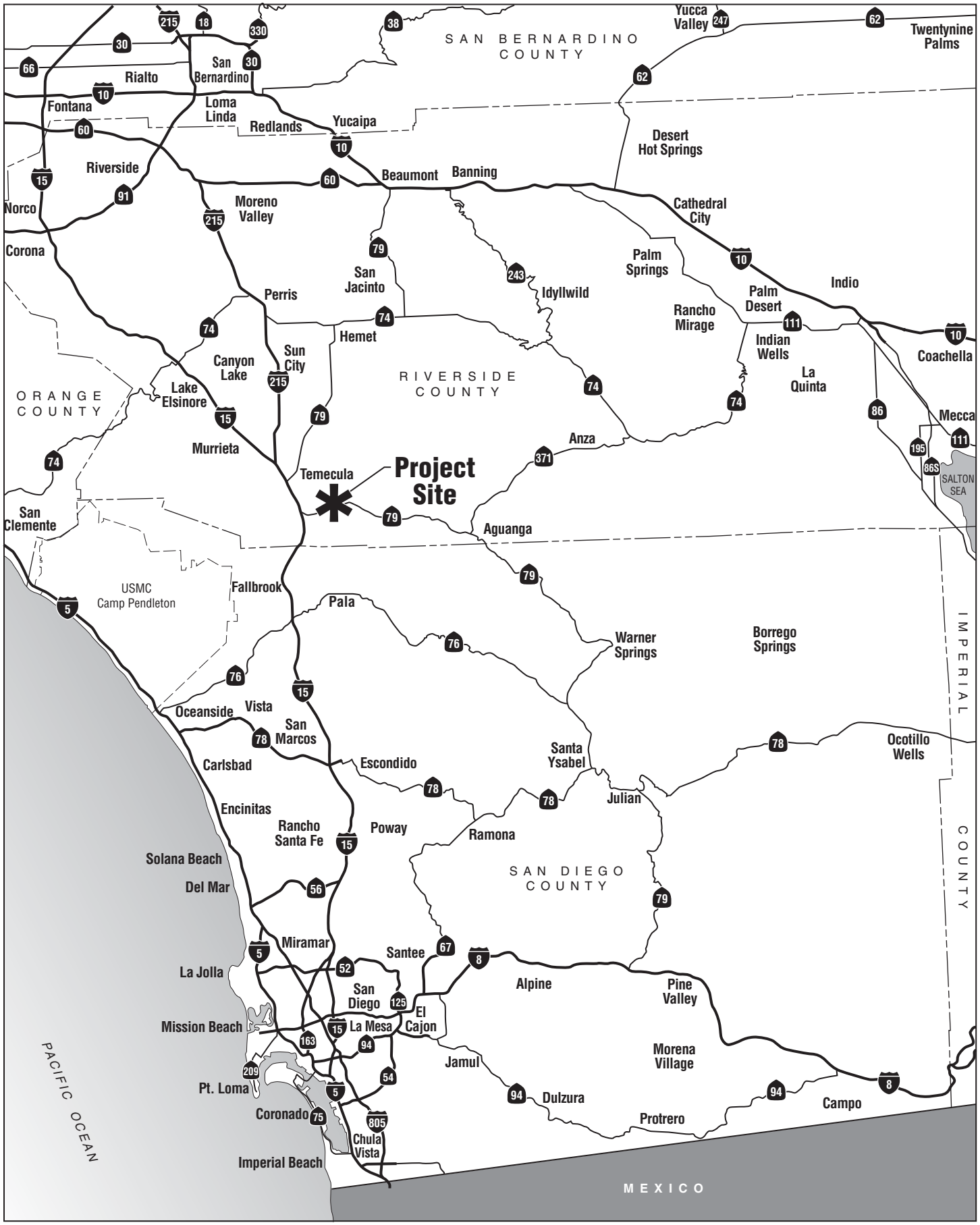
2.1 PROJECT LOCATION

The project site is generally located east of Interstate 15 (I-15) and north of State Route 79 (SR-79) in the City of Temecula, Riverside County, California (Exhibit 1, *Regional Vicinity*). The project site is located within the Pechanga quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in an un-sectioned area of Township 8 south, Range 2 west (Exhibit 2, *Site Vicinity*). Specifically, the project site is located north of SR-79, east of Mantova Drive, South of De Portola Road, and west of Butterfield Stage Road. The project site is within Assessor's Parcel Numbers (APN) 959-400-001, 959-400-002, and 959-400-003 (Exhibit 3, *Project Site*).

2.2 PROJECT DESCRIPTION

The proposed project consists of Planning Area 4 of the Paloma Del Sol Villages at Paseo del Sol Specific Plan No. 219, Amendment No. 8 (Specific Plan No. SP-4). The Specific Plan comprises approximately 42.9 acres of high density residential development and

[1] Riparian/riverine areas are defined as areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year.



RBF A Baker Company

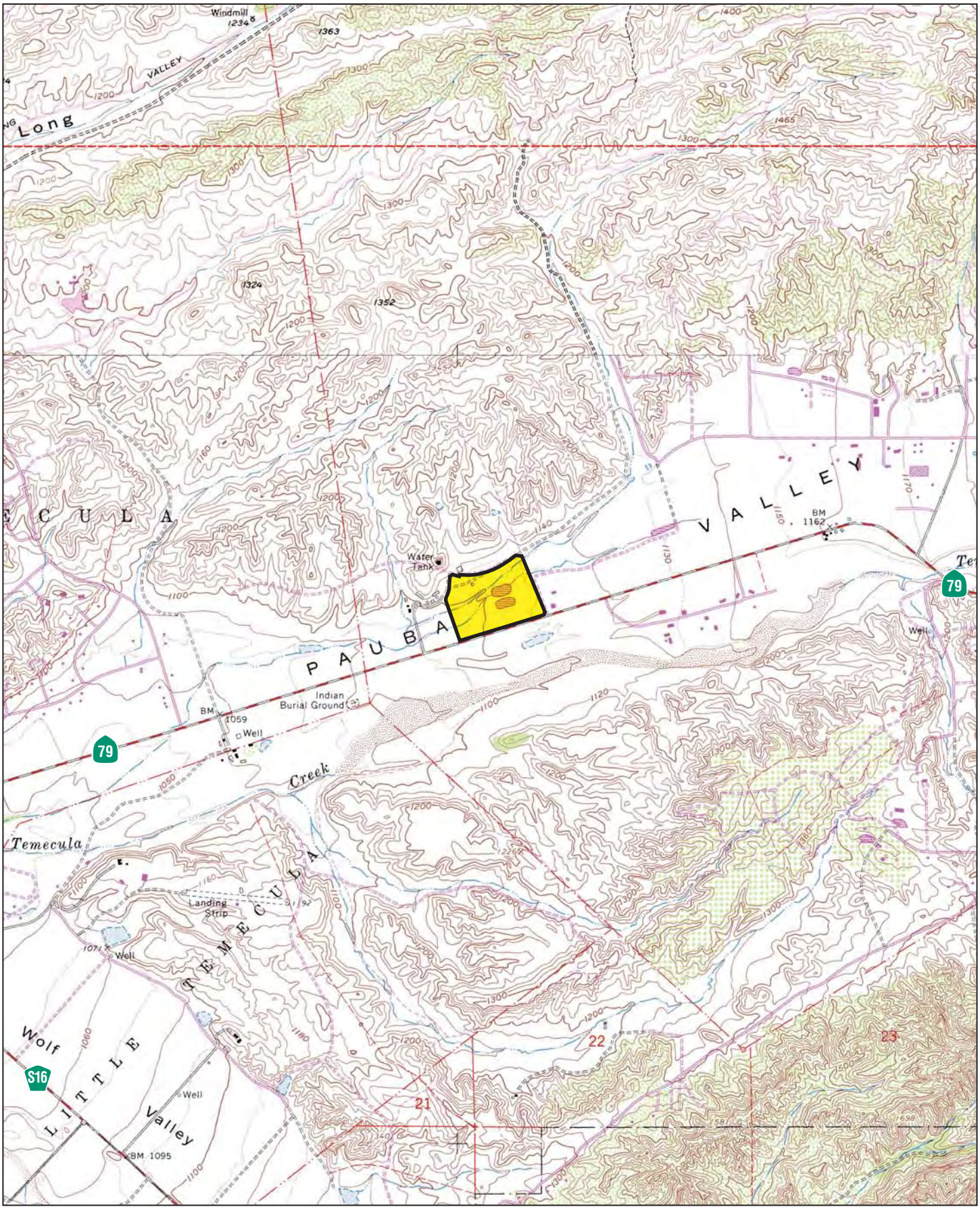
not to scale

9/5/12 JN 10-108909-18646 MAS

PASEO DEL SOL

Regional Vicinity

Exhibit 1



Source: USGS Pechanga, Calif. Quadrangle, Revised 1988, and Bachekor Mtn., Calif. Quadrangle, Revised 1973.

Project Site

PASEO DEL SOL

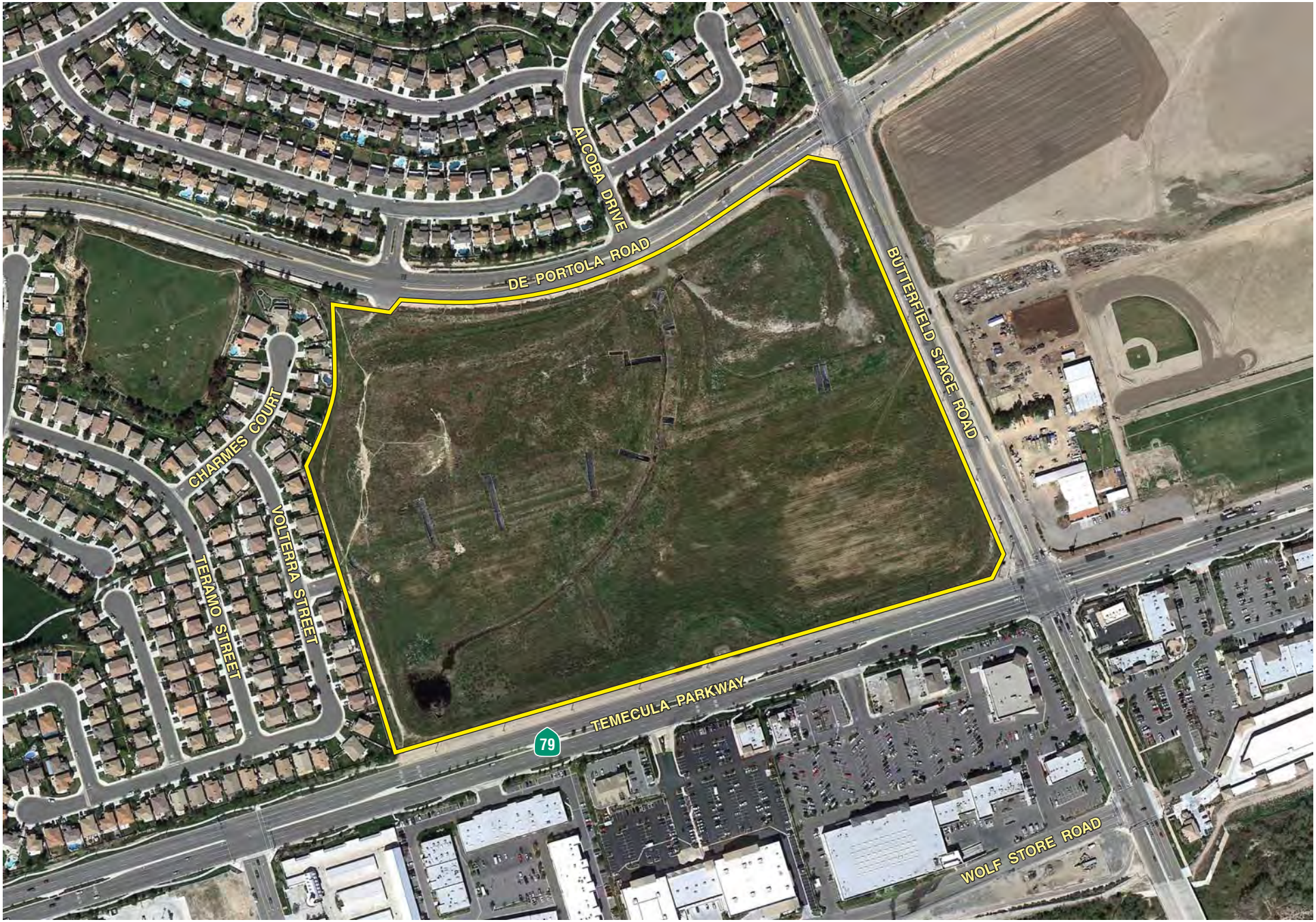
Site Vicinity

RBF A Baker Company

0 2500'
APPROXIMATE

9/5/12 JN 10-108909-18646 MAS

Exhibit 2



RBF
A Baker Company

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9/5/12 JN 10-108909-18646 MAS

PASEO DEL SOL

Project Site

Exhibit 3

not to scale

1/15/16 JN 10-108909 CAJ

PASEO DEL SOL

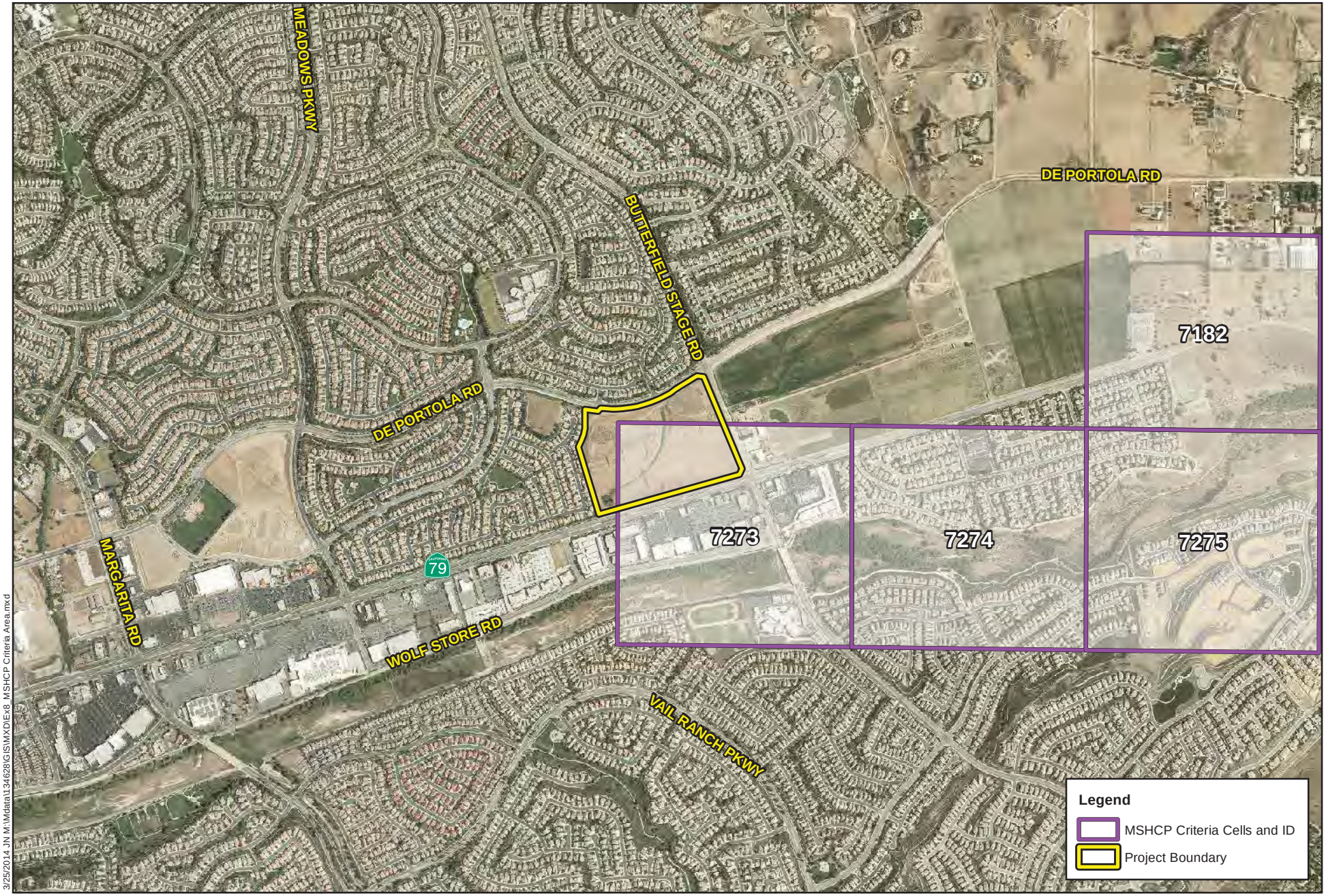
Depiction of Proposed Project

Exhibit 4

approximately 174 dwelling units. The project site had been previously entitled and received approvals from both the City of Temecula and the regulatory agencies during 1996-1998 for a residential and commercial mixed use project.

2.3 MSHCP AREAS

The proposed project site is located within the boundary of the MSHCP. Specifically, the project site is located within Subunit 2 of the Southwest Area Plan of the MSHCP and is partially located within Criteria Cell 7273 (Exhibit 5, *MSHCP Criteria Cells*). Subunit 2 encompasses Temecula and Pechanga Creeks. Conservation within Criteria Cell 7273 is intended to contribute to the assembly of Proposed Constrained Linkage 24, and focuses on the conservation of riparian scrub, woodland, forest, and Riversidean alluvial fan sage scrub habitat along Temecula Creek and in adjacent grasslands.



3/25/2014 JN M:\Mdata\134628\GIS\MXD\Ex8_MSHCP Criteria Area.mxd

RBF CONSULTING GIS

0 750 1,500 3,000 Feet

Source: County of Riverside, Eagle Aerial -- 2013

PASEO DEL SOL

MSHCP Criteria Cells

Exhibit 5

Section 3 Methodology

3.1 LITERATURE REVIEW

RBF conducted a literature review of all relevant environmental documentation prepared for the project to date. This included the following documents:

- Delineation of State and Federal Jurisdictional Waters (RBF Consulting, June, 2014); and
- Habitat Assessment and MSHCP Consistency Analysis (RBF Consulting, August 2015)

In addition, RBF reviewed recent and historical aerial imagery of the project site and local area, USGS topographic maps, and soils maps. RBF also thoroughly reviewed the MSHCP and Reference Document (Riverside County 2003), and other available literature for resources targeted in the analysis. Information gathered included accounts of sensitive habitat types, species listing and recovery status, morphology, life history and habitat requirements, historic and current distribution, threats, special biological considerations, and known locations of individuals and populations that have been recorded in the region. Critical habitat and known recorded locations of the target resources were queried using various data from the MSHCP and the United States Fish and Wildlife Service (USFWS) Critical Habitat Portal, in addition to the California Natural Diversity Database (CNDDB) (CDFW 2014) and California Native Plant Society (CNPS) On-Line Inventory of Rare and Endangered Plants (CNPS 2014).

3.2 FIELD INVESTIGATION

The habitat assessment component of the DBESP analysis was based primarily on the findings of field reconnaissance survey conducted for the 2015 *Habitat Assessment and MSCHP Consistency Analysis* report, and 2014 *Delineation of State and Federal Jurisdictional Waters* report previously prepared for the proposed project.

During the field reconnaissance survey conducted for the 2015 *Habitat Assessment and MSCHP Consistency Analysis* report, RBF biologists Travis J. McGill and Ryan Winkleman inventoried and evaluated the extent and conditions of the plant communities found within the boundaries of the project site on March 11, 2014. Plant communities identified on aerial photographs during the literature review were verified by walking meandering transects through the plant communities and along boundaries between plant communities. In addition, field staff identified any jurisdictional features, riparian/riverine habitat, as well as natural corridors and linkages that may support the movement of wildlife through the area.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features as well as riparian/riverine areas were noted.

Section 4 Existing Conditions

4.1 TOPOGRAPHY AND SOILS

Surface elevations at the project site range from approximately 1,100 to 1,120 feet above mean sea level with areas of greater topographic relief located along the northern half of the site. The northern half of the project site is generally higher (in between 10 to 20 feet higher) than the southern half of the site; the two halves are separated by two slopes that are bisected by a manmade drainage channel. Based on the United States Department of Agriculture (USDA) Soil Survey, the project site is underlain by the following soil units: Chino silt loam (drained, saline-alkali), Grangeville sandy loam (drained, saline-alkali, 0 to 5 percent slopes), Grangeville fine sandy loam (drained, 0 to 2 percent slopes), Grangeville fine sandy loam (poorly drained, saline-alkali, 0 to 5 percent slopes), Grangeville fine sandy loam (saline-alkali, 0 to 5 percent slopes), Greenfield sandy loam (2 to 8 percent slopes, eroded), Hanford course sandy loam (2 to 8 percent slopes), Hanford course sandy loam (8 to 15 percent slopes, eroded), and rough broken land (Exhibit 6, *Soils Map*).

4.2 SURROUNDING LAND USES

The project site is located in an urbanized area that has undergone a conversion from natural habitats to residential, commercial, and related developments with subsequent improvements to infrastructure. Immediately abutting the western boundary of the project site and across De Portola Road to the north are residential communities, to the northeast across Butterfield Stage Road is an agricultural field (currently planted at the time of the habitat assessment), to the southeast across Butterfield Stage Road is a horse feed facility, and to the south across SR-79 is a shopping center.

4.3 SITE CONDITIONS

An unnamed manmade drainage feature bisects the site, flowing in a north to southwest direction. This drainage enters the site roughly in the center of its northern boundary through a concrete culvert, where it then transitions to an earthen ditch, then curves to the southwest and pools on the southwest corner of the site within a temporary detention/sedimentation basin. The temporary detention/sedimentation basin drains via a concrete culvert into Temecula Creek on the southwest corner of the site. The on-site drainage feature is surrounded by vacant, undeveloped land. These vacant areas have been heavily disturbed by previous grading activities and no longer provide undisturbed natural plant communities. In the northwest corner of the project site neighborhood kids have created a BMX bike jump area. Approximately 500 feet west of the intersection of Butterfield Stage Road and SR-79 is an earthen berm that slopes up to the west and extends all the way to the southwest corner of the site. As previously noted,

3/26/2014 JN M:\Mdata\10108909\GIS\Paloma_Del_Sol_Soils.mxd

RBF CONSULTING GIS

0 150 300 600 Feet

Source: Eagle Aerial -- 2013, NRCS Soils

PASEO DEL SOL

Soils Map

Exhibit 6

the project site is roughly divided into a distinct elevated northern half and a lower southern half. The slopes separating the northern and southern halves, as well as the east- and west-facing slopes on the northern half that drop into the drainage feature, have numerous visqueen erosions control tarps.

4.4 VEGETATION

As a result of previous grading activities, the majority of the project site is composed of a non-native grassland plant community, with the exception of dirt access roads and a few other disturbed areas, and a manmade channel, which is classified as an emergent freshwater marsh (Exhibit 7, *Vegetation*). These communities are described in further detail below.

4.4.1 Non-Native Grassland

A non-native grassland plant community is found throughout the majority of the project site outside of the unnamed drainage feature. This plant community has been heavily disturbed from previous grading activities and is composed of non-native grasses and successional plant species. Dominant plant species observed within this plant community include ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), shortpod mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), Chinese purslane (*Portulaca oleracea*), silverleaf nightshade (*Solanum elaeagnifolium*), London rocket (*Sisymbrium irio*), and filaree (*Erodium* sp.).

4.4.2 Emergent Wetland

An unnamed, manmade drainage feature bisects the site, flowing in a north to southwest direction. This drainage enters the site roughly in the center of its northern boundary through a concrete culvert, where it then transitions to an earthen ditch, then curves to the southwest and pools on the southwest corner of the site within a temporary detention/sedimentation basin. Based on the results of the delineation of state and federal jurisdictional waters report, this unnamed drainage feature can be classified as an emergent wetland since is exhibited all three wetland parameters (i.e., hydrology, soils, vegetation). The emergent wetland is dominated by broadleaf cattail (*Typha latifolia*) that has become established in the middle of the channel and along the margins of the temporary detention/sedimentation basin. In addition, there are patches of sandbar willow (*Salix exigua*) within the wetland. The wetland was dry at the time of RBF's site investigation, the temporary detention/sedimentation basin was full of open water.

4.4.3 Disturbed

Disturbed areas on-site are generally unpaved areas that have been subject to high levels of human disturbances and no longer support a native vegetation or comprise a native plant community and are generally un-vegetated except for some weedy plant species. These areas include dirt access roads on the northern half of the project site and along it the eastern edge

3/25/2014 JN M:\Mdata\134628\GIS\MXD\Ex7_veg_map.mxd

0 150 300 600 Feet

Source: Eagle Aerial -- 2013

PASEO DEL SOL

Vegetation Map

Exhibit 7

of the project site, as well as areas on the northwest portion of the project site that have been used for spoil piles (i.e., dirt piles, cement rubble, and other debris).

4.5 MIGRATORY CORRIDORS AND LINKAGES

Habitat linkages provide links between larger undeveloped habitat areas that are separated by development. Wildlife corridors are similar to linkages, but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species but inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

No migratory corridors or linkages identified in the MSHCP are located on the project site. However, Proposed Constrained Linkage 24, which consists of the portion of Temecula Creek located between Redhawk Parkway and Pauba Road, is located south of the project site. The project site is located within Criteria Cell 7273 that focuses on vegetation within Temecula Creek. Conservation requirements for Criteria Cell 7273 do not extend into the project site. As a result, development of the project site will not directly affect Proposed Constrained Linkage 24. Although the on-site channel and pond are manmade features, development within the features could result in indirect effects to Proposed Constrained Linkage 24 through sedimentation.

4.6 SUMMARY OF MSHCP REQUIREMENTS

4.6.1 MSHCP Areas

The proposed project site is located within the boundary of the MSHCP. Specifically, the project site is located within Subunit 2 of the Southwest Area Plan of the MSHCP and is partially located within Criteria Cell 7273 (refer to Exhibit 5). Subunit 2 encompasses Temecula and Pechanga Creeks. Conservation within Criteria Cell 7273 is intended to contribute to the assembly of Proposed Constrained Linkage 24, and focuses on the conservation of riparian scrub, woodland, forest, and Riversidean alluvial fan sage scrub habitat along Temecula Creek and in adjacent grasslands.

4.6.2 MSHCP Survey Requirements

The MSHCP has habitat assessment survey requirements for certain plant, bird, mammal, and amphibian species. The RCIP Conservation Summary Report Generator was queried to determine if the MSHCP lists any survey requirements for the project site. The Summary Report

Generator identified only identified a burrowing owl (*Athene cunicularia*) survey requirements for the project site.

4.6.2.1 Burrowing Owl

Burrowing owl is currently designated as a California Species of Special Concern and considered a partially covered species under the MSHCP that could require additional surveys. It is a grassland specialist[2] distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments with level to gently-sloping areas characterized by open vegetation and bare ground. The species rarely dig their own burrows and are instead dependent upon the presence of burrowing mammals (i.e., ground squirrels, coyotes, and badgers) whose burrows are often used for roosting and nesting. The presence or absence of colonial mammal burrows is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. They also require low growth or open vegetation allowing line-of-sight observation of the surrounding habitat to forage as well as watch for predators. In California, the burrowing owl breeding season extends from the beginning of February through the end of August.

The project site contains a large number of rodent burrows, many of which are suitable to support burrowing owls. These are primarily located on slopes along the northern and southern boundaries of the site and along the east-west centerline of the site, where the higher-elevation northern half drops into the lower-elevation southern half. During the habitat assessment, all burrows encountered were examined for shape, scat, pellets, feathers, tracks, and prey remains. Though all suitable burrows were superficially examined from the outside, no burrowing owls or burrowing owl sign was detected.

RBF conducted a protocol focused survey for burrowing owl in accordance with the March 29, 2006 Burrowing Owl Survey Requirements for the Western Riverside County MSHCP Area. The survey area was assessed on foot by qualified biologists, Tom C. Millington and Ashley M. Barton, who are knowledgeable in the habitats and behavior of burrowing owls on four (4) separate days: July 7, 15, 29, and August 4, 2015. Concurrently with the first focused burrowing owl survey, the focused burrow survey was conducted on July 7, 2015. The survey conducted on July 7, 2015 was completed between 0630 to 0830 hours, and the surveys conducted on July 15, 29, and August 4, 2015 were completed between 0730 to 0930 hours.

[2] The burrowing owl is a grassland specialist that primarily occurs in open areas with short vegetation and bare ground in desert, grassland, and shrub-steppe environments.

Despite systematic searches of the suitable burrows found on the project site, no burrowing owls or evidence (i.e., scat, pellets, feathers, tracks, and prey remains) to suggest recent or historical use of the project site by burrowing owl was observed on or within 500 feet of the project site. It can be concluded that burrowing owl are not currently present on the project site.

The project site supports suitable ground squirrel burrows and non-natural substrates capable of supporting burrowing owls. However, the project site is not currently occupied by burrowing owls. The weed abatement activities (i.e., disking) on-site has discouraged burrowing owls from occupying the project site. As long as these disking activities continue on the project site, it is presumed that burrowing owls will not occupy the suitable burrows. A burrowing owl clearance survey should be conducted 30 days prior to any ground disturbing activities to ensure burrowing owl remain absent from the project site.

4.6.3 Jurisdictional Drainages, Riparian/Riverine Areas, and Vernal Pools

Jurisdictional Drainages, Riparian/Riverine Areas

Under MSHCP Section 6.1.2, riparian/riverine areas are defined as areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to a number of listed, water-dependent amphibians, birds, fish, invertebrates, and plants. If all impacts to riparian/riverine habitat cannot be avoided, a mitigation strategy called a Determination of Biologically Equivalent or Superior Preservation (DBESP) must be developed that addresses the replacement of lost functions of habitats in regards to the listed species. This assessment is independent from considerations given to "waters of the U.S." and "waters of the State" under the CWA and the California Fish and Game Code.

Based on the results of a Delineation of State and Federal Jurisdictional Waters Report (RBF 2014), prepared under separate cover, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project. These features will be considered riparian/riverine habitat under MSHCP Section 6.1.2. As a result, any alteration or loss of these areas will require the preparation of a DBESP analysis under the MSHCP. This analysis would be separate from any regulatory review/permitting by the Corps, Regional Board, and CDFW.

Vernal Pools and Fairy Shrimp Habitat

One of the factors for determining the suitability of the habitat for fairy shrimp would be demonstrable evidence of seasonal ponding in an area of topographic depression that is not subject to flowing waters. These astatic pools are typically characterized as vernal pools. More specifically, vernal pools are seasonal wetlands that occur in depression areas without a continual source of water. They have wetland indicators of all 3 parameters (soils, vegetation,

and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology is made on a case-by-case basis. Such determinations should be considered the length of time the areas exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. The seasonal hydrology of vernal pools provides for a unique environment, which supports plants and invertebrates specifically adapted to a regime of winter inundation, followed by an extended period when the pool soils are dry.

Vernal pools are seasonally inundated, ponded areas that only form in regions where specialized soil and climatic conditions exist. During fall and winter rains typical of Mediterranean climates, water collects in shallow depressions where downward percolation of water is prevented by the presence of a hard pan or clay pan layer (duripan) below the soil surface. Later in the spring when rains decrease and the weather warms, the water evaporates and the pools generally disappear by May. The shallow depressions remain relatively dry until late fall and early winter with the advent of greater precipitation and cooler temperatures. Vernal pools provide unusual "flood and drought" habitat conditions to which certain plant and wildlife species have specifically adapted as well as invertebrate species such as fairy shrimp.

The MSHCP lists two general classes of soils known to be associated with listed and sensitive plant species; clay soils and Traver-Domino Willow association soils. The specific clay soils known to be associated with listed and sensitive species within the MSHCP plan area include Bosanko, Auld, Altamont, and Porterville series soils, whereas, Traver-Domino Willows association includes saline-alkali soils largely located along floodplain areas of the San Jacinto River and Salt Creek. Without the appropriate soils to create the restrictive layer, water does not pool for extended periods of time sufficient to support fairy shrimp development. None of these soils occur on the project site and no clay or restrictive soils have been mapped on-site.

A review of recent (1995-2014) and predevelopment aerial photographs of the site and its immediate vicinity did not provide visual evidence of an astatic or vernal pool on or in the near vicinity of the project site. No ponding was observed on-site, further supporting the fact that the drainage patterns currently occurring on the project site do not follow hydrologic regime needed for vernal pools. From this review of historic aerial photos and field observation, it can be concluded that there is no indication of vernal pools or suitable fairy shrimp habitat occurs on the project site.

During initial grading activities in 2001 for development, all jurisdictional areas were converted to uplands for the approved development except for the narrow storm water conveyance channel and temporary detention/sedimentation basin at the southwest corner of

the project site. The narrow storm water conveyance channel conveys water from the development to the north of De Portola Road, through the project site into the ponded area, and then offsite through an existing culvert under Temecula Parkway. The continual nuisance flows from surrounding development prevents the ponding of water in a manner that would create an astatic or vernal pool habitat. Grading activities in 2001 altered the hydrology of the site to flow through the temporary detention/sedimentation basin and offsite. As a result, there is no ponding of water for a sufficient time to create vernal pool habitat.

Available information and observations of the on-site drainage features showed that the jurisdictional features on-site to maintain water during prolonged dry periods as a result of nuisance flows from surrounding development. While prolonged ponding occurs on-site, it is the result of continuous flows from surrounding development and does not suggest suitability for fairy shrimp which require astatic conditions. The continuous flows from surrounding development would preclude the pond from developing into an astatic pond; and therefore, would not develop the conditions to needed to support the plant and wildlife species, including fairy shrimp, that are specifically adapted to astatic or vernal pools.

Based on the historical aerial review, existing grading activities, and current hydrologic regimes of the project site, it can be conclude that the project site lacks astatic conditions, and, therefore, would not provide suitable fairy shrimp habitat. Fairy shrimp require astatic conditions and a complete drying of occupied ponds so that the fairy shrimp cysts will not rot. The continual flow of nuisance water precludes the on-site pond from drying out, and, therefore, preclude the development of the astatic conditions needed by fairy shrimp. It can be concluded that the on-site pond is not a vernal pool and does not provide fairy shrimp habitat. As a result, none of the sensitive plant or wildlife species associated with vernal pools are expected to occur on the project site. Sensitive plant and wildlife species associated with vernal pools and clay soils, including fairy shrimp, are presumed absent from the project site.

Section 5 Determination of Biologically Equivalent or Superior Preservation

5.1 DESCRIPTION OF THE PRE-PROJECT RIPARIAN/RIVERINE FUNCTIONS AND VALUE

5.1.1 On-site Drainage Features

Prior to Newland Communities ownership of the property, the previous owner (Eastern Municipal Water District [EMWD]) utilized the project site for settlement ponds for water reclamation discharge during the 1980's. The holding ponds were eventually abandoned and the ponds re-graded to the existing elevation on-site.

Newland Communities acquired the property, which was delineated in 1996 by Glenn Lukos Associates. The delineation authorized the impacts to 4.9 acres of WoUS (including wetlands) via a Nationwide Permit (NWP). As part of the authorized permit, special conditions required the applicant to mitigate for impacts by preserving 9.4 acres of willow riparian habitat within Temecula Creek. Since that time, Newland Communities had posted financial assurance for the proposed mitigation which is now complete. Newland Communities received regulatory permits for an approved residential and commerce center project. Specifically, permit authorization to impact various jurisdictional drainages and wetlands was received from the Corps under File No.'s 96-00210-ES and 97-00275-SDM. As part of the previous approvals, a waiver certification was issued by the Regional Board as a result of various water quality components that were proposed for incorporation into the final design.

Grading for the authorized impacts occurred during 1999-2001 and all jurisdictional areas were converted to uplands for the approved development. Following grading operations in 2001, the applicant (as part of an approved stormwater runoff program), graded a narrow storm water conveyance channel to a temporary detention/sedimentation basin at the southwest corner of the project site. The temporary sediment basin had been identified in the Corps NWP. Project construction stopped in 2006 and has not been reinitiated.

On-site waters/wetlands that are present on-site today consist of the same temporary features that were constructed in 2001. Since the halt in construction, the trench has conveyed water from the development to the north of De Portola Road, through the project site, and then offsite through an existing culvert under Temecula Parkway. As noted, a single wetland (Wetland A) and temporary detention/sedimentation basin were identified on the project site (Exhibit 8,

Riparian/Riverine – CDFW Jurisdictional Map). No other drainage features or improvements are located on-site.

5.1.1.1 Wetland A

Wetland A extends along the entire margin of the low-flow earthen channel for approximately 1,350 linear feet. The wetland traverses the site from north to southwest along the margin of the earthen channel and fringes of the temporary detention/sedimentation basin.

Emergent wetland vegetation which consisted of cattail has become established along the margin of both the low-flow channel as well as on the fringe of the detention/sedimentation basin. Certain locations along the low-flow channel contained a few dense stands of Narrow Leaf Willow (*Salix exigua).* Non-native species such as White Sweetclover (*Melilotus albus)* and Spanish False Fleabane (*Pulicaria paludosa)* were observed along the entire margin of the low-flow channel. Surface water was present within the channel during the site visit as well as in the basin. The basin was characterized by significant algal growth due to accumulated high levels of organic material and nutrient-loading from upstream development. A total of 0.69-acre of state jurisdictional wetland is located on-site.

5.1.1.2 Temporary Detention/Sedimentation Basin

Approximately 0.10-acre of non-wetland waters was observed within the temporary sediment basin located at the southwestern corner of the property. The basin is located at the terminus of the manmade channel, which was constructed as an interim means of conveying both on-site storm flows and flows from the approved development to the north across the site during the rough graded condition. The basin consisted of open water, ranging in depth from 2" – 16".

5.1.2 Functions and Values

The primarily function of the on-site wetland includes the regulation of nuisance flows, energy dissipation, conveyance of floodwaters, and nutrient/particulate uptake from off-site, upstream development. The water quality benefits of the wetland help protect downstream waters, primarily Temecula Creek, form nuisance flows from upstream development. Since the wetland was originally constructed to convey nuisance flows from upstream development and was not originally intended to be a wetland, the wetland provides limited flood protection/water storage capabilities. Upstream areas have been developed; therefore, there is little to no sediment transport/sedimentation buildup issues associated with the wetland.

Since the areas upstream of the wetland are developed, the on-site wetland does not provide a wildlife movement corridor or linkage from Temecula Creek across the project site.

De Portola Rd

Temporary Visqueen Erosion Control (Typ.)

Temporary Low Flow Conveyance Channel (BMP) Vegetated Streambed)

Temporary Detention / Sedimentation Basin

Temecula Parkway

79

Legend

- Picture Point
- 0.10 Ac — CDFW Jurisdictional Waters (Streambed)
- 0.69 Ac — CDFW Jurisdictional Waters (Vegetated Streambed)

0 50 100 200 Feet

Source: Eagle Aerial 2011

7/2/2014 JN M:\Mdata\10108909\GIS\Paloma_Del_Sol_CDFW_Regional_Board_11x17.mxd

PASEO DEL SOL

Riparian/Riverine - CDFW Jurisdictional Map

Exhibit 8

Additionally, the wetland's existing functions and values were captured via a California Rapid Assessment Method (CRAM) analysis (refer to Appendix E). Based on the results of the CRAM analysis the existing wetland has on overall rating of 44%. The overall score of the wetland scored highest in the hydrology attribute (83%); however, scored low in Buffer and Landscape Context (38%), Physical Structure (25%) and Biotic Structure (33%).

5.2 RIPARIAN/RIVERINE SPECIES

Due to the monoculture of cattail within the on-site riparian/riverine habitat plant, the quality of the habitat is considered low, but may provide suitable stop over habitat for riparian species listed under the MSHCP. Additionally, none of the soils listed in the MSHCP that are typically associated with vernal pools occur on the project site. As a result, none of the species listed in Section 6.1.2 of the MSHCP are expected to occur on the project site, and are presumed absent. Further, the site is not within designated survey areas for any special-status wildlife species associated with riparian/riverine habitat as listed in Section 6.1.2 of the MSHCP.

The riparian/riverine habitat found on-site connects with riparian habitats associated Temecula Creek to the south, but abuts residential developments to the north which have isolated the riparian/riverine habitat from natural undisturbed habitats to the north. The residential developments to the north reduce the riparian/riverine habitat potential to support migratory linkages or corridors for riparian species covered under the MSHCP.

5.3 PROJECT IMPACTS

As previously noted in the Delineation of State and Federal Jurisdictional Waters report (RBF, 2014) identified both State and federal jurisdictional areas on the project. No vernal pools, clay or restrictive soils were found on the project site. Based on the results of the Habitat Assessment and MSHCP Consistency Analysis (RBF, 2015), it was determined that riparian/riverine habitats found on the project site correspond with the CDFW jurisdiction mapped in 2014.

The project proposes to permanently impact a total of 0.71-acre (0.10 non-wetland waters and 0.61-are of wetland waters) of Corps/Regional Board jurisdiction and 0.79-acre (0.10-acre of streambed and 0.69-acre) of CDFW jurisdiction. The extent of the riparian/riverine habitat on the project site is synonymous with the jurisdiction of CDFW.

Table 1: Summary of Jurisdictional Area

Jurisdictional Feature	Corps	Regional Board	CDFW	
			On-Site Acreage	
	WoUS	WoS	Vegetated Streambed	Associated Riparian Vegetation
Temporary Detention/Sedimentation Basin	0.10	0.10	–	0.10
Wetland A	0.61	0.61	0.69	–
Total	**0.71**	**0.71**	**0.69**	**0.10**

5.3.1 Direct Impacts to Riparian/Riverine Habitat

Based on the current project design plans, a total of 0.79-acre of impacts will occur to riparian/riverine habitat as a result of implementation of the proposed project.

Table 2: Impacts to Riparian/Riverine Habitat

Riparian/Riverine Habitats	Existing	Impacts
		Permanent
Temporary Detention/Sedimentation Basin	0.10	0.10
Wetland A	0.69	0.69
Total	**0.79**	**0.79**

5.4 PROJECT FEATURES (AVOIDANCE AND MINIMIZATION MEASURES)

As described above, the emphasis of the MSHCP's riparian/riverine and vernal pool policy is on-site conservation of habitats capable of supporting MSHCP Covered Species. The goal of the DBESP process is to determine if the project has, in fact, provided for a project alternative that results in biologically equivalent or superior preservation. The first priority for riparian/riverine habitats that contribute to the biological values of the MSHCP preserve is avoidance of direct impacts, then minimization of any remaining direct impacts.

5.4.1 Avoidance of Direct Impacts

The project applicant has evaluated avoidance of jurisdictional areas on-site. The existing detention basin and bermed ditch were originally constructed as an interim solution to safely

convey storm flows from the upstream watershed to Temecula Creek. The existing basin attenuates storm flows but does not eliminate the flooding to Butterfield Stage Road, Highway-79, the project site, existing commercial centers to the south of Highway-79 and other nearby parcels. Therefore, in order to safely convey surface runoff from the upstream watershed and effectively protect the project site from flooding as well as maintaining the level of flood control to the nearby existing developments, flood control improvements including a barrier channel and a 96-inch diameter storm drain designed for the 100-year storm event are proposed within the southerly portion of the project site. As an alternative to the on-site barrier channel and 96-inch reinforced concrete pipe (RCP), numerous studies and alternatives proposed an interceptor channel and detention basin on off-site parcels to the east. However, these studies concluded that due to the physical constraints of the project watershed and impracticality of constructing flood control improvements on off-site parcels these alternatives are not feasible.

An existing 78-inch RCP storm drain that drains the adjacent parcels to the north across De Portola Road is located at the terminus of Alcoba Drive and the project site. Currently, flows discharged from this storm drain are conveyed south through the existing jurisdictional feature. Avoidance of the jurisdictional feature in the central portion of the project site was analyzed. The original design was to allow the offsite flows from the 78- inch pipe to drain in a graded earth channel south towards Temecula Parkway. That design was later changed after the City of Temecula required a park and this area was to be turned into a neighborhood amenity. The inclusion of the city mandated park along with topographic challenges necessitate the extension of the 78-inch RCP storm drain underground.

As an alternative, avoidance of the drainage and placement of the park at another location within the development was considered. However, avoiding the existing drainage feature and creating a park in another portion of the project site, significantly reduces the number of dwelling units and is not financially practicable. Another alternative considered was to include the drainage feature within the design of the city mandated park. However, the depth of the 78-inch RCP and the existing channel invert is roughly 20 feet below finished grade. A park created around a channel invert of that depth would require too steep of slopes and is not practicable for pedestrians and visitors.

Based on the alternative discussed above, avoidance of direct impacts was not feasible.

5.4.2 Minimization Measures to Reduce Indirect Impacts

The Urban/Wildlife Interface Guidelines, as discussed below, have been incorporated into the project design to ensure that all indirect project-related impacts to riparian/riverine habitat, including impacts from toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized to the greatest extent feasible.

Fugitive Dust

During soil excavation, grading, or other subsurface disturbance within 100 feet of conserved riparian/riverine habitat on-site, the construction superintendent shall supervise provision and maintenance of all standard dust control best management practices (BMPs) to reduce fugitive dust emissions, including but not limited to the following actions:

- Water any exposed soil areas a minimum of twice per day, or as allowed under any imposed drought restrictions. On windy days or when fugitive dust can be observed leaving the construction site, additional water shall be applied at a frequency to be determined by the on-site construction superintendent.

- Pave, periodically water, or apply chemical stabilizer to construction access/ egress points.

- Minimize the amount of area disturbed by clearing, grading, earthmoving, or excavation operations at all times.

- Operate all vehicles on graded areas at speeds less than 15 miles per hour.

- Cover all stockpiles that will not be utilized within three days with plastic or equivalent material, to be determined by the on-site construction superintendent, or spray them with a non-toxic chemical stabilizer.

Noise

The on-site construction superintendent shall implement the following measures to minimize short-term noise levels caused by construction activities. Measures to reduce construction noise shall be included in contractor specifications and include, but not be limited to, the following:

- Properly outfit and maintain construction equipment with manufacturer-recommended noise-reduction devices to minimize construction-generated noise.

- Operate all diesel equipment with closed engine doors and equip with factory-recommended mufflers.

- Use electrical power, when feasible, to operate air compressors and similar power tools.

- Employ additional noise attenuation techniques, as needed, to reduce excessive noise levels within conserved Riparian/ Riverine Habitat on-site, such as placement of temporary sound barriers or sound blankets at the top of slope adjacent to these areas.
- Locate construction staging areas at least 100 feet from Drainage A

Lighting

To avoid light spillover into the adjacent conserved riparian/riverine habitat on-site, any proposed lighting fixtures within 100 feet of these areas shall incorporate internal baffles to direct the light towards the ground and shall have a zero side-angle cut-off to the horizon. All lighting and fencing for infrastructure adjacent to jurisdictional areas shall be designed or reviewed by a qualified biologist to allow wildlife to move without hindrance.

Runoff - Toxics

To address potential short-term impacts to water quality within the on-site drainages from construction runoff that may carry storm water pollutants, a Storm Water Pollution Prevention Program (SWPPP) shall be implemented by the construction contractor as required by the California General Construction Storm Water Permit pursuant to SWQCB and Regional Board regulations. The SWPPP shall identify BMPs related to the control of toxic substances, including construction fuels, oils, and other liquids. These BMPs will be implemented by the Applicant's contractor prior to the start of any ground clearing activity, shall be subject to periodic inspections by the County and the project's hydrological consultant, shall be maintained throughout the construction period and remain in place until all landscape and permanent BMPs are in place. BMPs shall be monitored and repaired if necessary to ensure maximum erosion, sediment, and pollution control.

- Permittee shall prohibit the use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material, within and adjacent to CDFW jurisdictional areas.

- All fiber roles[3], straw waddles, and/or hay bales utilized within and adjacent to the project site shall be free of non-native plant materials.

- Permittee shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws and it shall be the responsibility of Permittee to ensure compliance.

[3] Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

- Permittee shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter a lake, streambed, or flowing stream or be placed in locations that may be subjected to high storm flows.

- Spoil sites shall not be located within a lake, streambed, or flowing stream or locations that may be subjected to high storm flows, where spoil shall be washed back into a lake, streambed, or flowing stream where it will impact streambed habitat and aquatic or riparian vegetation.

- Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources resulting from project related activities shall be prevented from contaminating the soil and/or entering the waters of the State. These materials, placed within or where they may enter a lake, streambed, or flowing stream by Permittee or any party working under contract or with the permission of Permittee, shall be removed immediately.

- No equipment maintenance shall be done within or near any lake, streambed, or flowing stream where petroleum products or other pollutants from the equipment may enter these areas under any flow.

- No broken concrete, cement, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or washings thereof, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any lake, streambed, or flowing stream.

Accidental Encroachments During Construction

The following measures shall also be incorporated into the construction documents and specifications, and implemented by the contractor, to avoid potential construction-related impacts to conserved riparian/riverine habitat outside of the approved disturbance limits:

- Construction worker training shall be provided by a qualified biologist at the first pre-construction meeting;

- Exclusionary fencing and signs shall be erected near the top of slope adjacent to conserved riparian/riverine habitat to prevent accidental/unauthorized intrusions during construction;

- No equipment shall be operated in areas of flowing water;

- Construction access and staging areas for storage of materials and heavy equipment, and for fueling, cleaning, or maintenance of construction vehicles or equipment, shall be prohibited within 20 feet from the top of slope adjacent to conserved riparian/riverine habitat; and

- A qualified biologist shall be on-site during initial clearing/grubbing, grading, and/or construction activities within the riparian/riverine habitat within Drainage B to be impacted, or within 100 feet of the habitat to be avoided, and shall periodically monitor these activities to ensure they do not exceed the fenced construction limits.

Post-Construction Human Disturbances

The project shall incorporate special edge treatments designed to minimize edge effects by providing a safe transition between developed areas and conserved riparian/riverine habitat, and which would be compatible with project operation and the protection and sustainability of conserved areas. Special edge treatments shall include native landscaping on manufactured slopes within the conserved areas and fencing/signage near the top of slope adjacent to conserved areas to prevent unauthorized public access, vandalism, illegal dumping, and other adverse human disturbances.

5.4.3 Mitigation Measures to Offset Direct Impacts

Although all impacts to riparian/riverine habitat cannot be avoided due to topographical and access/design limitations, RBF proposes "actions to minimize adverse effects" in compliance with the *Code of Federal Regulations (CFR) 40 Part 230 Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material*.

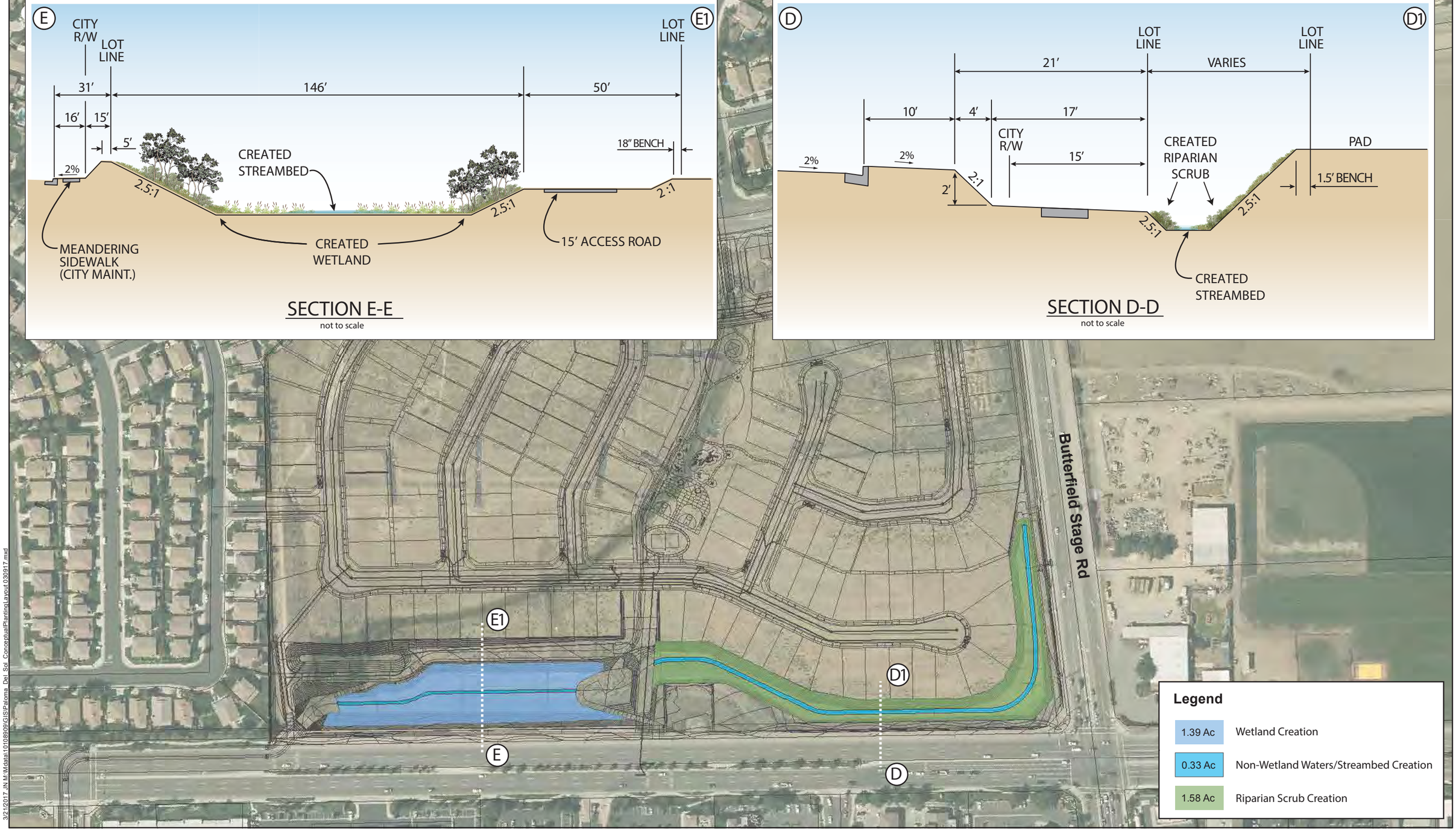
To offset impacts to 0.79-acres of riparian/riverine habitat, the applicant proposes the establishment of 1.39 acres of wetland habitat ,establishment of 1.58 acres of riparian scrub habitat, and establishment of 0.33 acre of non-wetland unvegetated waters/streambed, totaling 3.3 acres of riparian/riverine habitat on-site. Refer to Exhibit 9, *Conceptual Planting Layout,* for a depiction of on-site mitigation. The project proposes to relocate the on-site wetland and drainage corridor along the southerly portion of the project site. The on-site mitigation area would be owned by the HOA and but maintained by a third party approved by the regulatory agencies. If needed, it is possible that the project design can be altered to deliver additional water from on-site development to the vegetated stormwater conveyance channel to promote the creation of additional wetland habitat (if required by the regulatory agencies). The creation of 3.3 acres of riparian/riverine habitat on-site will provide biologically superior habitat to the riparian/riverine habitat that currently exists on-site.

WETLAND CREATION

SECTION E-E
not to scale

RIPARIAN SCRUB CREATION

SECTION D-D
not to scale



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Michael Baker INTERNATIONAL

0 125 250 500 Feet

Source: Eagle Aerial Solutions -- 2014

PASEO DEL SOL

Proposed On-Site Mitigation Plan

Exhibit 9

All plant species installed within the mitigation areas shall include only local California native container plants and cuttings, and shall be typical of the existing native plant species present in the existing riparian areas within and adjacent to the project site. CDFW recommends that plant material be installed between October 1 and April 30 to maximize the benefits of the winter rainy season. The planted area would have a conservation easement placed over it and be maintained by a third party approved by the regulatory agencies that would provide for the long-term management and maintenance in perpetuity.

The proposed wetland would not be a detention basin, nor under Riverside County Flood Control's jurisdiction. Sediment removal and maintenance activities are not anticipated. Furthermore, it should be noted that the Project's water quality basin is separate from the proposed wetland; therefore, no combining of flows is proposed. The basin will not require maintenance in the portions nominated for the Conservation Easement. Riverside Flood Control would maintain only the pipes and headwalls associated with the basin.

The Applicant will be responsible for implementing the requirements of the Habitat Mitigation and Monitoring Plan (HMMP) and initial establishment. The HMMP will describe the methods used for invasive species and trash removal, fencing and signage replacement, will identify success criteria and reporting requirements, and will define the responsibilities, adaptive management, and expected maintenance. The long-term management and maintenance costs would transfer to a third party as approved by the regulatory agencies. The wetland out be off limits to the public and residents. Furthermore, signage and homeowner education materials would be provided to residents regarding these restrictions.

5.5 DEMONSTRATION OF INCREASE IN POST-PROJECT RIPARIAN/RIVERINE FUNCTION AND VALUES

With implementation of the project design features, and the mitigation measures proposed in this DBESP analysis, the proposed project would represent a biologically equivalent or superior alternative to the existing pre-project conditions. The creation of both wetland and non-wetland habitat would result in a biological superior function and value over the existing functions and values. The basin would incorporate greater plant biodiversity and result in a betterment of water quality from what currently occurs on-site. This in turn results in a betterment to downstream waters (i.e. Temecula Creek). The existing habitat on-site is comprised on a monoculture of emergent vegetation (*Typha latifolia*) and provides for little habitat value and species diversity.

The project would reestablish jurisdictional areas on-site and provide a functional increase to water quality and biological functions when compared to the existing condition. Both water quality and increased biodiversity would occur on-site as part of the proposed mitigation. An increase in water quality due to the proposed basin and associated planting would occur

resulting in a benefit to downstream waters (i.e. Temecula Creek). Nuisance and stormwater flows originating from both off-site and on-site sources would be expected to contain nutrients, oxygen-demanding organic matter, heavy metals, hydrocarbons, pesticides, trace organics, and coliform bacteria elevated from pre-construction, background levels, but at levels typical of other urban watersheds. However, implementation of separate water quality control measures, including use of structural and non-structural BMPs to treat runoff, would ensure that implementation of the project would not result in degradation of receiving body water quality. Flows from upstream locations remain unchanged. Upstream connectivity to the project site is non-existent due to existing residential development. Offsite flows enter the project site from an MS4 system in a highly urbanized environment.

The post-project riparian/riverine function and values will be by biologically superior by providing the following:

- The establishment and long term management of 1.39 acres of wetland habitat, establishment of 1.58 acres of riparian scrub habitat, and 0.33 acre of non-wetland unvegetated waters/streambed habitat, totaling 3.3 acres. If needed, it is possible that the project design can be altered to deliver additional water from on-site development to the vegetated stormwater conveyance channel to promote the creation of additional wetland habitat (if required by the regulatory agencies).

- Implementation of the Urban/Wildlands Interface Guidelines will ensure that all indirect project-related impacts to riparian/riverine habitat, including that which may result from drainage, toxics, lighting, noise, invasive plant species, barriers, and grading/land development, are avoided or minimized to the greatest extent feasible.

The above actions would result in a net increase in the function and value of riparian/riverine habitat within the region. The proposed mitigation measures would increase the functions and ecological values of the wetland habitat as compared to the existing on-site jurisdictional features, which consist of open water and a monoculture of *Typha* spp. Water quality, nutrient uptake, particulate removal, and other hydrology benefits to Temecula Creek, a 303(d) listed water, provided by the detention basin would be significantly increased and enhanced. The proposed mitigation would provide an increase of habitat value for aquatic, wetland, and riparian species. The buffer/open space constructed contiguously to the proposed on-site basin will enhance landscape connectivity and buffer quality along the entire frontage of the project site. The proposed mitigation site will create significant species and habitat quality and diversification when compared to the existing condition or a condition where residential units back to the existing on-site jurisdictional features.

Section 6 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: March 21, 2017 Signed: 

Thomas J. McGill, Ph.D.

Section 7 References

California Department of Fish and Wildlife (CDFW). 2014. RareFind 5, California Natural Diversity Data Base, California. Data Base report on threatened, endangered, rare or otherwise sensitive species and communities for the Pechanga 7.5-minute USGS quadrangles.

California Native Plant Society (CNPS). 2014. Inventory of Rare and Endangered Plants of California. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, California. Available at: http://www.cnps.org/inventory.

Hickman, J.C., ed. 2012. *The Jepson Manual: Higher Plants of California*. University of California Press.

Holland, R. F. 1986. Preliminary descriptions of the Terrestrial Natural Communities of California. Calif. Dept. of Fish and Game, Sacramento, CA.

RBF Consulting (RBF). 2014. Delineation of State and Federal Jurisdictional Waters. *Paseo Del Sol*.

RBF Consulting (RBF). 2015. Habitat Assessment and MSHCP Consistency Analysis.

Riverside County. 2003 (June). Final Western Riverside County Multiple Species Habitat Conservation Plan. http://www.rcip.org/

U.S. Department of Agriculture, Natural Resources Conservation Service, *Web Soil Survey.* (http://websoilsurvey.nrcs.usda.gov/app/)

Appendix A RCIP Conservation Summary Report

Riverside County Transporation and Land Management Agency - TLMA

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
959400001	Not A Part	Independent	6.4	Southwest Area	Not a Part
959400001	7273	Independent	14.57	Southwest Area	SU2 - Temecula & Pechanga Creeks
959400002	Not A Part	Independent	11.73	Southwest Area	Not a Part
959400002	7273	Independent	9.61	Southwest Area	SU2 - Temecula & Pechanga Creeks
959400003	7273	Independent	0.23	Southwest Area	SU2 - Temecula & Pechanga Creeks

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HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
959400001	NO	**YES**	NO	NO	NO	NO
959400002	NO	**YES**	NO	NO	NO	NO
959400003	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

Western Riverside County Regional Conservation Authority
3403 10th Street, Suite 320
Riverside, CA 92501

Phone: 951-955-9700
Fax: 951-955-8873

www.wrc-rca.org

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Appendix B Site Photographs

Photograph 1: Facing southwest, looking at the ruderal plant community across the northeastern portion of the site.

Photograph 2: Dirt piles, cement rubble, and debris on the northeastern portion of the site.

Photograph 3: Facing southwest from the eastern side of the project site looking at the transition area between the upper terrace (northern half) and lower field (southern half).

Photograph 4: Facing northeast, looking at the slope between the upper terrace and the lower portion of the site. Ruderal plant community in the foreground on the southern half of the project site.

Photograph 5: A bermed area runs along the southwest border of the site.

Photograph 6: An example of a burrow that has the potential to provide suitable nesting opportunities for burrowing owl. No burrowing owl or sign was observed in or around the burrow.

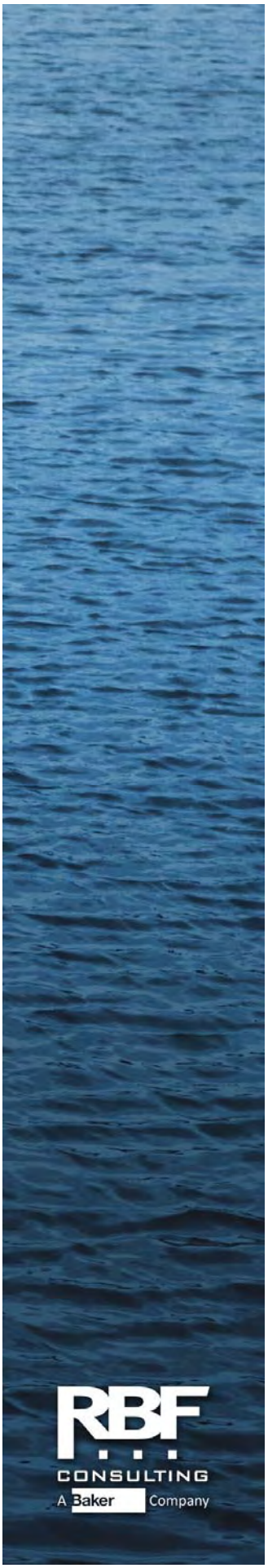
Photograph 7: A portion of the northwest corner of the site has been turned into a bike jump area. This terrace area is highly disturbed.

Photograph 8: Looking at the culvert that delivers urban and stormwater runoff from the neighborhoods to the north onto the project site.

Photograph 9: Looking northeast within the manmade channel at emergent freshwater wetland dominated by cattails with sparse sandbar willow.

Photograph 10: In the southwest corner of the project site, the manmade channel empties into a manmade sedimentation basin with open water.

Appendix C 2014 Delineation of State and Federal Jurisdictional Waters Report



PASEO DEL SOL

City of Temecula, California

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Prepared For:

Newland Communities
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Prepared By:

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(949) 855-3685

June 24, 2014
JN 134267

RBF CONSULTING
A Baker Company

PASEO DEL SOL

CITY OF TEMECULA, CALIFORNIA

Delineation of State and Federal Jurisdictional Waters

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.

Chris Johnson, PWS
Regulatory Specialist
Natural Resources/Regulatory Permitting

Richard Beck, PWS, CEP, CPESC
Director of Regulatory Services
Natural Resources/Regulatory Permitting

June 24, 2014

Abstract

Introduction: At the request of Newland Communities, RBF Consulting (RBF) has prepared this Delineation of Jurisdictional Waters for the Paseo Del Sol Project (project), located in the City of Temecula, Riverside County, California.

Methods: This delineation documents the regulatory authority of the U.S. Army Corps of Engineers (Corps), San Diego Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) pursuant to the Federal Clean Water Act (CWA), California Porter-Cologne Water Quality Control Act, and California Fish and Game Code[1] respectively. The field work for this delineation was conducted on August 20, 2012.

Results: The Project Study Area contains waters of the U.S and surface waters of the State. Placement of fill and/or alteration within these waters is subject to Corps, Regional Board and CDFW jurisdictional authority and approval; therefore, associated impacts must be avoided, minimized, and fully mitigated pursuant to the Clean Water Act, California Water Code §§ 13000 et.seq and Fish and Game Code. Table A-1 identifies the total jurisdiction on site of each regulatory agency.

TABLE A-1. Jurisdictional Areas

Jurisdictional Feature	Corps (acres)	Regional Board (acres)	CDFW (acres)	
	Waters of the U.S.	Surface Waters	Vegetated Streambed	Unvegetated Streambed
Temporary Detention/ Sedimentation Basin	0.10	0.10	-	0.10
Wetland A	0.61	0.61	0.69	-
Total	**0.71**	**0.71**	**0.69**	**0.10**

Conclusion: The project applicant must obtain the following regulatory approvals if construction activities are proposed within the identified jurisdictional areas: Regional Board CWA Section 401 Water Quality Certification; and a CDFW 1602 Streambed Alteration Agreement (SAA).[2] This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdiction. Refer to Sections 1-6 for a complete discussion.

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[1] The project area was surveyed pursuant to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008); the Practices for Documenting Jurisdiction under Section 404 of the CWA Regional Guidance Letter (Corps 2007); Minimum Standards for Acceptance of Preliminary Wetland Delineations (Corps 2001); and the Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607 (CDFG 1994).

[2] Other approvals (in-lieu of an SAA) may be acquired from the Fish and Wildlife based on a formally-submitted notification package.

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APPENDIX

LIST OF ACRONYMS

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
DBH	Diameter at Breast Height
EPA	Environmental Protection Agency
EMWD	Eastern Municipal Water District
FAC	Facultative Vegetation
FACU	Facultative Upland Vegetation
FACW	Facultative Wetland Vegetation
GPS	Ground Positioning System
IP	Individual Permit
LF	Linear Feet
MSL	Mean Sea Level
NRCS	National Resources Conservation Service
NWP	Nationwide Permit
OBL	Obligate Wetland Vegetation
OHWM	Ordinary High Water Mark
RBF	RBF Consulting
RPW	Relatively Permanent Waters
SAA	Streambed Alteration Agreement
SBBM	Riverside Base and Meridian
SWANCC	Solid Water Agency of Northern Cook County
TNW	Traditional Navigable Water
UPL	Obligate Upland Vegetation
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoUS	Waters of the United States

Section 1 Introduction and Purpose

This delineation has been prepared for Newland Communities in order to delineate the U.S. Army Corps of Engineers' (Corps), San Diego Regional Water Quality Control Board's (Regional Board), and California Department of Fish and Wildlife's (CDFW) jurisdictional authority located within the Paseo Del Sol Project (project site). The field work for this delineation was conducted on August 20, 2012.

The project site is located at the northwest corner of the intersection of Temecula Parkway and Butterfield Stage Road in the City of Temecula, County of Riverside, California. The project site is depicted on the Temecula United States Geological Survey (USGS) 7.5-minute quadrangle within Section 15, Township 8 south, Range 2 west. Refer to Exhibit 1, *Regional Vicinity,* Exhibit 2, *Site Vicinity and* Exhibit 3*, Project Site.*

This delineation has been designed to document the authority of the regulatory agencies, explain the methodology undertaken by RBF Consulting (RBF) to document jurisdictional authority, and to support the findings made by RBF within the boundaries of the project site. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

1.1 PROJECT SITE BACKGROUND

Prior to Newland Communities ownership of the property, the previous owner (Eastern Municipal Water District [EMWD]) utilized the project site for settlement ponds for water reclamation discharge during the 1980's. The holding ponds were eventually abandoned and the ponds re-graded to the existing elevation on-site.

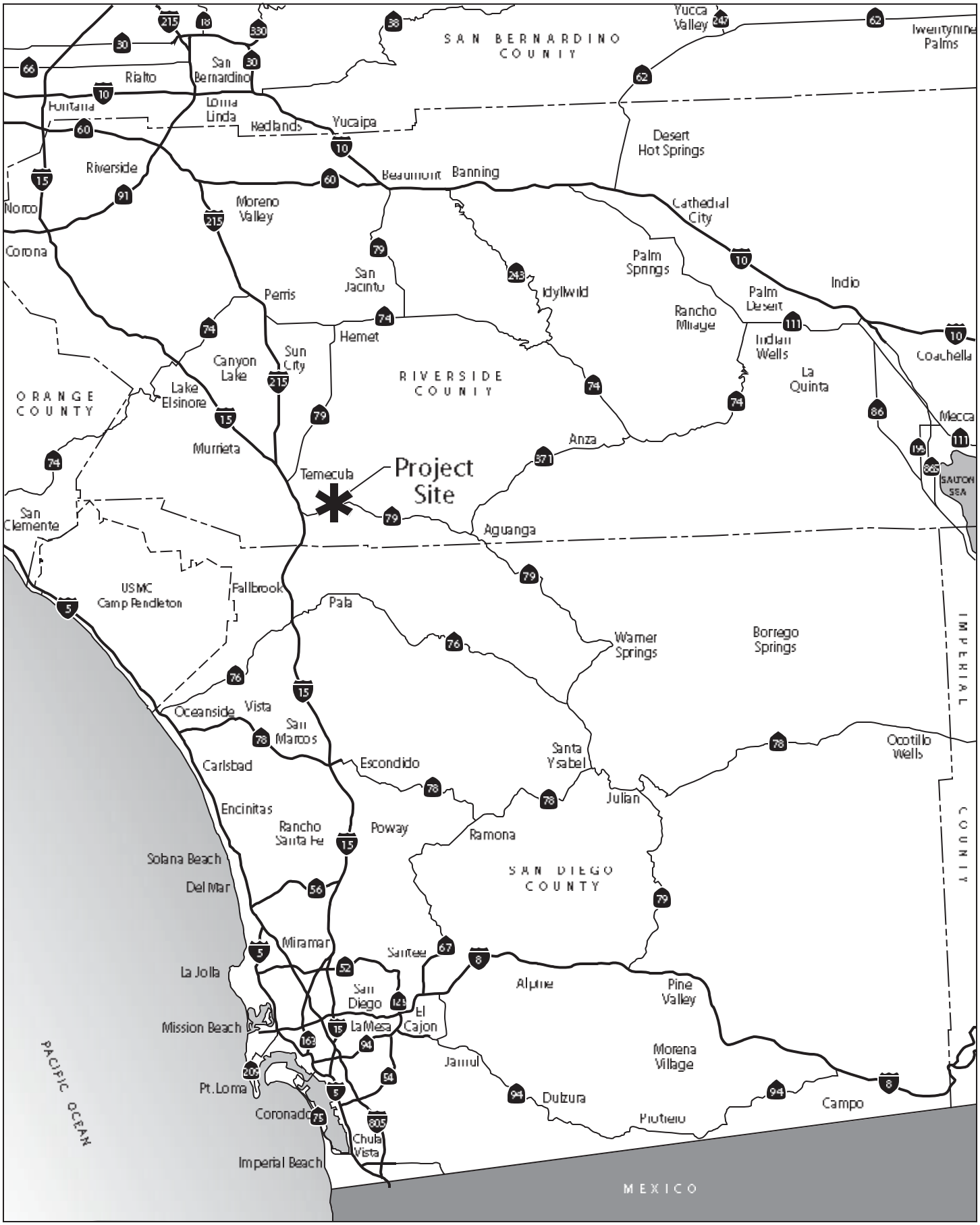
Newland Communities acquired the property, which was delineated in 1996 by Glenn Lukos Associates. The delineation authorized the impacts to 4.9 acres of waters of the U.S (including wetlands) via a Nationwide Permit (NWP). As part of the authorized permit, special conditions required the applicant to mitigate for impacts by preserving 9.4 acres of willow riparian habitat within Temecula Creek. Since that time, Newland Communities had posted financial assurance for the proposed mitigation which is now complete. Newland Communities received regulatory permits for an approved residential and commerce center project. Specifically, permit authorization to impact various jurisdictional drainages and wetlands was received from the Corps under File No.'s 96-00210-ES and 97-00275-SDM. As part of the previous approvals, a waiver certification was issued by the Regional Board as a result of various water quality components that were proposed for incorporation into the final design.

Grading for the authorized impacts occurred during 1999-2001 and all jurisdictional areas were converted to uplands for the approved development. Following grading operations in 2001, the applicant (as part of an approved stormwater runoff program), graded a narrow storm water conveyance channel to a temporary detention/sedimentation basin at the southwest corner of the project site. The temporary sediment basin had been identified in the Corps NWP (refer to Exhibit 3, *Site Plan* located in Appendix E). Project construction had stopped in 2006 and has been in a holding pattern since.

On-site waters/wetlands that are present on-site today consist of the same temporary features that were constructed in 2001. Since the project has been in a holding pattern, the trench has conveyed water from the development to the north of De Portola Road, through the project site, and then offsite through an existing culvert under Temecula Parkway. No other drainage features or improvements are located on-site.

1.2 PROJECT DESCRIPTION

Newland Communities is an approved mixed-use development of residential and commercial uses. The project was approved in January 1998. The proposed project consists of Planning Area 4 of the Paloma Del Sol Villages at Paseo del Sol Specific Plan No. 219, Amendment No. 8 (Specific Plan No. SP-4). The proposed project (TTM 36483) would construct 173 single-family dwelling units on approximately 42.9 acres. The previously planned commercial component approved as part of the original entitlements has been eliminated.



RBF A Baker Company

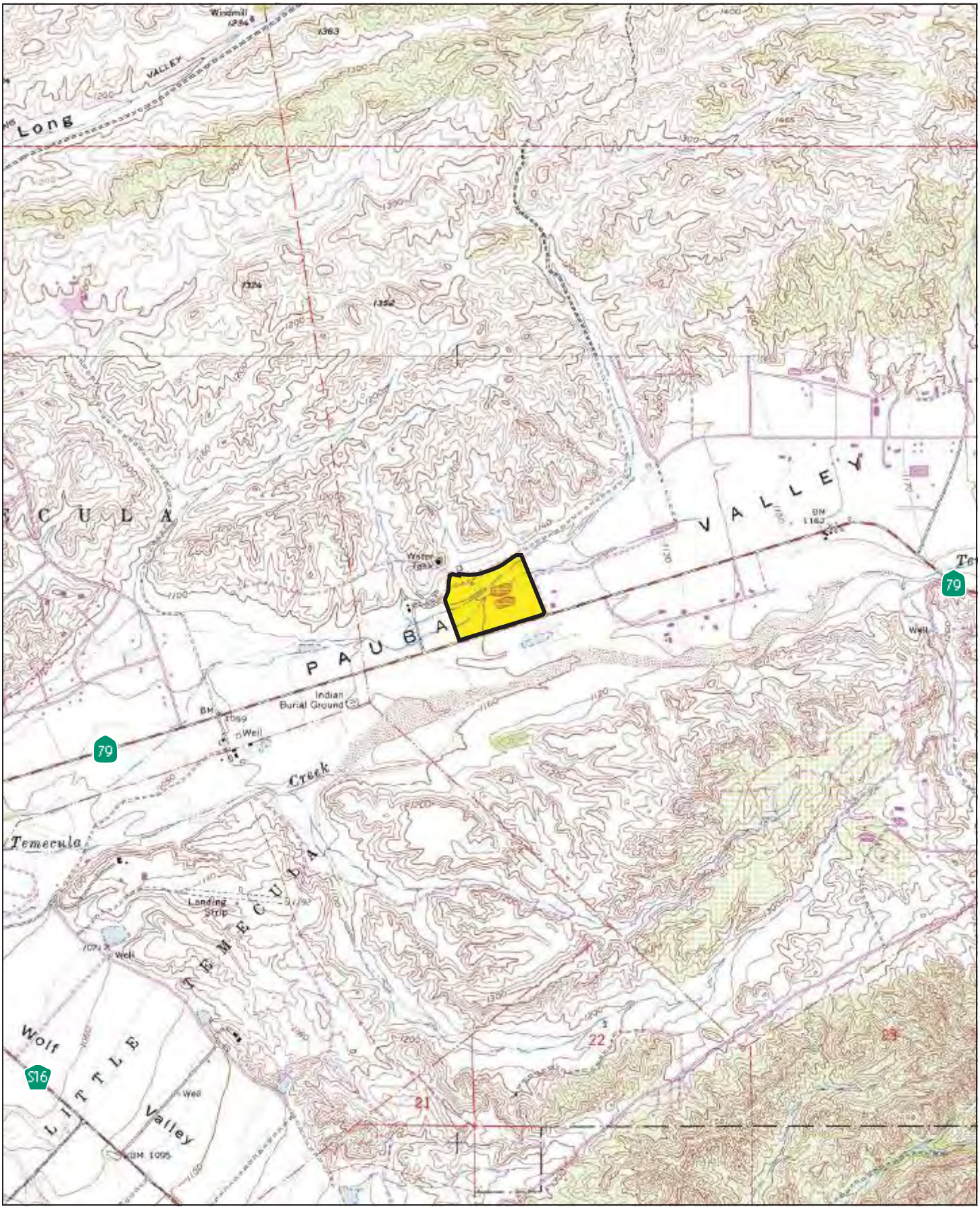
not to scale

9/5/12 JN10-108909-18648 MAS

PASEO DEL SOL

Regional Vicinity

Exhibit 1



Source: USGS Pechanga, Calif.Quadrangle, Revised 1988, and Bachelor Mtn., Calif.Quadrangle, Revised 1973.

Project Site

RBF A Baker Company

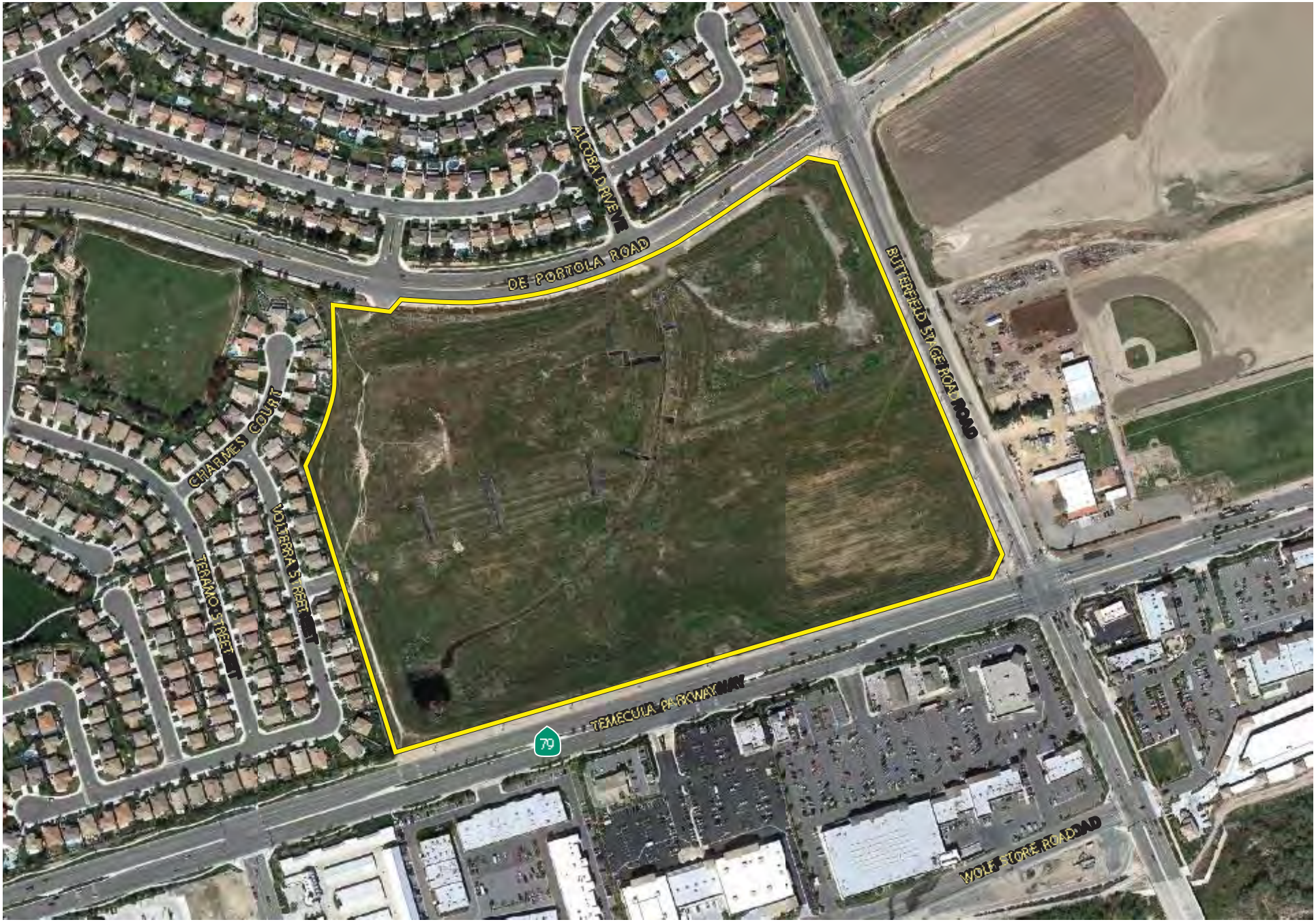
0 2500'
APPROXIMATE

WGS72 JN 10-103909-1846 MAS

PASEO DEL SOL

Site Vicinity

Exhibit 2



not to scale

9/5/12 JN 10-108909-1864 MAS

PASEO DEL SOL

Project Site

Exhibit 3

Section 2 Regulations and Methodology

Analysis presented in this document is supported by field surveys and verification of current conditions conducted on August 20, 2012. While in the field, jurisdictional areas were recorded onto a base map at a scale of 1"=80' using the topographic contours and visible landmarks as guidelines. Data points were obtained while walking the site with a Garmin 62 Global Positioning System (GPS) Map62 in order to record and identify specific widths for the ordinary high water mark (OHWM), soil pit locations, picture point locations, and pertinent jurisdictional features. This data was then transferred via USB port as a .shp file and added to the project's jurisdictional map. The jurisdictional map was prepared in ESRI ArcInfo Version 10.

2.1 SUMMARY OF REGULATIONS

There are four key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps and U.S. Environmental Protection Agency (EPA) jointly regulate activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. The CDFW regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. For a detailed summary of regulations, refer to Appendix A.

2.1.1 FEDERAL JURISDICTIONAL WATERS

Generally, the Corps and EPA will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

The Corps and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly

affect the chemical, physical and biological integrity of downstream traditional navigable waters. It should be noted that a significant nexus includes consideration of hydrologic and ecologic factors.

The Corps and EPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

2.1.2 STATE JURISDICTIONAL AREAS

2.1.2.1 California Regional Water Quality Control Boards

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters.

2.1.2.2 California Department of Fish and Wildlife Jurisdiction

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. The Fish and Wildlife's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Section 3 Literature Review

Review of relevant literature and materials aids in preliminarily identifying areas that may or may not fall under an agency's jurisdiction. A summary of RBF's literature review is provided below (refer to Section 7.0 for a complete list of references used during the course of this delineation). Copies of documentation are also contained in Appendix C, *Documentation*.

3.1 WATERSHED SUMMARY

The project is located within the Santa Margarita River watershed (HUC 18070302) and more specifically within the Pauba hydrologic sub-area (902.51). The Santa Margarita watershed encompasses approximately 750 square miles in northern San Diego and southwestern Riverside counties. The watershed contains a variety of nearly intact habitats including chaparral-covered hillsides, riparian woodlands, and coastal marshes. Of the total watershed area, approximately 27 percent is within San Diego County. The Santa Margarita River is formed near the City of Temecula in Riverside County at the confluence of the Temecula and Murrieta Creek systems. Once formed, the majority of the Santa Margarita River main stem flows within San Diego County through unincorporated areas, the community of Fallbrook, and the Marine Corps Base Camp Pendleton.

The upper watershed basin lies in Riverside County, one of the fastest growing areas in California. Presently, several water bodies are listed on the Clean Water Act section 303(d) list due to excessive nutrients from a variety of sources including agriculture, nursery operations, municipal wastewater discharges, urban runoff, septic systems, and golf course operations. Other serious water quality and environmental concerns in the watershed include excessive sedimentation from development and agricultural areas, groundwater degradation and contamination with nitrates and other salts, habitat loss, channelization, flooding, and scour.

3.2 LOCAL CLIMATE

In the western Riverside County area, summers are hot and dry and winters are cool and moist. Rainfall is scant in most months. Climate in the vicinity of the project is warm during summer when temperatures tend to be in the 70's and cool during winter when temperatures tend to be in the 50's. The warmest month of the year is August with an average maximum temperature of 98.30 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 37.30 degrees Fahrenheit.

Temperature variations between night and day tend to be relatively big during summer with a difference that can reach 37 degrees Fahrenheit, and moderate during winter with an average difference of 28 degrees Fahrenheit.

The annual average precipitation in the proximity of the project site is 12.09 inches. Rainfall in is fairly evenly distributed throughout the year. The wettest month of the year is February with an average rainfall of 2.96 Inches.

TABLE 1. Climate Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	66.1	68.2	71.1	77.4	82.6	91.3	98.1	98.3	92.9	83.7	73.1	66.8	80.8
Average Min. Temperature (F)	38.3	40.2	42.8	45.7	51.3	55.8	61.0	62.0	58.4	50.8	42.2	37.3	48.8
Average Total Precipitation (in.)	2.80	2.96	2.29	0.56	0.22	0.02	0.10	0.12	0.30	0.36	0.78	1.58	12.09

Source: www.idcide.com/weather/ca

3.3 USGS TOPOGRAPHIC QUADRANGLE

The USGS 7.5 Minute Series Topographic Quadrangle maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within a project site.

Most topographic maps are made from aerial photos and, due to errors in photo interpretation, some streams which should be shown as "blue-line" or "dashed blue-line" are not shown. Even the most detailed topographic maps (7.5 minute) do not show all streams. Drainages and wetlands do not need to be labeled on USGS maps in order to be jurisdictional.

The project site is located within Section 15, Township 8 South, Range 2 West, Riverside Base Meridian of the USGS *Pechanga, California* quadrangle. On-site topography is relatively flat with an elevation of approximately 1,100 feet above msl. Two blue-line drainages can be seen trending the site in an east to west direction toward Temecula Creek. The USGS photorevisions dated 1988 show the locations of the settling ponds used in conjunction with the previous water reclamation operations.

Surrounding uses consist of residential uses and natural open space. Temecula Creek is approximately 0.25 mile to the south of the project site.

3.4 AERIAL PHOTOGRAPH

Prior to the field visit, RBF reviewed aerial photography dated October 2012, from Google Earth Imagery. Aerial photographs can be useful during the delineation process, as the photographs often indicate drainages and vegetation (i.e., riparian vegetation) present within the boundaries of the project site (if any).

According to the aerial photograph the project site is undeveloped and has been rough graded. Storm water prevention BMPs (e.g. visquene, sandbags, etc.) can be seen throughout the site. The narrow manmade drainage and associated sediment basin are visible as well. The aerial photograph also suggests that the project site is routinely disked and maintained. The site is undeveloped and bordered by residential development to the north and west. Uses to the east consist of undeveloped land and storage yard. Vegetation is visible within the drainage and sediment basin. No additional drainages or ponding were visible on the aerial photograph outside of the mapped jurisdictional areas as the project is dominated by upland conditions or is denuded.

RBF also obtained historical aerial photographs for the project. A summary of the historical aerial photography is provided below. The aerial photographs were provided by EDR and are listed in Appendix D, *Historic Aerial Photographs*. Copies of these historical aerial photographs are presented in Appendix C, *Documentation.*

1938-1953: In the 1938, 1946 and 1953 aerial photographs, the subject site appears to be functioning as a natural riverine system with little to no modification of its hydrological regime. A small road and limited structures appear to be located in the vicinity of the subject site. State Route 79 can be seen running along the southern border of the site.

1967-1976: In the 1967 and 1976 aerial photographs, the subject site appears to have been subjected to disturbance by agricultural practices, unimproved roads and associated infrastructure. Unimproved roadways border the northern and western sides of the subject site. By 1976 an increased amount of disturbance has occurred on the project site. Ponds likely associated with agricultural practices have been excavated and surface water is visible. Much of the surrounding area still remains vacant.

1990: In the 1990 aerial photograph, the subject site is fully graded and occupied by settlement ponds associated with a water reclamation plant. One (1)

jurisdictional drainage is visible to the immediate north of the settlement ponds. The surrounding area appears to be largely undeveloped.

1995: In the 1995 aerial photograph, the settlement ponds constructed by the previous owner (EMWD) have been removed from the subject site. One (1) jurisdictional drainage is visible on the subject site. The drainage to the east of the project site appears to have been impacted by agricultural activities and therefore has interrupted the streambed continuity/connection to the on-site drainage. Both De Portola Road and Butterfield Stage Road have been fully improved to the north and east of the subject site. Also visible is new residential development to the northeast of the project site. The subject site appears to consist of vacant land. The applicant assumed ownership in 1996 following removal of the settlement ponds and re-grading of the project site.

2005-2010: In the 2005, 2006, 2009 and 2010 aerial photographs, the subject site has been completely rough-graded and converted to upland conditions. BMP's which include the sediment basin and associated conveyance trench are visible. The sediment basin and associated trench were constructed in 2001. Completed construction of residential land uses, which occurred under the previously approved permits, is visible to the north and west of the project site.

3.5 SOIL SURVEY

On-site and adjoining soils were researched prior to the field visit using the U.S. Department of Agriculture (USDA), Soil Conservation Service, Soil Survey for the Riverside Area, California, as well as the USDA/National Resources Conservation Service (NRCS) Custom Soil Resource Report. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color). The following soil series has been reported on-site:

Chino silt loam, drained, saline-alkali (Cf)

This map unit consists of somewhat poorly drained soils with parent material consisting of alluvium derived from granite. These soils are found on flood plains, with an elevation for this map unit at 3,100 feet. Mean annual precipitation is 8-20 inches. The mean annual air

temperature is 61 to 64 degrees F with a frost-free period of 230 to 340 days. In a typical profile 0 to 14 inches is silt loam and 14 to 27 inches is silty clay loam. From 0 to 7 inches, the soils are gray (10YR 5/1) silt loam, very dark (10YR 3/1) when moist, from 7 to 14 inches soils are gray (10YR 5/1) silt loam, very dark gray (10YR 3/1) when moist.

The depth to a restrictive feature is more than 80 inches and a depth to water table 0 inches. This soil drainage class is somewhat poorly drained with rare flooding and no ponding as identified in the soil survey. The available water capacity is low (about 4.2 inches). The map unit composition consists of minor components of Chino (5%) and unnamed soils (10%).

Grangeville sandy loam, drained, saline-alkali, 0 to 5 percent slopes (GpB)

This map unit consists of moderately well drained soils with parent material consisting of alluvium derived from granite. These soils are found on alluvial fans, with an elevation for this map unit at 10 to 1,800 feet. Mean annual precipitation is 8-16 inches. The mean annual air temperature is 61 to 64 degrees F with a frost-free period of 200 to 270 days. In a typical profile 0 to 17 inches is sandy loam and 17 to 60 inches is sandy loam. From 0 to 10 inches, the soils are grayish-brown (2.5Y 5/2) loamy fine sand, very dark grayish brown (2.5Y 3/2) when moist, from 10 to 17 inches grayish-brown (2.5Y 5/2) loamy very fine sand, very dark grayish-brown (2.5Y 3/2) when moist. The map unit composition has minor components of Dello (10%) and Traver (5%).

The depth to a restrictive feature is more than 80 inches and depth to water table is 0 inches. This soil drainage class is moderately well drained with rare flooding and no ponding as identified in the soil survey. The available water capacity is moderate (about 7.2 inches). Runoff is slow and the hazard of erosion is slight.

Grangeville fine sandy loam, drained 0 to 2 percent slopes (GtA)

The Cieneba-Rock Outcrop Complex map unit consists of moderately well drained soils with parent material consisting of alluvium derived from granite. These soils are found on alluvial fans, with an elevation for this map unit at 10 to 1,800 feet. Mean annual precipitation is 12 inches. The mean annual air temperature is 63 degrees F with a frost-free period of 200 to 270 days. In a typical profile 0 to 17 inches is sandy loam and 17 to 60 inches is sandy loam. From 0 to 10 inches, the soils are grayish-brown (2.5Y 5/2) loamy fine sand, very dark grayish brown (2.5Y 3/2) when moist, from 10 to 17 inches grayish-brown (2.5Y 5/2) loamy very fine sand, very dark grayish-brown (2.5Y 3/2) when moist. The map unit composition also includes minor components of Dello (10%), Traver (4%), and other unnamed soils (1%).

The depth to a restrictive feature is 80 inches and a depth to water table 0 inches. This soil drainage class is moderately well drained with rare flooding and no ponding as identified in the soil survey. The available water capacity is moderate (about 8.0 inches). Runoff is slow and the hazard of erosion is slight.

Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes (GuB)

This map unit consists of poorly drained soils with parent material consisting of alluvium derived from granite. These soils are found on alluvial fans, with an elevation for this map unit at 10 to 1,800 feet. Mean annual precipitation is 8-16 inches. The mean annual air temperature is 61 to 64 degrees F with a frost-free period of 200 to 270 days. In a typical profile 0 to 17 inches is sandy loam and 17 to 60 inches is sandy loam. From 0 to 10 inches, the soils are grayish-brown (2.5Y 5/2) loamy fine sand, very dark grayish brown (2.5Y 3/2) when moist, from 10 to 17 inches grayish-brown (2.5Y 5/2) loamy very fine sand, very dark grayish-brown (2.5Y 3/2) when moist. The map unit composition has minor components of Dello (5%), Traver (5%) and unnamed soils (5%).

The depth to a restrictive feature is more than 80 inches and depth to water table is 0 inches. This soil drainage class is poorly drained with rare flooding and no ponding as identified in the soil survey. The available water capacity is low (about 6.0 inches). Runoff is slow and the hazard of erosion is slight.

Grangeville fine sandy loam, saline-alkali, 0 to 5 percent slopes (GvB)

This map unit consists of somewhat poorly drained soils with parent material consisting of alluvium derived from granite. These soils are found on alluvial fans, with an elevation for this map unit at 10 to 1,800 feet. Mean annual precipitation is 8-16 inches. The mean annual air temperature is 61 to 64 degrees F with a frost-free period of 200 to 270 days. In a typical profile 0 to 17 inches is fine sandy loam and 17 to 60 inches is sandy loam. From 0 to 10 inches, the soils are grayish-brown (2.5Y 5/2) loamy fine sand, very dark grayish brown (2.5Y 3/2) when moist, from 10 to 17 inches grayish-brown (2.5Y 5/2) loamy very fine sand, very dark grayish-brown (2.5Y 3/2) when moist. The map unit composition has minor components of Dello (10%) and Traver (5%).

The depth to a restrictive feature is more than 80 inches and depth to water table is 0 inches. This soil drainage class is poorly drained with rare flooding and no ponding as identified in the soil survey. The available water capacity is low (about 6.0 inches). Runoff is slow and the hazard of erosion is slight.

Greenfield sandy loam, 2 to 8 percent slopes, eroded (GyC2)

This map unit consists of well drained soils with parent material consisting of alluvium derived from granite. These soils are found on alluvial fans and terraces with an elevation for this map unit at 100 to 3,500 feet. Mean annual precipitation is 9-20 inches. The mean annual air temperature is 63 degrees F with a frost-free period of 200 to 300 days. In a typical profile 0 to 26 inches is sandy loam and 26 to 43 inches is fine sandy loam. From 0 to 14 inches, the soil is brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) when moist, from 14 to 26 inches brown (10YR 5/3) sandy loam, dark grayish-brown (10YR 3/2) when

moist. The map unit composition has minor components of Hanford (3%), Pachappa (3%). Arlington (3%), Ramona (3%) and other unnamed soils (3%).

The depth to a restrictive feature is more than 80 inches and depth to water table more than 80 inches. This soil drainage class is well drained with no frequency of flooding or ponding as identified in the soil survey. The available water capacity is moderate (about 8.3 inches). Runoff is slow to medium and the hazard of erosion is slight to moderate.

Hanford coarse sandy loam, 8 to 15 percent slopes, eroded (HcC)

This map unit consists of well drained soils with parent material consisting of alluvium derived from granite. These soils are found on alluvial fans, with an elevation for this map unit at 150 to 900 feet. Mean annual precipitation is 9-20 inches. The mean annual air temperature is 63 to 64 degrees F with a frost-free period of 250 to 280 days. In a typical profile 0 to 18 inches is coarse sandy loam and 8 to 40 inches is fine sandy loam. From 0 to 8 inches, the soils are grayish-brown (10YR 5/2) coarse sandy loam, very dark grayish brown (10YR 3/2) when moist. The map unit composition has minor components of Greenfield (5%), Ramona (5%). Tujunga (2%) and other unnamed soils (3%).

The depth to a restrictive feature is more than 80 inches and depth to water table more than 80 inches. This soil drainage class is well drained with no flooding and no ponding as identified in the soil survey. The available water capacity is moderate (about 7.0 inches). Runoff is medium and the hazard of erosion is moderate. According to the Soil Survey, the project site has potential to have hydric soil characteristics (refer to Appendix C, *Documentation* and Exhibit 4, *Soils Map,* for more information).

3.6 HYDRIC SOILS LIST OF CALIFORNIA

RBF reviewed the Hydric Soils List of California, provided by the Natural Resources Conservation Service, in an effort to verify whether or not on-site soils are considered to be hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for on-site investigations. According to the soils list one (1) on-site soil is listed as hydric, Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes (GuB).

3.7 NATIONAL WETLANDS INVENTORY

RBF reviewed the U.S. Fish and Wildlife Service's National Wetland Inventory maps. The wetland inventory maps identify two wetland classifications on-site. The features noted below used the location for siting settlement ponds for water reclamation discharge during the 1980's. The holding ponds were eventually abandoned and the ponds re-graded to the existing elevation on-site; please refer to table below for more information.

7/2/2014 JN M:\Mdata\10108909\GIS\Paloma_Del_Sol_Soils.mxd

0 150 300 600 Feet

Source: Eagle Aerial -- 2013, NRCS Soils

PASEO DEL SOL

Soils Map

Exhibit 4

TABLE 2. On-Site Waters Classification

Wetland Classification Code	System	Class	Modifier	Description
PUBHx	Palustrine	Unconsolidated Bottom	• Permanently Flooded • Excavated	Water covers the land surface throughout the year in all years. Lies within a basin or channel that have been dug, gouged, blasted or suctioned through artificial means by man.
PEMFx	Palustrine	Emergent	• Semipermanently Flooded • Excavated	Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface. Lies within a basin or channel that have been dug, gouged, blasted or suctioned through artificial means by man.

3.8 FLOOD ZONE

RBF searched the Federal Emergency Management Agency website for flood data for the project site. Based on the Flood Insurance Rate Map No. 06065C3305G the project site is located in Zone X (Other Flood Areas) which is described as areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1% annual chance flood.

Section 4 Site Conditions

RBF Professional Wetland Scientists' Chris Johnson and Richard Beck visited the project site from approximately 11:00 a.m. to 3:00 p.m. on August 20, 2012 to verify existing conditions and document potential jurisdictional areas. The temperature during the site visit was 90 degrees Fahrenheit with light and variable winds. RBF encountered no limitations during the site visit. Refer to Exhibits 5, *On-Site Photographs*, for representative photographs taken throughout the project site.

4.1 NON-WETLAND FEATURES

4.1.1 Temporary Detention/Sedimentation Basin

Approximately 0.10-acre of non-wetland waters was observed within the temporary sediment basin located at the southwestern corner of the property. The basin is located at the terminus of the manmade channel, which was constructed as an interim means of conveying both on-site storm flows and flows from the approved development to the north across the site during the rough graded condition. The basin consisted of open water, ranging in depth from 2" – 16".

4.2 WETLAND FEATURES

4.1.2 Wetland A

Wetland A extends along the entire margin of the low-flow earthen channel for approximately 1,350 linear feet. The wetland traverses the site from north to southwest along the margin of the earthen channel and fringes of the temporary detention/sedimentation basin.

Emergent wetland vegetation which consisted of Broadleaf Cattail (*Typha latifolia*) has become established along the margin of both the low-flow channel as well as on the fringe of the detention/sedimentation basin. Certain locations along the low-flow channel contained a few dense stands of Narrow Leaf Willow (*Salix exigua).* Non-native species such as White Sweetclover (*Melilotus albus)* and Spanish False Fleabane (*Pulicaria paludosa)* were observed along the entire margin of the low-flow channel. Surface water was present within the channel during the site visit as well as in the basin. The basin was characterized by significant algal growth due to accumulated high levels of organic material and nutrient-loading from upstream development. A total of 0.61-acre of state jurisdictional wetlands is located on-site.

View looking west noting emergent vegetation within the on-site drainage.

View looking south noting on-site drainage and previously constructed slopes.

View looking southeast across the project site noting typical site conditions.

View looking east at the lower basin and box culvert outlet under Temecula Parkway.

Section 5 Findings

This delineation has been prepared for Newland Communities in order to delineate the Corps, Regional Board, and CDFW jurisdictional authority within the project site. This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries within a project site/property.

5.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

5.1.1 Non-Wetland/Waters Determination

The 0.10- acre detention/sediment basin located in the southwest corner of the site would be considered Corps jurisdiction. The basin was constructed as an approved temporary BMP under the previous Corps approval (File No. 97-00275-SDM) as illustrated in Corps permit, Exhibit 3, *Site Plan (*See Appendix E*)*. The previous permit had identified the approximate location of a temporary detention/sedimentation basin in the southwest corner of the subject property intended to control the runoff of sediment until the future project was constructed. Please refer to Appendix E for a copy of the approved permit. The basin is an in-line feature with a significant nexus established by a hydrologic connection to downstream waters of the U.S. (i.e. Temecula Creek). The Corps has taken the position that the feature would be considered jurisdictional.

5.1.2 Wetland Determination

An area must exhibit all three wetland parameters described in the Corps Regional Supplement to be considered a jurisdictional wetland. Based on the results of the site visit, it was determined that portions of the project site contained all three parameters.

Wetland A, constructed in the uplands, is situated in a narrow margin along the entire length of the earthen channel and fringe of the sediment basin. The areas exhibited the required parameters to qualify as a wetland. The predominant wetland plant species comprising the wetland was Broad-leaf Cattail (*Typha latifolia)*.

The Wetland A trench originates from a box culvert at the northern project boundary of De Portola Road and trends southwest across the site to the detention/sedimentation basin and ultimately exits the project site through a box culvert under Temecula Parkway. The on-site drainage is currently operating as a temporary BMP and conveys flows to the on-site basin. Once through the basin, the flows enter a culvert under Temecula Parkway and discharge into the Temecula Creek. The Corps has also taken the position that this feature having developed the characteristics of a wetland would be considered a Corps jurisdictional wetland. Based on these findings from the Corps, a total of approximately 0.71-acre of

Corps jurisdiction is located on-site. Of the 0.71-acre of jurisdiction, 0.10-acre is surface waters and 0.61-acre is wetland.

5.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

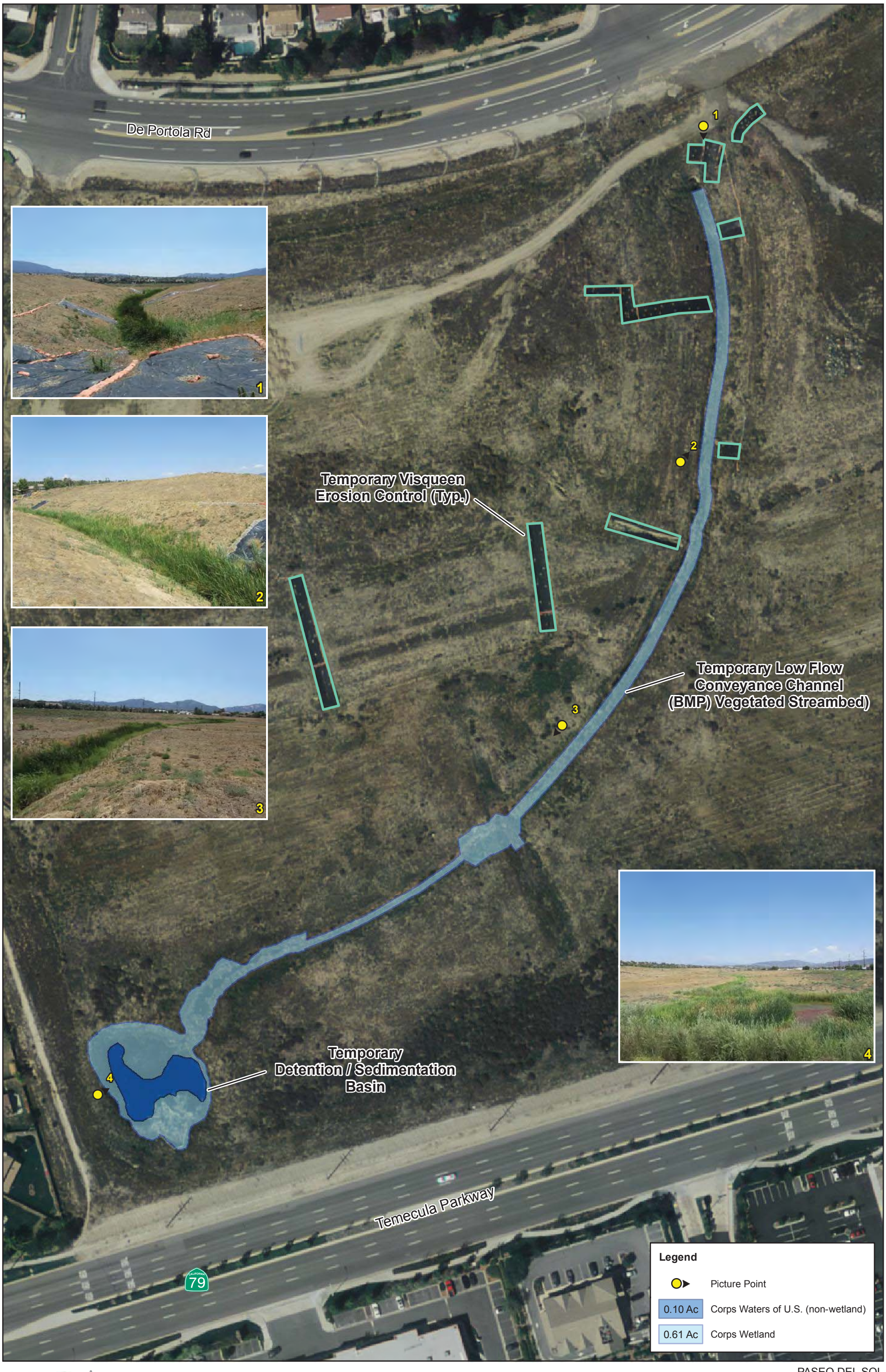
The on-site wetlands and surface waters would be considered jurisdictional by the Regional Board. The Regional Board would assume jurisdictional authority over the temporary detention/sedimentation basin located within the project site as well. Based on the results of the field investigation, approximately 0.71-acre of Regional Board jurisdiction is located on-site. Of the 0.71-acre of jurisdiction, 0.10-acre is surface waters and 0.61-acre is wetland.

5.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

The on-site earthen channel and detention/sedimentation basin exhibited characteristics consistent with methodology identified in CDFW's Field Guide to Lake and Streambed Alteration and would be considered CDFW jurisdiction. Based on the results of the field investigation, approximately 0.79-acre of CDFW jurisdiction is located on-site. Of the 0.79-acre of jurisdiction, 0.10-acre is unvegetated streambed and 0.69-acre is associated riparian vegetation.

TABLE 3. Summary of Jurisdictional Areas

	Corps (acres)	Regional Board (acres)	CDFW (acres)	
Jurisdictional Feature	Jurisdictional On-Site Acreage	Surface Waters	Vegetated Streambed	Unvegetated Streambed
Temporary Detention/Sedimentation Basin	0.10	0.10	-	0.10
Wetland A	0.61	0.61	0.69	-
Total	**0.71**	**0.71**	**0.69**	**0.10**



7/3/2014 JN M:\Mdata\10108909\GIS\Paseo_Del_Sol_Corps_Regional_Board_11x17.mxd

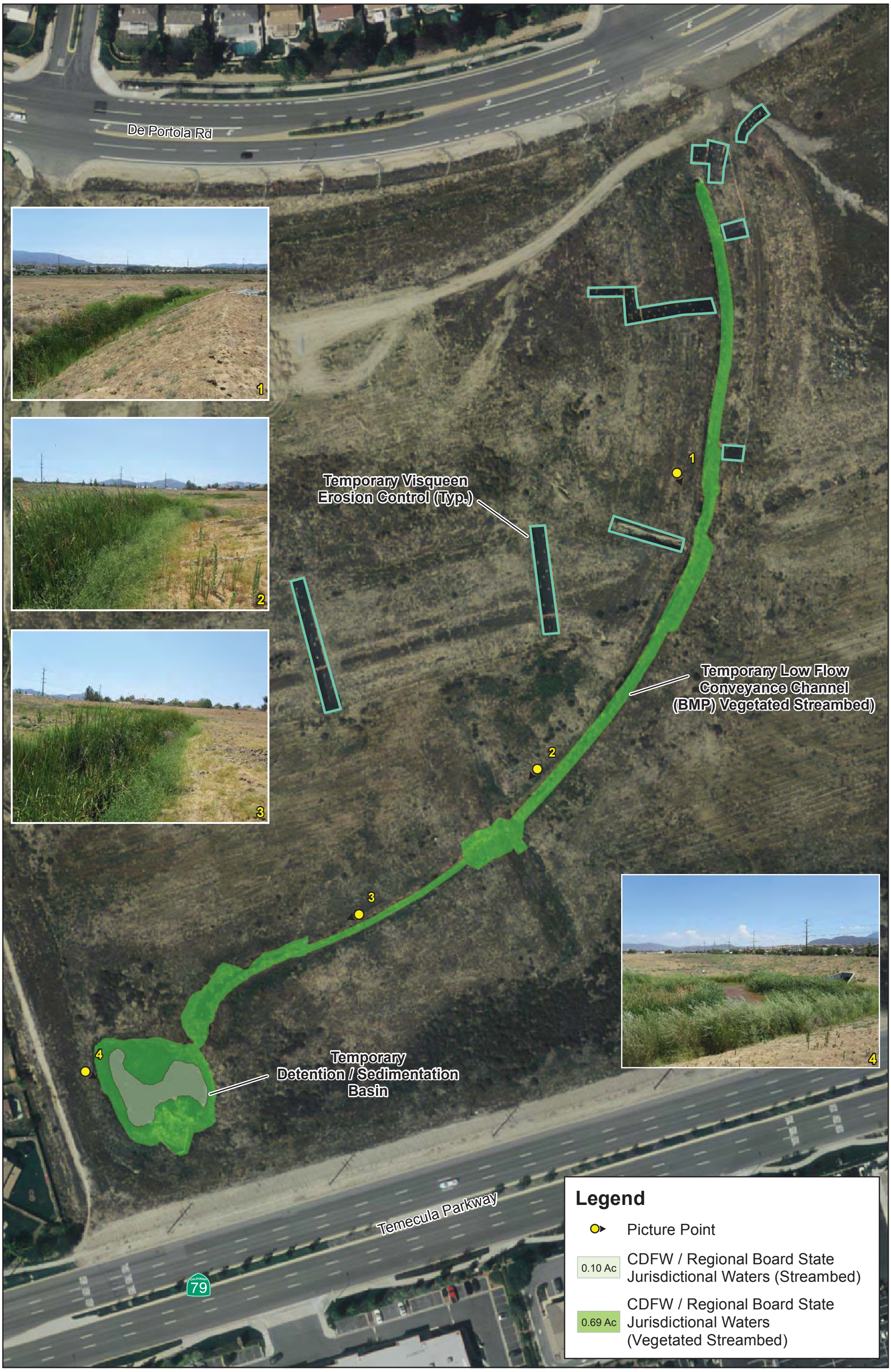
0 50 100 200 Feet

Source: Eagle Aerial 2011

PASEO DEL SOL

Corps/Regional Board Jurisdictional Map

Exhibit 6a



7/2/2014 JN M:\Mdata\10108909\GIS\Paloma_Del_Sol_CDFW_Regional_Board_11x17.mxd

0 50 100 200 Feet

Source: Eagle Aerial 2011

PASEO DEL SOL EAST

CDFW/Regional Board Jurisdictional Map

Exhibit 6b

Section 6 Regulatory Approval Process

The following is a summary of the various permits, agreements, and certifications required before construction activities take place within the jurisdictional areas.

6.1 U.S. ARMY CORPS OF ENGINEERS

The Corps regulates discharges of dredged or fill materials into WoUS and wetlands pursuant to Section 404 of the CWA. The proposed project is subject to a Standard Individual Permit (SIP) with the Corps of Engineers pursuant to Regional Condition No.6 of Los Angeles District. The Regional Condition states that projects within Murrieta and Temecula Creek Watersheds which propose new permanent fills in perennial and intermittent watercourses in excess of the established thresholds shall be subject to an SIP process. An Alternatives Analysis will be completed as required under Section 404(b)(1) based on engineering/planning alternatives discussed within the current project environmental document. RBF assumes up to three (3) alternatives will be evaluated in detail as part of the Alternatives Analysis. The 404(b)(1) Alternatives Analysis is required to identify possible alternatives that could avoid, minimize, or mitigate for impacts caused by the proposed action while still accomplishing the objectives of the project. The SIP process also involves public noticing, anticipated to be 30 days.

6.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. A CWA 401 Water Quality Certification from the San Diego Regional Board will be required prior to construction activities. The Regional Board also requires that CEQA compliance be obtained prior to obtaining the 401 Certification.

Once an application has been deemed complete, the Regional Board has between 60 days and 1 year in which to make a decision. The State has 60 days from the date of receipt of a valid request for water quality standards certification.[6] The Corps district engineer may specify a longer (up to one year) or shorter time, if he or she determines that a longer or shorter time is reasonable. If processing and review of the 401 application will take more than 60 days, the Regional Board will request additional time from the Corps. Please note that even when an application has been deemed complete, the Regional Board has the option of denial without prejudice. This is not a reflection on the project, but a means to stop the clock until the required information has been received.

[6] (33 CFR Section 325.2 (b) (1) (ii)).

The Regional Board is required to have a minimum 21-day public comment period before any action is taken on a 401 application.[7] The period closes when the Regional Board acts on the 401 application. The public comment period does not close after a certain number of days because proposed projects tend to change through the 401 process and the public is allowed to review and comment on the changed project. The public comment period starts as soon as an application has been received. Additionally, the Regional Board requires that water quality concerns related to urban storm water runoff be addressed. Any 401 Certification application submitted to the Regional Board should incorporate the use of Best Management Practices (BMPs) for the treatment of pollutants carried by storm water runoff in order to be considered a complete application. The Regional Board also requires a 401 Certification Application Fee, which is dependent on the amount and type of impacts.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The on-site temporary basin and vegetated streambed would be considered jurisdictional by the CDFW; therefore, the CDFW must be notified prior to activities that significantly alter jurisdictional areas. Upon a formal notification, the CDFW will determine whether the notification package (application) is complete. The CDFW will make this determination within 30 calendar days of receiving the notification package if the application is for a regular agreement (i.e., an agreement for a term of five years or less); however, the 30-day time period does not apply to notifications for long-term agreements (i.e., agreements for a term greater than five years). Once the notification package is deemed complete, CDFW will process a Draft Agreement as described below.

If a SAA is required, the CDFW may require an on-site inspection and a draft agreement. The draft agreement will include measures to protect fish and wildlife resources while conducting the project. For regular agreements, the CDFW will submit a draft agreement to the applicant within 60 calendar days after the notification is deemed complete. The 60-day time period does not apply to notifications for long-term agreements, since these are often large or complex projects.

The applicant then has 30 calendar days to notify CDFW whether the measures in the draft agreement are acceptable. After CDFW receives the signed draft agreement, it will make it final by signing it. The CDFW Application fee associated with the notification package varies and is dependent upon the total cost of the project and type of agreement (i.e., Regular or Long-Term).

[7] 23 California Code of Regulations (CCR) § 3858 (a)

6.4 GLOBAL RECOMMENDATIONS

It is highly recommended that the delineation be forwarded to each of the regulatory agencies for their concurrence. The concurrence/receipt would be valid up to five years and would solidify findings noted within this report.

Section 7 References

The following resources were utilized during preparation of this Delineation of State and Federal Jurisdictional Waters:

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U.S. Army Corps of Engineers, *Los Angeles District Regulatory Program.* (http://www.spl.usace.army.mil/)

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U.S. Fish and Wildlife Service, Department of Habitat and Resource Conservation, *Wetland Geodatabase*. (http://wetlandsfws.er.usgs.gov/NWI/index.html)

U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, *Flood Insurance Rate No.* 06065C3305G, accessed April 2013

U.S. Fish and Wildlife Service, *National List of Vascular Plant Species that Occur in Wetlands*, 1988

U.S. Geological Survey, 7.5 Minute Series Topographic Quadrangle, *Pechanga, California*, 1968, Photorevised 1988

Appendix A Regulations

U.S. Army Corps of Engineers

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of "waters of the U.S.", including wetlands, pursuant to Section 404 of the CWA. The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States (WoUS) under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The term WoUS is defined as follows:[8]

(1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) all interstate waters including interstate wetlands;

(3) all waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;

(4) all impoundments of waters otherwise defined as WoUS under the definition;

(5) tributaries of waters identified in paragraphs (1)-(4) mentioned above;

(6) the territorial seas; and,

(7) wetlands adjacent to the waters identified in paragraphs (1)-(6) mentioned above.

Wetlands, a subset of jurisdictional waters, are jointly defined by the Corps and EPA as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of*

[8] CWA regulations 33 CFR §328.3(a).

vegetation typically adapted for life in saturated soil conditions."[9] Wetlands generally include swamps, marshes, bogs, and similar areas.

The Corps' regulatory program continues to evolve due to court rulings associated with litigation. Sections 2.1.1 and 2.1.2, below, briefly discuss court cases that have impacted the Corps' jurisdiction over the past decade. The Corps does not regulate isolated waters and wetlands with no interstate or foreign commerce connection.[10]

The Corps will assert jurisdiction over traditional navigable waters (TNWs) and all wetlands adjacent to TNWs, as well as non-navigable tributaries of TNWs that are relatively permanent waters (RPW) (i.e., the tributaries typically flow year-round or have a continuous flow at least seasonally) and wetlands with a continuous surface connection that directly abut such tributaries; however, the agencies will evaluate jurisdiction over the following features based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:[11]

- Non-navigable tributaries that are not relatively permanent (do not flow typically year-round or have a continuous flow at least seasonally);
- Wetlands adjacent to such tributaries; and,
- Wetlands adjacent to, but that do not directly abut, a relatively permanent non-navigable tributary.

A case-by-case "significant nexus" analysis is conducted to determine whether the waters noted above and their adjacent wetlands are jurisdictional. A "significant nexus" may be found where waters, including adjacent wetlands, affect the chemical, physical, or biological integrity of downstream TNWs. The significant nexus analysis also includes consideration of hydrologic and ecologic factors relative to TNWs.

REGIONAL WATER QUALITY CONTROL BOARD

Applicants for a federal license or permit for activities which may discharge to waters of the United States must seek Water Quality Certification from the state or Indian tribe with jurisdiction. [12] Such Certification is based on a finding that the discharge will meet water quality standards and other applicable requirements. In California, Regional Boards issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which are defined as numeric and narrative objectives in each Regional

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9 CWA regulations 33 CFR §328.3(b).
10 *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers* (SWANCC)
11 *Rapanos v. United States* 547 U.S. 715 (2006) (Rapanos)
12 Title 33, United States Code, Section 1341; Clean Water Act Section.

Board's Basin Plan. Where applicable, the State Water Resources Control Board has this responsibility for projects affecting waters within multiple Regional Boards. The Regional Board's jurisdiction extends to all waters of the State (includes SWANCC and Rapanos conditions) and to all WoUS, including wetlands.

Additionally, the California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

California Fish and Game Code Sections 1600-1616 establish a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;

(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or

(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. The Fish and Wildlife's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and

watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Any of the below criteria could be applicable in determining what constitutes a stream depending on the potential for the proposed activity to adversely affect fish and other stream-dependent wildlife resources.

(1) The term “stream” can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams based on United States Geological Survey (USGS) maps, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

(2) Biological components of a stream may include aquatic and riparian vegetation, along with all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system.

(3) As a physical system, a stream not only includes water (at least on an intermittent or ephemeral basis), but also a bed or channel, a bank and/or levee, in-stream features such as logs or snags, and various flood plains depending on the return frequency of the flood event being considered (i.e., 10, 50, or 100 years, etc.).

(4) The lateral extent of a stream can be measured in several ways depending on a particular situation and the type of fish or wildlife resource at risk. The following criteria are presented in order from the most inclusive to the least inclusive:

    (a) The flood plain of a stream can be the broadest measurement of a stream’s lateral extent depending on the return frequency of the flood event used. For most flood control purposes, the 100-year flood plain exists for many streams. However, the 100-year flood plain may include significant amounts of upland or urban habitat and therefore may not be appropriate in many cases.

    (b) The outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats and is therefore a reasonable and identifiable boundary for the lateral extent of a stream. In most cases, the use of this criterion should result in protecting the fish and wildlife resources at risk.

    (c) Most streams have a natural bank which confines flows to the bed or channel except during flooding. In some instances, particularly on smaller streams or dry washes with little or no riparian habitat, the bank should be used to mark the lateral extent of a stream.

(d) A levee or other artificial stream bank would also be used to mark the lateral extent of a stream. However, in many instances, there can be extensive areas of valuable riparian habitat located behind a levee.

Appendix B Methodology

WATERS OF THE U.S. AND STATE WATERS

The limits of the Corps' jurisdiction in non-tidal waters extend to the OHWM, which is defined as " . . . *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 areas.*"[13] An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community. The Regional Board shares the Corps' jurisdictional methodology, unless SWANCC or Rapanos conditions are present. In the latter case, the Regional Board considers such drainages to be jurisdictional waters of the State. The CDFW's jurisdiction extends to the top of bank of the stream/channel or to the limit (outer dripline) of the adjacent riparian vegetation.

WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps, 2008). This document is one of a series of Regional Supplements to the 1987 Corps Wetland Delineation Manual (Corps Manual). According to the Corps Manual, identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology have been examined using the methodology listed below and documented on Corps' wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps. Refer to Appendix B, Methodologies, for a complete discussion on protocol for documenting the vegetation, hydrology and soil parameters.

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation

[13] CWA regulations 33 CFR §328.3(e).

during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- *Tree Stratum:* Consists of woody plants 3 inches or more in diameter at breast height (DBH);
- *Sapling/shrub stratum:* Consists of woody plants less than 3 inches in DBH, regardless of height;
- *Herb stratum:* Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,
- *Woody vines:* Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below.[14] Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using *The List of Plant Species that Occur in Wetlands* (USFWS, 1988). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- *Obligate Wetland (OBL):* Plants that occur almost always (estimated >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated <1 percent) in non-wetlands (e.g., *Spartina alterniflora, Taxodium distichum*);

[14] Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.

- *Facultative Wetland (FACW):* Plants that occur usually (estimated >67 to 99 percent) in wetlands, but also occur (estimated 1 to 33 percent) in non-wetlands (e.g., *Fraxinus pennsylvanica, Cornus stolonifera*);

- *Facultative (FAC):* Plants with similar likelihood (estimated 33 to 67 percent) of occurring in both wetlands and non-wetlands (e.g., Gleditsia triacanthos, Smilax rotundifolia);

- *Facultative Upland (FACU):* Plants that occur sometimes (estimated 1 to <33 percent) in wetlands, but occur more often (estimated >67 to 99 percent) in non-wetlands (e.g., *Quercus rubra, Potentilla arguta*); and,

- *Obligate Upland (UPL):* Plants that occur rarely (estimated 1 percent) in wetlands, but occur almost always (estimated >99 percent) in non-wetlands under natural conditions (e.g., *Pinus echinata, Bromus mollis*).

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

Group A – Observation of Surface Water or Saturated Soils

Group A is based on the direct observation of surface water or groundwater during the site visit.

Group B – Evidence of Recent Inundation

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

Group C – Evidence of Recent Soil Saturation

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizopheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20 inches.[15] The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

<u>All Soils</u>

"All soils" refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

<u>Sandy Soils</u>

[15] According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.

“Sandy soils” refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

Loamy and Clayey Soils

“Loamy and clayey soils” refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

SWANCC WATERS

The term “isolated waters” is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3-parameter wetland methodology utilized by the Corps.

RAPANOS WATERS

The Corps will assert jurisdiction over non-navigable, not relatively permanent tributaries and their adjacent wetlands where such tributaries and wetlands have a significant nexus to a TNW. The flow characteristics and functions of the tributary itself, in combination with the functions performed by any wetlands adjacent to the tributary, determine if these waters/wetlands significantly affect the chemical, physical, and biological integrity of the TNWs. Factors considered in the significant nexus evaluation include:

(1) The consideration of hydrologic factors including, but not limited to, the following:

- volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary
- proximity to the TNW
- size of the watershed average annual rainfall
- average annual winter snow pack

(2) The consideration of ecologic factors including, but not limited to, the following:

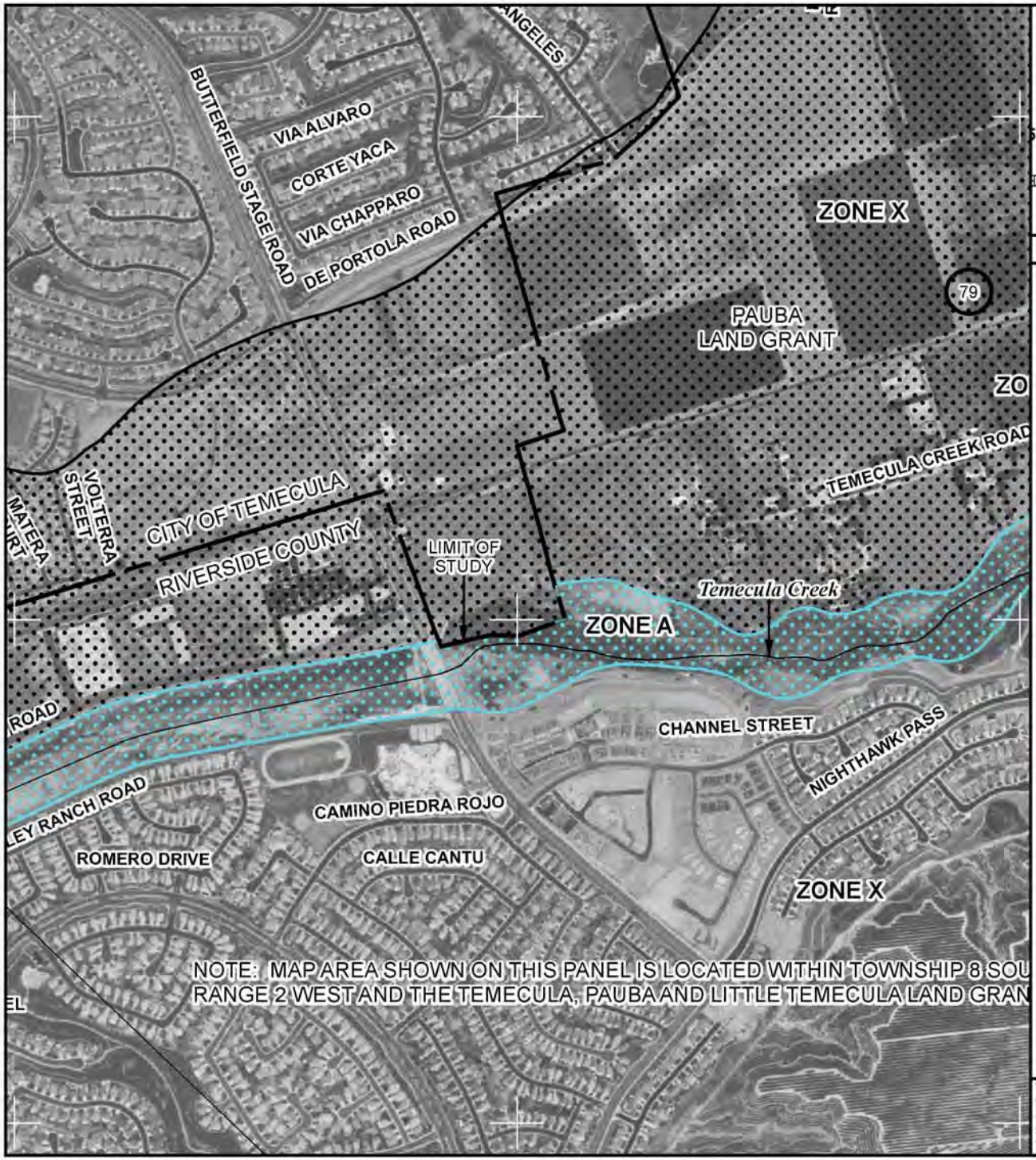
- the ability for tributaries to carry pollutants and flood waters to TNWs
- the ability of a tributary to provide aquatic habitat that supports a TNW
- the ability of wetlands to trap and filter pollutants or store flood waters
- maintenance of water quality

Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) and ditches (including roadside ditches) excavated wholly

in, and draining only, uplands and that do not carry a relatively permanent flow of water, are generally not considered jurisdictional waters.

In the presence of Rapanos drainage conditions, the Regional Board and CDFW take jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the Corps.

Appendix C Documentation



MAP SCALE 1" = 1000'

500 0 1000 2000

FEET

METER

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 3305G

FIRM

FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 3305 OF 3805
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
RIVERSIDE COUNTY	060245	3305	G
TEMECULA, CITY OF	060742	3305	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06065C3305G

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

U.S. Fish and Wildlife Service
National Wetlands Inventory

Paloma Del Sol East

Apr 10, 2013

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

- Digital Data

User Remarks:

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

Paloma Del Sol East

April 10, 2013

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Paloma Del Sol East)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:4,370 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 11N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 5, Jan 3, 2008

Date(s) aerial images were photographed: 6/7/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Paloma Del Sol East)

Western Riverside Area, California (CA679)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Cf	Chino silt loam, drained, saline-alkali	1.5	3.6%
GpB	Grangeville sandy loam, drained, saline-alkali, 0 to 5 percent slopes	8.4	20.1%
GtA	Grangeville fine sandy loam, drained, 0 to 2 percent sl opes	13.5	32.1%
GuB	Grangeville fine sandy loam, poorly drained, saline-alk ali, 0 to 5 percent slopes	8.8	21.0%
GvB	Grangeville fine sandy loam, saline-alkali, 0 to 5 perc ent slopes	7.3	17.5%
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	1.2	2.7%
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	0.8	2.0%
HcD2	Hanford coarse sandy loam, 8 to 15 percent slopes, erod ed	0.0	0.1%
RuF	Rough broken land	0.3	0.8%
Totals for Area of Interest		**42.0**	**100.0%**

Map Unit Descriptions (Paloma Del Sol East)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified

by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

Cf—Chino silt loam, drained, saline-alkali

Map Unit Setting

Elevation: 3,100 feet
Mean annual precipitation: 8 to 20 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 230 to 340 days

Map Unit Composition

Chino and similar soils: 85 percent
Minor components: 15 percent

Description of Chino

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Moderately saline (16.0 mmhos/cm)
Available water capacity: Low (about 4.2 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 4w
Hydrologic Soil Group: B
Ecological site: SILTY BASIN (R019XD068CA)

Typical profile

0 to 14 inches: Silt loam
14 to 27 inches: Silty clay loam
27 to 60 inches: Silty clay loam

Minor Components

Chino

Percent of map unit: 5 percent

Unnamed

Percent of map unit: 5 percent

Unnamed
Percent of map unit: 3 percent

Unnamed
Percent of map unit: 2 percent

GpB—Grangeville sandy loam, drained, saline-alkali, 0 to 5 percent slopes

Map Unit Setting
Elevation: 10 to 1,800 feet
Mean annual precipitation: 8 to 16 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 270 days

Map Unit Composition
Grangeville and similar soils: 85 percent
Minor components: 15 percent

Description of Grangeville

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to slightly saline (4.0 to 8.0 mmhos/cm)
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups
Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3s
Land capability (nonirrigated): 3w
Hydrologic Soil Group: B
Ecological site: SANDY BASIN (R019XD070CA)

Typical profile
0 to 17 inches: Sandy loam
17 to 60 inches: Sandy loam

Minor Components

Dello
Percent of map unit: 10 percent

Traver
Percent of map unit: 5 percent

GtA—Grangeville fine sandy loam, drained, 0 to 2 percent sl opes

Map Unit Setting
Elevation: 10 to 1,800 feet
Mean annual precipitation: 12 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 270 days

Map Unit Composition
Grangeville and similar soils: 85 percent
Minor components: 15 percent

Description of Grangeville

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.0 inches)

Interpretive groups
Farmland classification: Prime farmland if irrigated and drained
Land capability classification (irrigated): 1
Land capability (nonirrigated): 3c
Hydrologic Soil Group: B
Ecological site: SANDY BASIN (R019XD070CA)

Typical profile
0 to 36 inches: Fine sandy loam
36 to 64 inches: Sandy loam

Minor Components

Dello
Percent of map unit: 10 percent

Traver
Percent of map unit: 4 percent

Unnamed
Percent of map unit: 1 percent

GuB—Grangeville fine sandy loam, poorly drained, saline-alk ali, 0 to 5 percent slopes

Map Unit Setting
Elevation: 10 to 1,800 feet
Mean annual precipitation: 8 to 16 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 270 days

Map Unit Composition
Grangeville and similar soils: 85 percent
Minor components: 15 percent

Description of Grangeville

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm)
Available water capacity: Low (about 6.0 inches)

Interpretive groups
Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 4w
Land capability (nonirrigated): 4w
Hydrologic Soil Group: B

Ecological site: SANDY BASIN (R019XD070CA)

Typical profile

0 to 17 inches: Fine sandy loam
17 to 60 inches: Sandy loam

Minor Components

Dello

Percent of map unit: 5 percent

Traver

Percent of map unit: 5 percent

Unnamed

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 2 percent
Landform: Depressions

GvB—Grangeville fine sandy loam, saline-alkali, 0 to 5 perc ent slopes

Map Unit Setting

Elevation: 10 to 1,800 feet
Mean annual precipitation: 8 to 16 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 270 days

Map Unit Composition

Grangeville and similar soils: 85 percent
Minor components: 15 percent

Description of Grangeville

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent

Maximum salinity: Very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm)
Available water capacity: Low (about 6.0 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3w
Land capability (nonirrigated): 4w
Hydrologic Soil Group: B
Ecological site: SANDY BASIN (R019XD070CA)

Typical profile

0 to 17 inches: Fine sandy loam
17 to 60 inches: Sandy loam

Minor Components

Dello

Percent of map unit: 10 percent

Traver

Percent of map unit: 5 percent

GyC2—Greenfield sandy loam, 2 to 8 percent slopes, eroded

Map Unit Setting

Elevation: 100 to 3,500 feet
Mean annual precipitation: 9 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 300 days

Map Unit Composition

Greenfield and similar soils: 85 percent
Minor components: 15 percent

Description of Greenfield

Setting

Landform: Alluvial fans, terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 2e
Land capability (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: LOAMY (R019XD029CA)

Typical profile

0 to 26 inches: Sandy loam
26 to 43 inches: Fine sandy loam
43 to 60 inches: Loam
60 to 72 inches: Stratified loamy sand to sandy loam

Minor Components

Hanford

Percent of map unit: 3 percent

Pachappa

Percent of map unit: 3 percent

Arlington

Percent of map unit: 3 percent

Ramona

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 3 percent

HcC—Hanford coarse sandy loam, 2 to 8 percent slopes

Map Unit Setting

Elevation: 150 to 900 feet
Mean annual precipitation: 9 to 20 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 280 days

Map Unit Composition

Hanford and similar soils: 85 percent
Minor components: 15 percent

Description of Hanford

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.0 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 2e
Land capability (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: SANDY (R020XD012CA)

Typical profile

0 to 8 inches: Coarse sandy loam
8 to 40 inches: Fine sandy loam
40 to 60 inches: Stratified loamy sand to coarse sandy loam

Minor Components

Greenfield

Percent of map unit: 5 percent

Ramona

Percent of map unit: 5 percent

Tujunga

Percent of map unit: 2 percent

Unnamed

Percent of map unit: 2 percent

Unnamed

Percent of map unit: 1 percent

HcD2—Hanford coarse sandy loam, 8 to 15 percent slopes, erod ed

Map Unit Setting

Elevation: 150 to 900 feet
Mean annual precipitation: 9 to 20 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 250 to 280 days

Map Unit Composition

Hanford and similar soils: 85 percent
Minor components: 15 percent

Description of Hanford

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.0 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3e
Land capability (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: SANDY (R020XD012CA)

Typical profile

0 to 8 inches: Coarse sandy loam
8 to 40 inches: Fine sandy loam
40 to 60 inches: Stratified loamy sand to coarse sandy loam

Minor Components

Tujunga

Percent of map unit: 5 percent

Greenfield

Percent of map unit: 5 percent

Ramona

Percent of map unit: 5 percent

RuF—Rough broken land

Map Unit Setting

Landscape: Uplands

Map Unit Composition

Rough broken land: 100 percent

Description of Rough Broken Land

Setting

Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum derived from mixed sources

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 0 to 3 inches to paralithic bedrock

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 8

Typical profile

0 to 60 inches: Unweathered bedrock

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Appendix D Historic Aerial Photographs

Temecula Property
NA
Temecula, CA 92592

Inquiry Number: 3525112.1
February 21, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography February 21, 2013

Target Property:

NA

Temecula, CA 92592

Year	Scale	Details	Source
1938	Aerial Photograph. Scale: 1"=500'	Flight Year: 1938	Laval
1946	Aerial Photograph. Scale: 1"=500'	Flight Year: 1946	Jack Ammann
1953	Aerial Photograph. Scale: 1"=500'	Flight Year: 1953	Pacific Air
1967	Aerial Photograph. Scale: 1"=500'	Flight Year: 1967	Western
1976	Aerial Photograph. Scale: 1"=500'	Flight Year: 1976	AMI
1990	Aerial Photograph. Scale: 1"=500'	Flight Year: 1990	USGS
1995	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1995	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR


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= 500'
N


INQUIRY #: 3525112.1
YEAR: 1946
= 500'
N

INQUIRY #: 3525112.1

YEAR: 1953

= 500'

N

INQUIRY #: 3525112.1

YEAR: 1967

= 500'

N


INQUIRY #: 3525112.1
YEAR: 1976
= 500'
N


INQUIRY #: 3525112.1
YEAR: 1990
= 500'
N


INQUIRY #: 3525112.1
YEAR: 1995
= 500'
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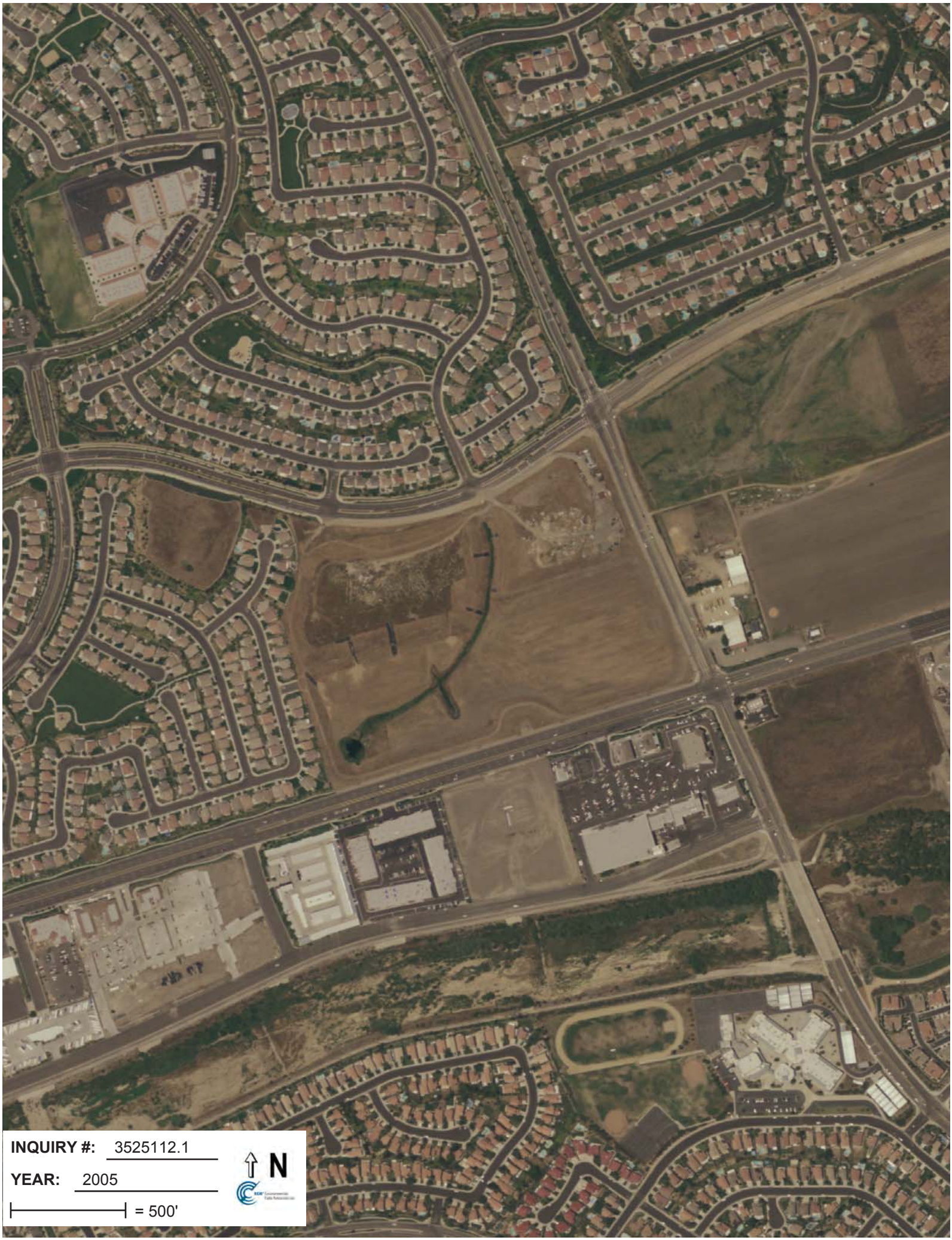
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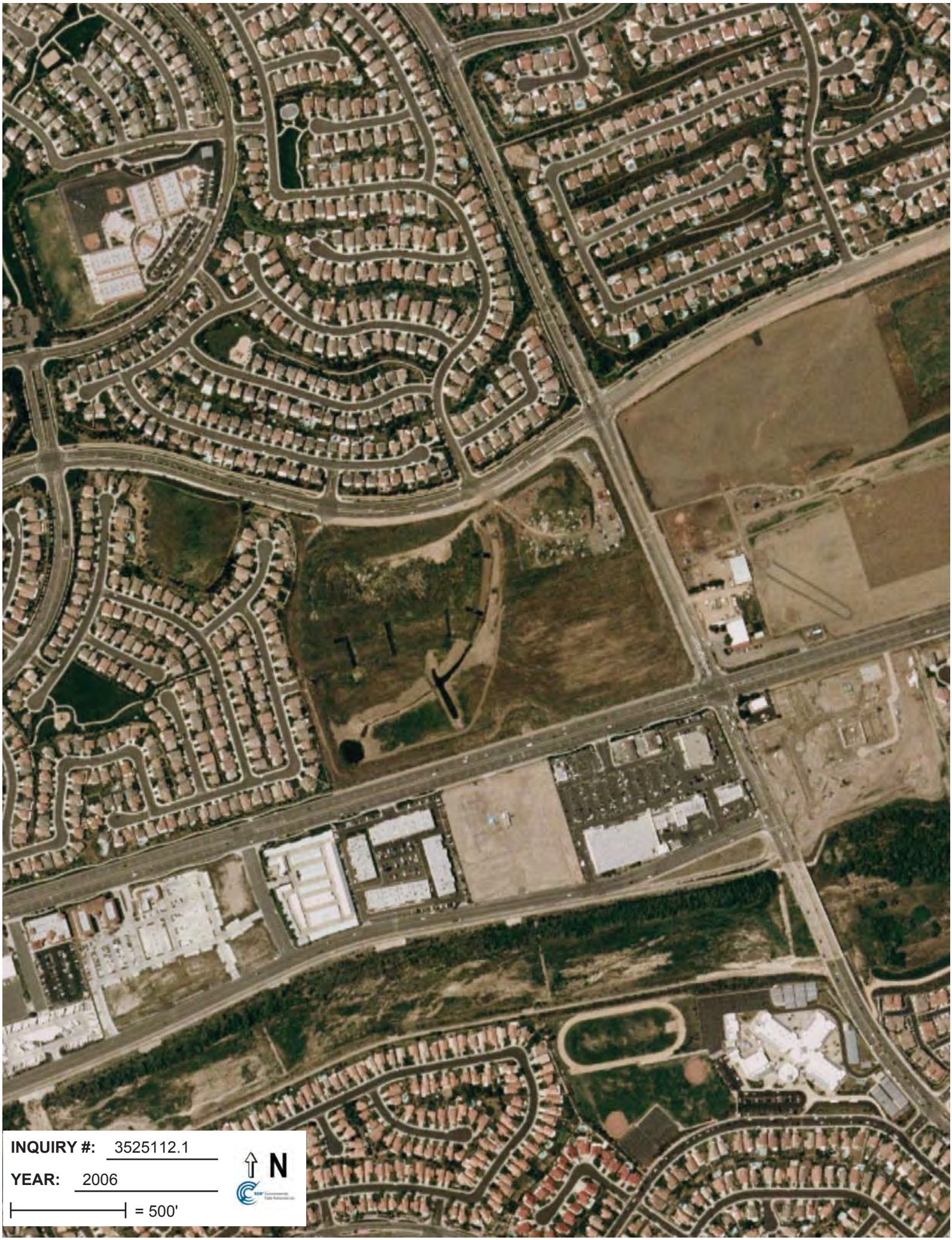
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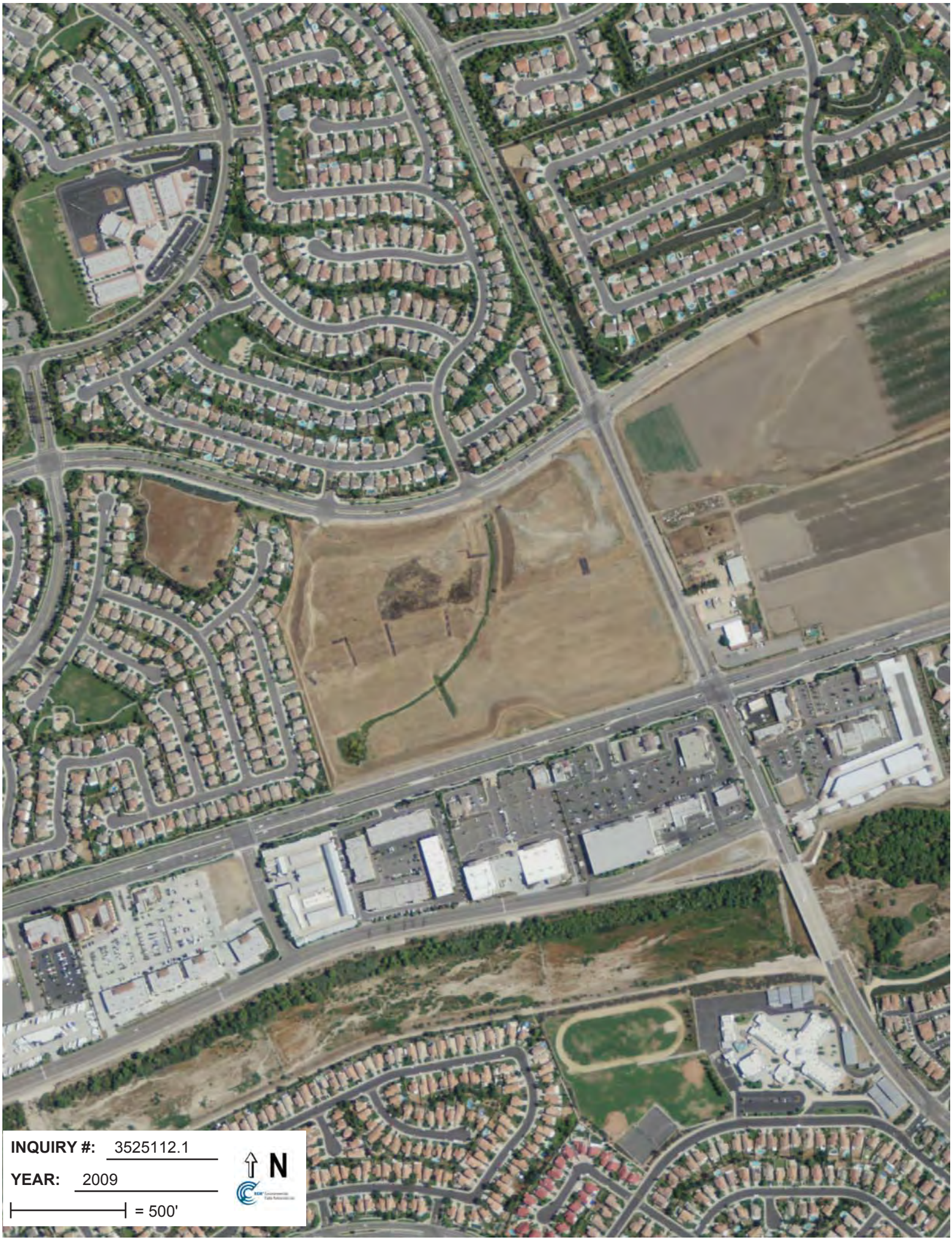
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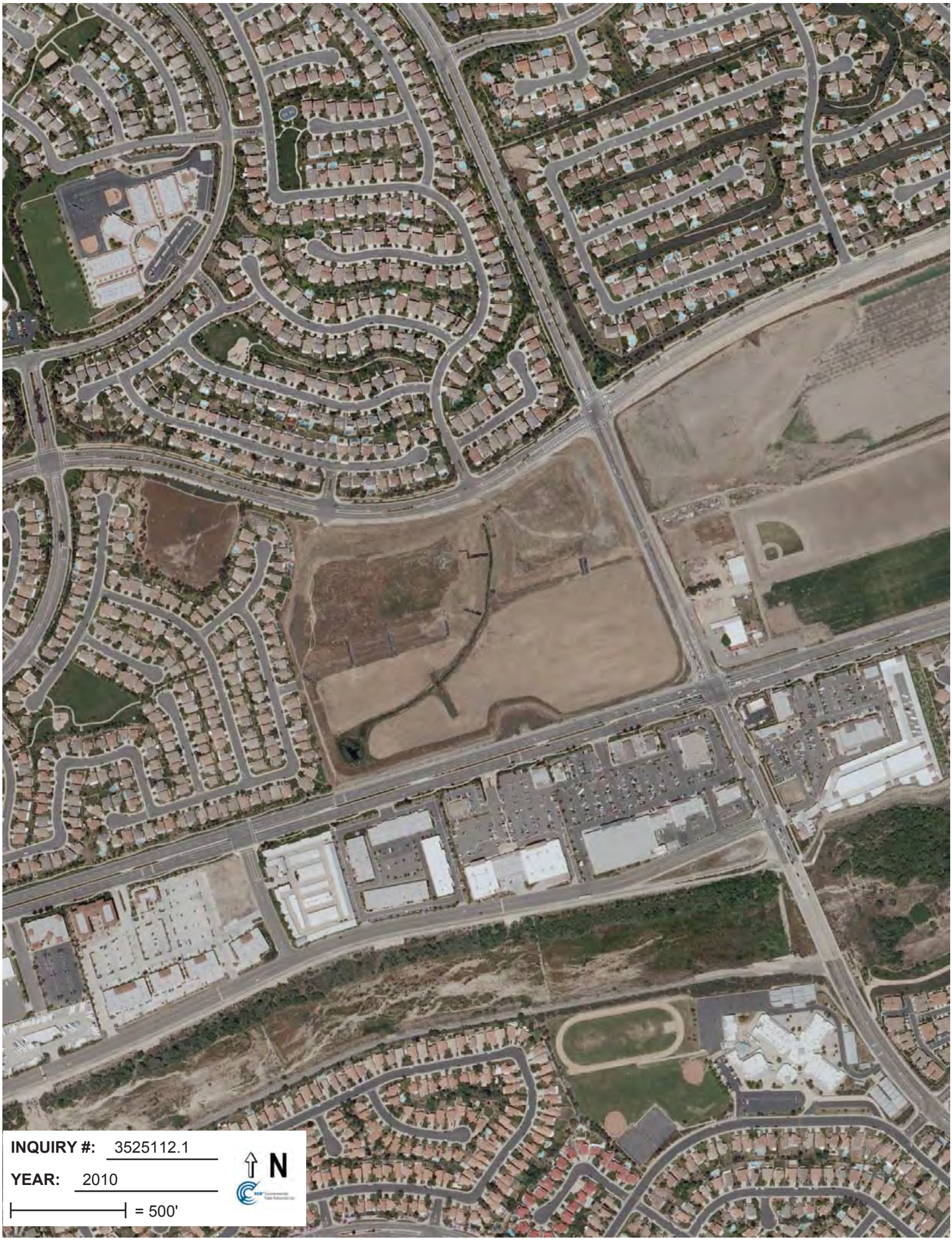
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Appendix E Previously Approved Corps Permit (File No. 97-00275-SCM)

LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY PERMIT

Permittee: Newland Associates, Inc.

Permit Number: 97-00275-SDM

Issuing Office: Los Angeles District

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To complete the filling of 4.9 acres of waters of the United States including wetlands for the Paseo Del Sol residential development, as shown on the attached drawings.

Project Location: In and around several unnammed tributaries to Temecula Creek in the City of Temecula, Riverside County, California, as shown on the attached maps.

Permit Conditions

General Conditions:

1. The time limit for completing the authorized activity ends on **January 15, 2003**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good

faith transfer, you must obtain a modification from this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall compensate for impacts to 4.9 acres of waters of the U.S. and wetlands by preserving at least 9.4 acres of willow riparian habitat within the Temecula Creek floodplain. The permittee has recorded or caused to be recorded a conservation easement which runs with the land and preserves the mitigation/easement area in Temecula Creek as natural open space in perpetuity. The permittee has obtained written approval from the Corps of this easement or covenant prior to its being recorded.

2. Prior to initiating construction within waters of the U.S., the permittee posted an irrevocable letter of credit or performance bond for 120% of the anticipated cost of installation of the infiltration basins and trenches. The bonding company is on the Department of Treasury Circular 570, *Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies*. The performance bond is conditioned such that if the permittee defaults on such mitigation requirements of this permit, the bonding company shall assume all responsibility for such mitigation requirements. The performance bond shall be reduced as each infiltration basin and trench is completed in an amount equal to the actual cost thereof and shall be released entirely upon a determination by the Corps that all the infiltration basins and trenches have been completed in accordance with the August 8, 1996 letter referenced in Special Condition Number 3 below.

3. The permittee shall fully implement the non-point source runoff/first flush treatment program (including construction of the infiltration basins and

trenches) described in the August 8, 1996 letter to the Corps of Engineers from Glenn Lukos Associates. The permittee shall develop an operations and maintenance plan for these basins and trenches and submit this plan to the Corps and the San Diego Regional Water Quality Control Board for review and approval. This plan should include the names of responsible parties, provisions for control of invasive weeds, and mechanisms to minimize temporal loss of wetland habitat and functions. If these infiltration basins or trenches develop an ordinary high water mark or wetland functions (i.e., hydric soils, hydrophytic vegetation, and wetland hyrdrology) they would be considered jurisdictional waters of the U.S. If this occurs, the operations and maintenance plan would require authorization from the Corps under Section 404 of the Clean Water Act.

4. The permittee shall not discharge any fill or excavate any material from Drainage N within the boundaries of the project site. The permittee shall flag aquatic habitats to identify areas that must be avoided. Any additional acreage of waters of the U.S. impacted outside of the approved construction footprint without prior Corps' authorization shall be mitigated at a 5:1 ratio.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give you favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

James M. Delhamer
Senior Vice President

1/23/98
DATE

Derek C. Thomas
President & Chief Operating Officer

1/23/98
DATE

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Richard J. Schubel
Chief, Regulatory Branch

1-26-98
DATE

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

TRANSFEREE

DATE

LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

Permit Number: 97-00275-SDM

Name of Permittee: Newland Associates, Inc.

Date of Issuance: January 15, 1998

Upon completion of the activity authorized by this permit, sign this certification and return it to the following address:

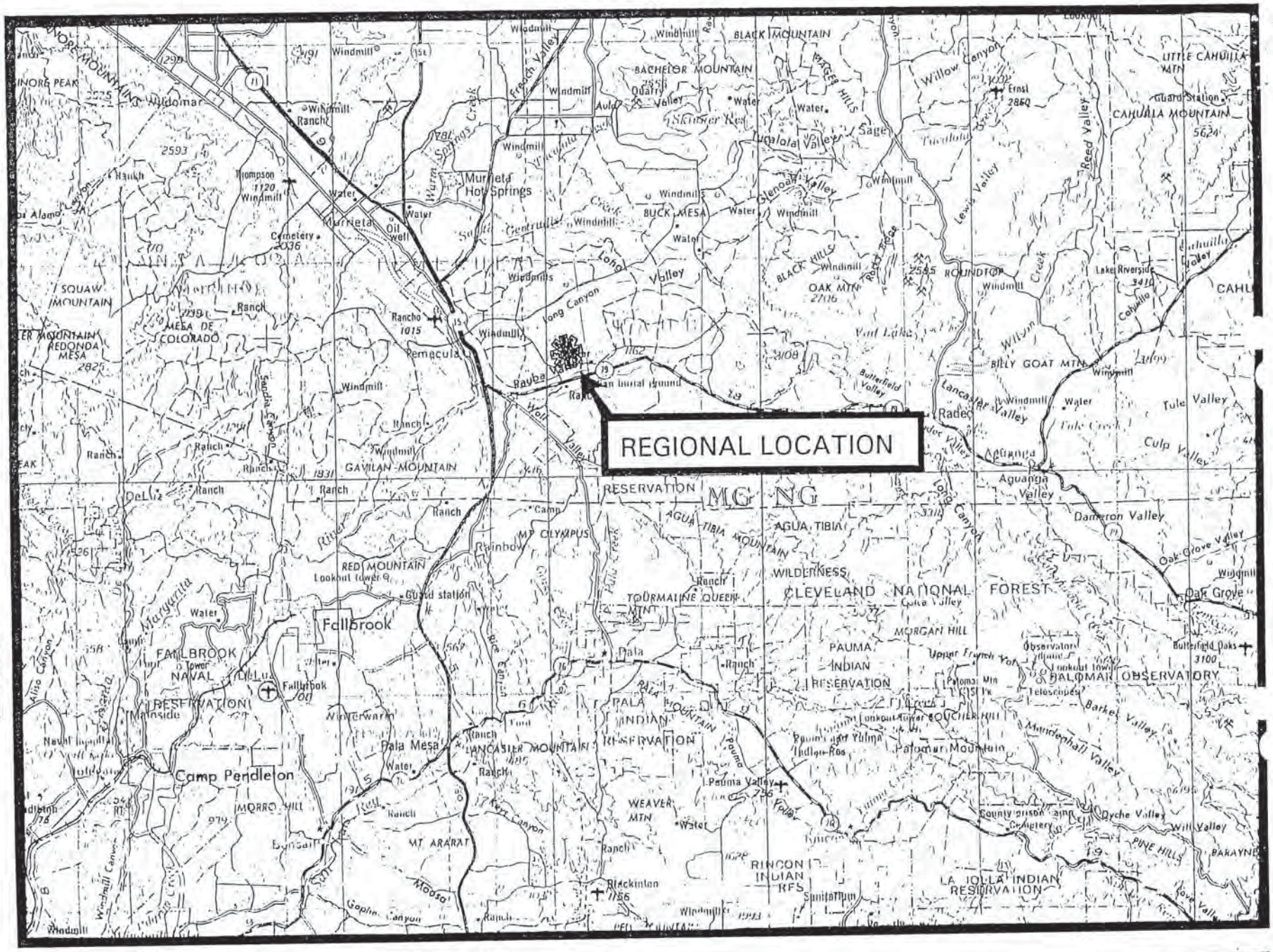
Regulatory Branch - Los Angeles District Office
ATTN: CESPL-CO-R-97-00275-SDM
P.O. Box 532711
Los Angeles, California 90053-2325

Please note that your permitted activity is subject to a compliance inspection by an Army Corps of Engineers representative. If you fail to comply with this permit you may be subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of said permit.

_____ _____

Signature of Permittee Date



North

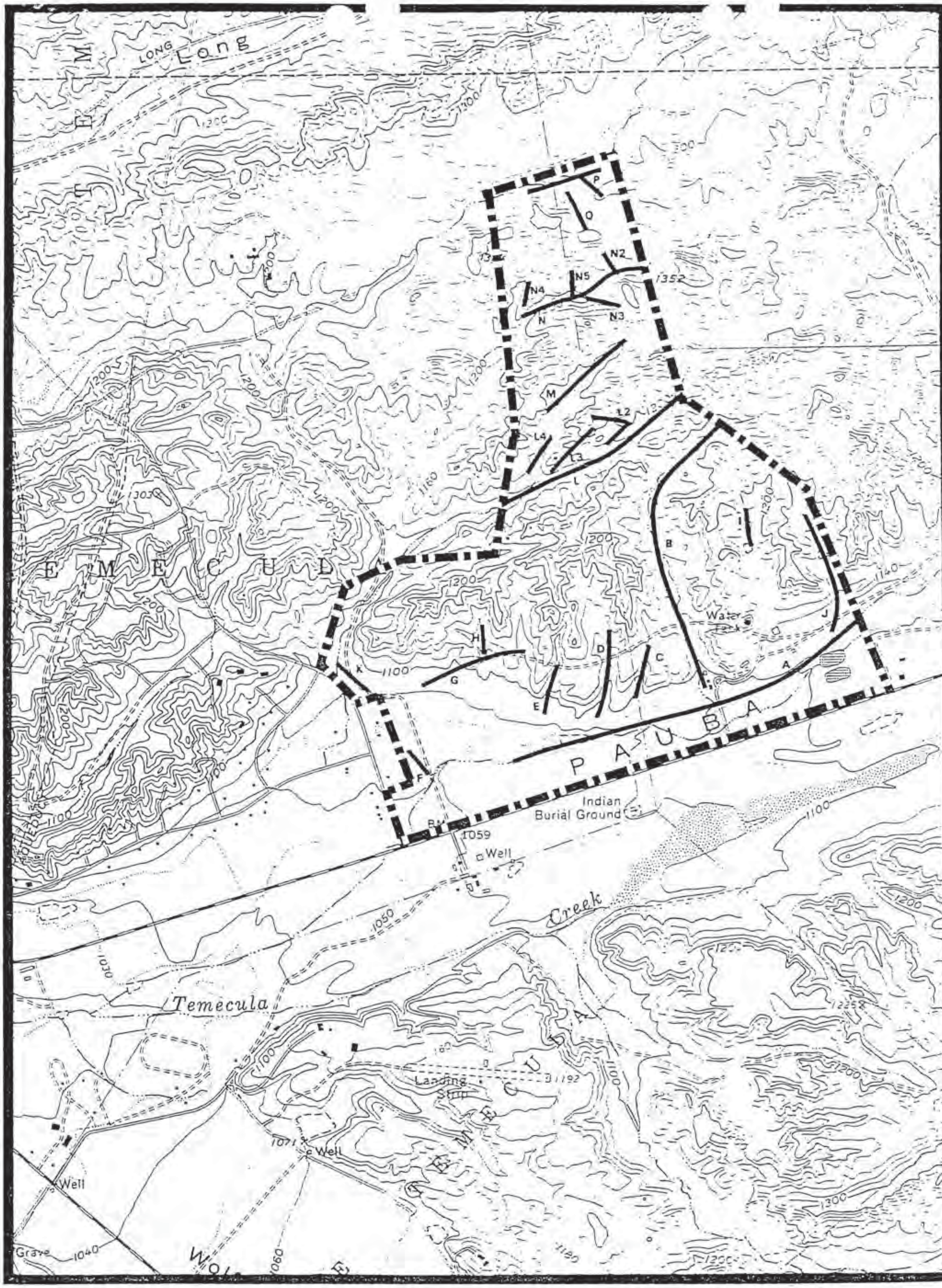
0 2 4 6 Miles

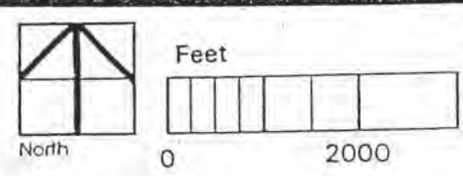
PASEO DEL SOL

Regional Map

GLENN LUKOS ASSOCIATES

EXHIBIT 1





GLENN LUKOS ASSOCIATES

EXHIBIT 2

PASEO DEL SOL

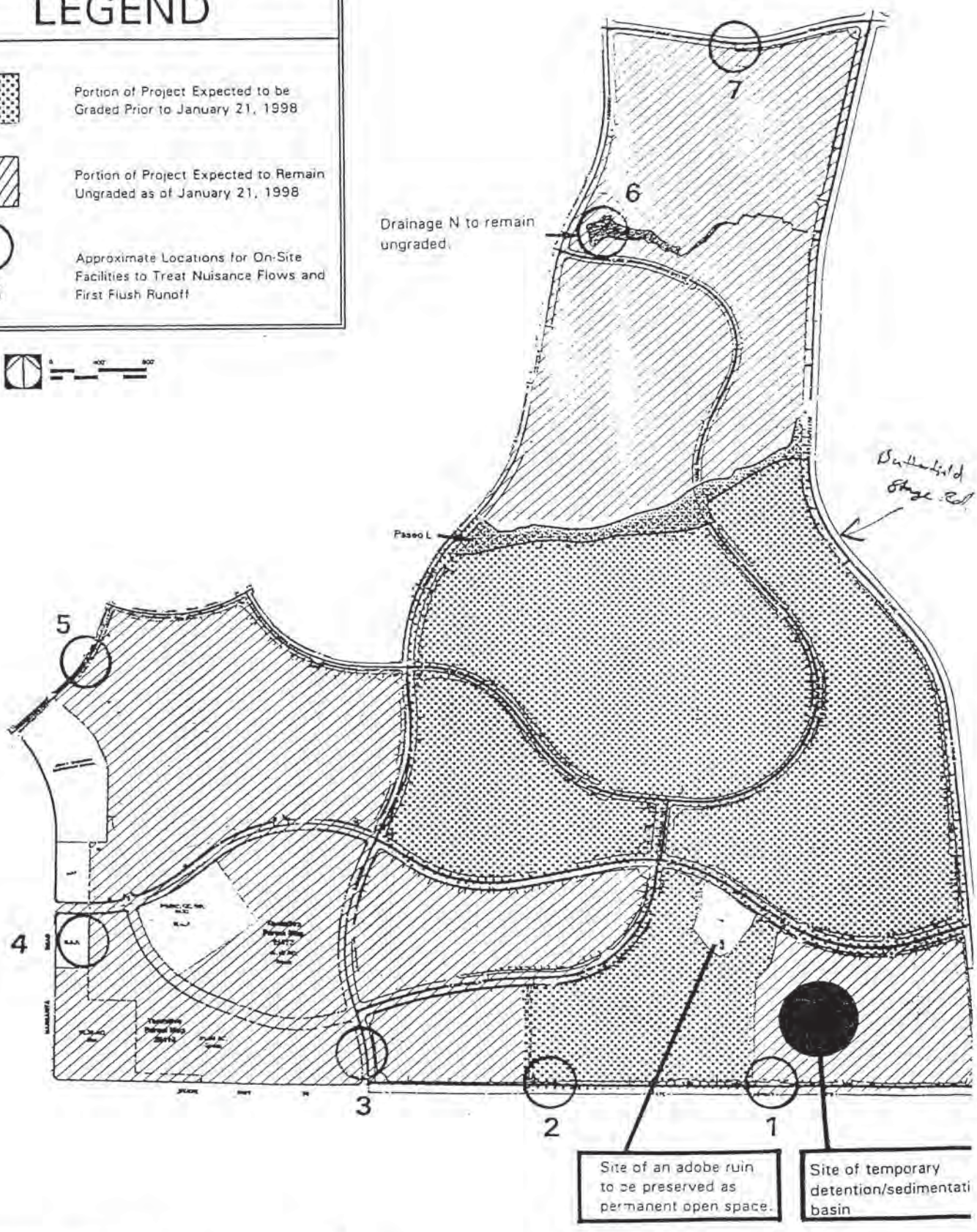
Vicinity Map & Key to Drainages

LEGEND

Portion of Project Expected to be Graded Prior to January 21, 1998

Portion of Project Expected to Remain Ungraded as of January 21, 1998

6 Approximate Locations for On-Site Facilities to Treat Nuisance Flows and First Flush Runoff

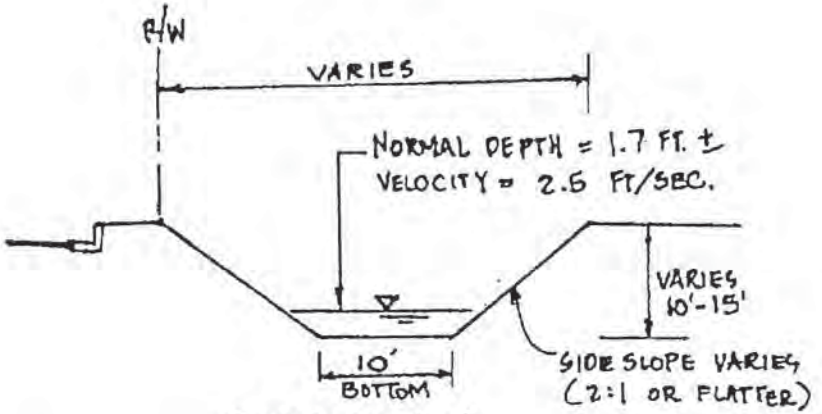


PASEO DEL SOL

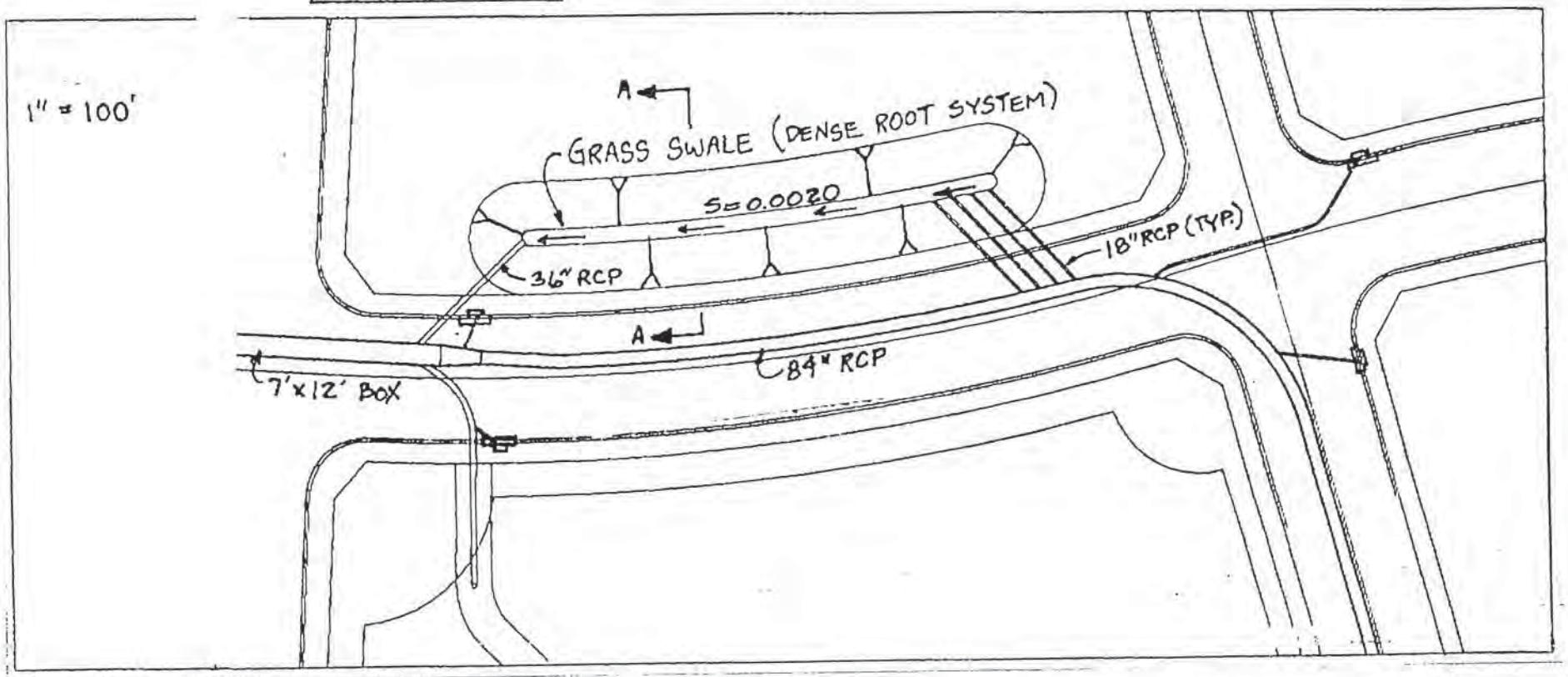
Site Plan

GLENN LUKOS ASSOCIATES

EXHIBIT 3



SECTION A-A

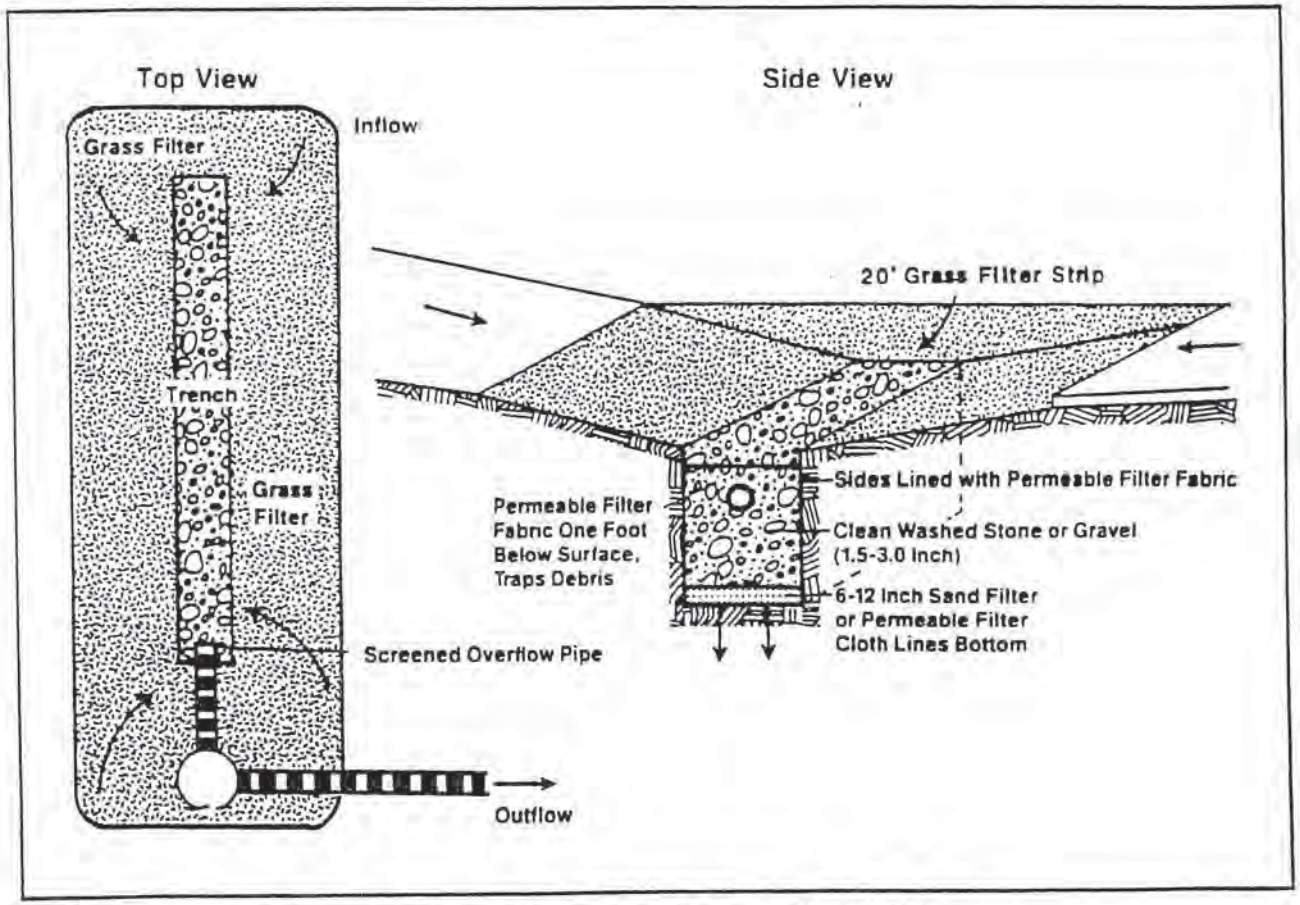


PASEO DEL SOL

EXHIBIT 4 - Typical Off-Line Infiltration Basin

GLENN LUKOS ASSOCIATES

Regulatory Services

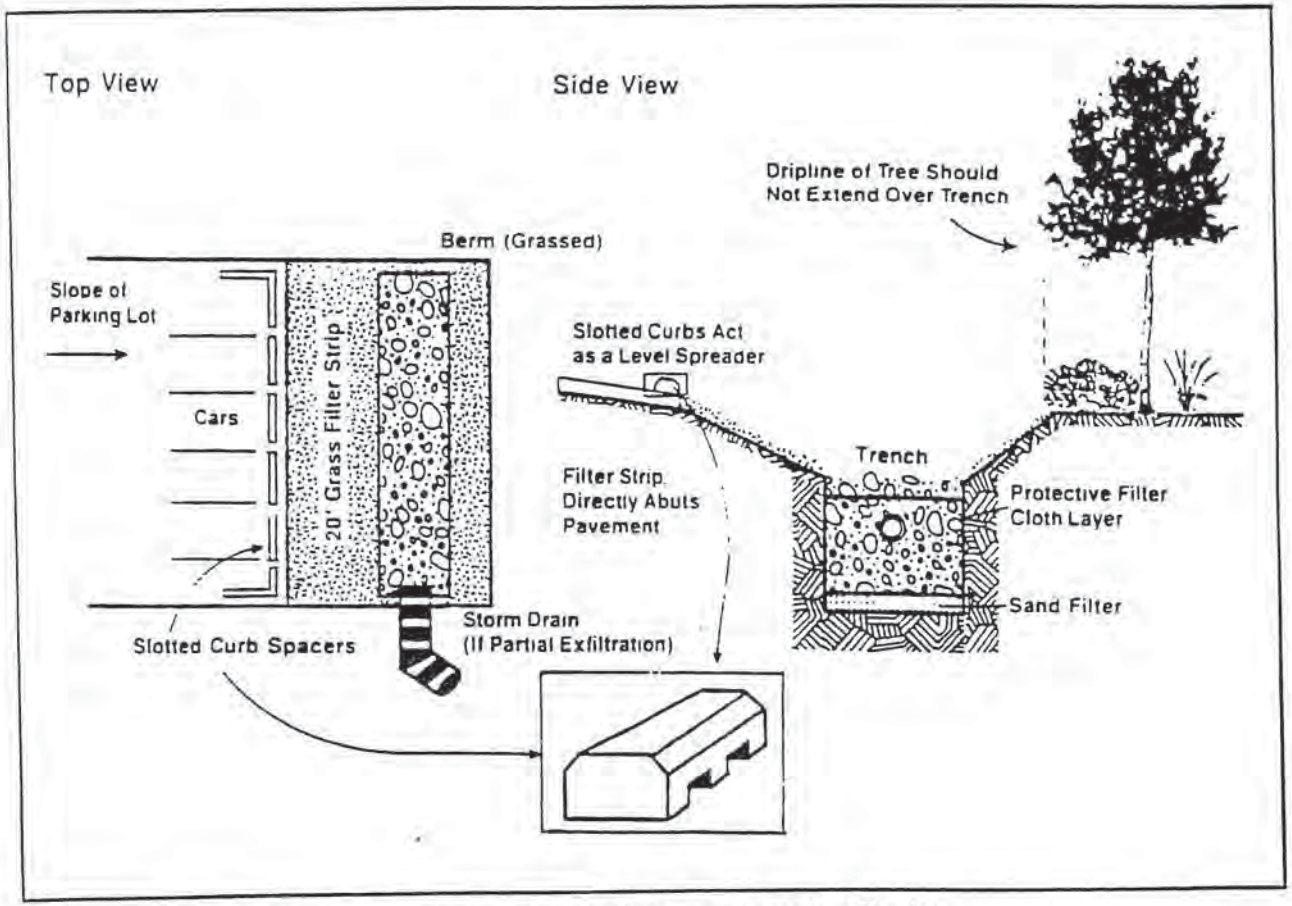


*Source: Riverside County Flood Control and Water Conservation District

PASEO DEL SOL

EXHIBIT 5
Typical Infiltration Trench

GLENN LUKOS ASSOCIATES
Regulatory Services



*Source: Riverside County Flood Control and Water Conservation District

PASEO DEL SOL

EXHIBIT 6
Typical Infiltration Trench

GLENN LUKOS ASSOCIATES
Regulatory Services

Appendix D California Rapid Assessment Method Analysis

Basic Information Sheet: Riverine Wetlands

CRAM Site ID: CRAM Site-1				
Project Site ID: PS-1				
Assessment Area Name: AA-1				
Project Name: Paloma Del Sol	**Date (m/d/y)**	3	3	2014
Assessment Team Members for This AA:				
Chris Johnson, PWS				
Richard Beck, PWS				
Average Bankfull Width: 5.2 meters				
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 meters				
Upstream Point Latitude: 33.487186 **Longitude:** -117.081895				
Downstream Point Latitude: 33.486420 **Longitude:** -117.082480				
Wetland Sub-type: ☐Confined ☑Non-confined				
AA Category: ☐Restoration ☐Mitigation ☑Impacted ☐Ambient ☐Reference ☐Training ☐Other:				
Did the river/stream have flowing water at the time of the assessment? ☑Yes ☐No				
What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. ☑Perennial ☐Intermittent ☐Ephemeral				

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1		Upstream			
2		Middle Left			
3		Middle Right			
4		Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

Downstream beginning of AA was established 10 meters north of a small confluence. The upstream point of the AA was established a 100 meters from this point.

AA is comprised of a storm water conveyance trench which has not been maintained. Flows onto the project site and to AA are from urban runoff originating from a RCP at De Portola Road. Flows traverse the project site to a desilting basin located near Temecula Parkway, flows then pass under the road and discharge to Temecula Creek.

Comments:

Scoring Sheet: Riverine Wetlands

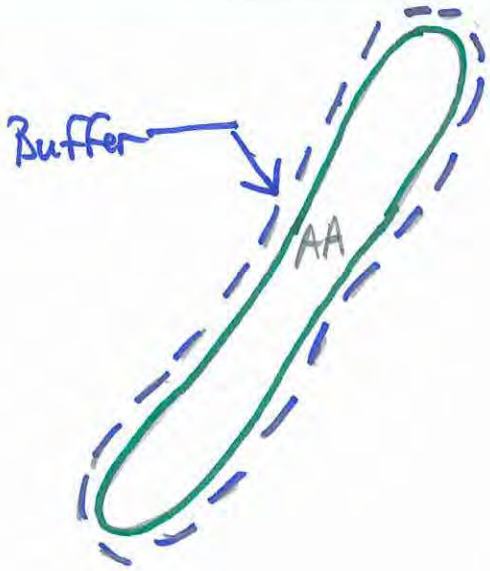
AA Name:				(m/d/y)	3	3	2014
Attribute 1: Buffer and Landscape Context				**Comments**			
Aquatic Area Abundance Score (D)		Alpha. D	Numeric 3	Non-buffer interruptions: upstream 154m, downstream 222m			
Buffer:							
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12					
Buffer submetric B: Average Buffer Width	A	12		250(x5), 217,194,169,148=216			
Buffer submetric C: Buffer Condition	D	3					
Raw Attribute Score = D+[C x (A x B)$^{1/2}$]$^{1/2}$ (use numerical value to nearest whole integer)			9	**Final Attribute Score = (Raw Score/24) x 100**			38%
Attribute 2: Hydrology							
		Alpha.	Numeric				
Water Source		C	6				
Channel Stability		A	12				
Hydrologic Connectivity		A	12				
Raw Attribute Score = sum of numeric scores			30	**Final Attribute Score = (Raw Score/36) x 100**			83%
Attribute 3: Physical Structure							
		Alpha.	Numeric				
Structural Patch Richness		D	3				
Topographic Complexity		D	3				
Raw Attribute Score = sum of numeric scores			6	**Final Attribute Score = (Raw Score/24) x 100**			25%
Attribute 4: Biotic Structure							
Plant Community Composition (based on sub-metrics A-C)							
Plant Community submetric A: Number of plant layers	Alpha. C	Numeric 6					
Plant Community submetric B: Number of Co-dominant species	D	3					
Plant Community submetric C: Percent Invasion	B	9					
Plant Community Composition (*average of submetrics A-C rounded to nearest whole integer*)			6				
Horizontal Interspersion		D	3				
Vertical Biotic Structure		D	3				
Raw Attribute Score = sum of numeric scores			12	**Final Attribute Score = (Raw Score/36) x 100**			33%
Overall AA Score (average of four final Attribute Scores)				@ 44%			

Worksheet for Riparian Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA	
Segment No.	Length (m)	Segment No.	Length (m)
1	346	1	278
2		2	
3		3	
4		4	
5		5	
Upstream Total Length		Downstream Total Length	

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.



Percent of AA with Buffer: 100 %

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	250
B	250
C	250
D	250
E	217
F	194
G	169
H	148
Average Buffer Width	216.00

Worksheet for Assessing Channel Stability for Riverine Wetlands.

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium	☑ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA.
	☑ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
	☐ There is leaf litter, thatch, or wrack in most pools.
	☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
	☑ There is little or no active undercutting or burial of riparian vegetation.
	☐ There are no densely vegetated mid-channel bars and/or point bars that support perennial vegetation.
	☐ Channel bars consist of well-sorted bed material.
	☐ There are channel pools, the spacing between pools tends to be regular and the bed is not planar through out the AA
	☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation	☐ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
	☐ There are abundant bank slides or slumps.
	☐ The lower banks are uniformly scoured and not vegetated.
	☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
	☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
	☐ The channel bed appears scoured to bedrock or dense clay.
	☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided).
	☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year.
	☐ There are partially buried living tree trunks or shrubs along the banks.
	☑ The bed is planar overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced.
	☐ There are partially buried, or sediment-choked, culverts.
	☑ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour.
	☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	**Equilibrium** **Degradation** **Aggradation**

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections ⟶	TOP	MID	BOT
1: Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	4.80	5.60	5.30
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	0.60	0.34	0.60
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	1.20	0.70	1.20
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	9.30	8.00	53.00
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	1.94	1.43	10.00
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			4.46

Structural Patch Type Worksheet for Riverine wetlands

Check each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine which patches are expected in the system.

STRUCTURAL PATCH TYPE (circle for presence)	**Riverine (Non-confined)**	**Riverine (Confined)**
Minimum Patch Size	**3 m^2**	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain	☑	☐
Bank slumps or undercut banks in channels or along shoreline	☐	☐
Cobble and/or Boulders	☐	☐
Debris jams	☐	☐
Filamentous macroalgae or algal mats	☐	☐
Pannes or pools on floodplain	☐	N/A
Plant hummocks and/or sediment mounds	☐	☐
Point bars and in-channel bars	☐	☐
Pools or depressions in channels (wet or dry channels)	☐	☐
Riffles or rapids (wet or dry channels)	☐	☐
Secondary channels on floodplains or along shorelines	☐	N/A
Standing snags (at least 3 m tall)	☐	☐
Submerged vegetation	☐	N/A
Swales on floodplain or along shoreline	☐	N/A
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	☐	☐
Vegetated islands (mostly above high-water)	☐	N/A
Total Possible	**16**	**11**
No. Observed Patch Types (enter here and use in Table 14 below)	1	0

Worksheet for AA Topographic Complexity

At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

Profile 1

Profile 2

Profile 3

Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands
(A dominant species represents ≥10% *relative* cover)

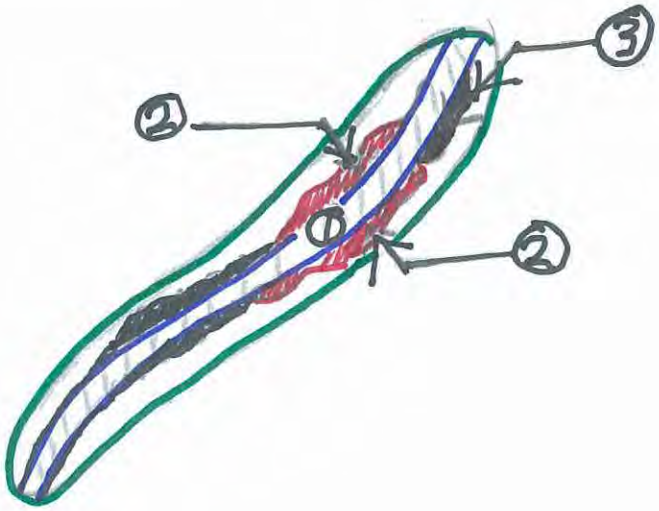
Special Note:

** Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming	Invasive?	Short (<0.5 m)	Invasive?
	☐	Typha latifolia (1)	☐
	☐	Bromus madritensis (2)	✓
	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
Medium (0.5-1.5 m)	**Invasive?**	**Tall (1.5-3.0 m)**	**Invasive?**
Typha latifolia	☐	Salix exigua (3)	☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
	☐		☐
Very Tall (>3.0 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	3
	☐		
	☐		
	☐	**Percent Invasion (enter here and use in Table 18)**	1
	☐		
	☐		

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.



Assigned zones:

1) Typha latifolia
2) Salix exigua
3) Bromus madritensis
4)
5)
6)

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)	✓	✓
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	✓	✓
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)		
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)	✓	✓
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		
The AA receives year-round nuisance flows. The channel is an engineered, earthern bottom		
channel which conveys urban runoff from development to the north of the project site.		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**	✓	
Plowing/Discing **(N/A for restoration areas)**	✓	
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management	✓	
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed	✓	✓
Nutrient impaired (PS or Non-PS pollution)	✓	✓
Heavy metal impaired (PS or Non-PS pollution)	✓	✓
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)	✓	✓
Trash or refuse	✓	
Comments		
The assumption that heavy metals, pestcides, bacteria and pathogens are presnt are based		
on the location of the AA in a heavily urban environment which receives year-round nuisance flows.		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)	☐	☐
Excessive human visitation	☐	☐
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)	☐	☐
Tree cutting/sapling removal	☐	☐
Removal of woody debris	☐	☐
Treatment of non-native and nuisance plant species	☐	☐
Pesticide application or vector control	☐	☐
Biological resource extraction or stocking (fisheries, aquaculture)	☐	☐
Excessive organic debris in matrix (for vernal pools)	☐	☐
Lack of vegetation management to conserve natural resources	☐	☐
Lack of treatment of invasive plants adjacent to AA or buffer	✓	✓
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	✓	☐
Industrial/commercial	☐	☐
Military training/Air traffic	☐	☐
Dams (or other major flow regulation or disruption)	☐	☐
Dryland farming	☐	☐
Intensive row-crop agriculture	☐	☐
Orchards/nurseries	☐	☐
Commercial feedlots	☐	☐
Dairies	☐	☐
Ranching (enclosed livestock grazing or horse paddock or feedlot)	☐	☐
Transportation corridor	✓	✓
Rangeland (livestock rangeland also managed for native vegetation)	☐	☐
Sports fields and urban parklands (golf courses, soccer fields, etc.)	☐	☐
Passive recreation (bird-watching, hiking, etc.)	☐	☐
Active recreation (off-road vehicles, mountain biking, hunting, fishing)	☐	☐
Physical resource extraction (rock, sediment, oil/gas)	☐	☐
Biological resource extraction (aquaculture, commercial fisheries)	☐	☐
Comments		