Natural Environment Study

Discussions of Habitat Assessments, Wetland Studies, Mitigation Plan, Monitoring Plan

Inland Rail Trail Project

Cities of San Marcos and Vista, San Diego County

California Department of Transportation

DISTRICT 11—SD—CML 5381(003)

April 2013

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

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April 2013

STATE OF CALIFORNIA
Department of Transportation

Cities of San Marcos and Vista, San Diego County

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Summary

The San Diego Association of Governments (SANDAG), in cooperation with the City of San Marcos, County of San Diego, City of Vista, and the California Department of Transportation (Caltrans), proposes to construct a seven-mile segment of the Inland Rail Trail within the Cities of San Marcos and Vista, and the County of San Diego. The proposed project would involve the construction of a Class I bikeway along the North County Transit District (NCTD) railroad right-of-way (ROW) between the intersection of West Mission Road and North Pacific Street in the City of San Marcos and the intersection of North Melrose Drive and West Bobier Drive, in the City of Vista.

This Natural Environment Study (NES) updates information provided in the 1996 Biological Resources Technical Report and is a review and evaluation of the potential impacts to threatened, endangered, proposed listed or special status species and protected habitat resources as a result of the proposed project. Reconnaissance level and focused surveys were conducted. A habitat assessment for the state- and federally listed coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*) and Stephens' kangaroo rat (*Dipodomys stephensi*) were also conducted. The biological study area (BSA), for the proposed project encompasses the temporary and permanent impact area plus an approximate 50-foot buffer.

Literature research and habitat assessments indicate that there is a potential for 7 special status species to occur within the project BSA. The Habitat Assessments for coastal California gnatcatcher, least Bell's vireo and Stephens' kangaroo rat found no potentially suitable habitat within the BSA. Per the CNDDB, thread-leaved brodiaea (*Brodiaea filifolia*), a federally Threatened, State Endangered and CNPS list 1B.1 species and its Critical Habitat was shown to occur within the BSA. Coordination with United States Fish and Wildlife Service (USFWS) confirmed that all thread-leaved brodiaea Critical Habitat within the BSA is located on private property. The temporary and permanent impact areas of the project would be located on NCTD ROW, which is not designated as Critical Habitat for thread-leaved brodiaea.. Furthermore, focused surveys for thread leaved brodiaea were negative and therefore the project is not anticipated to negatively affect the species directly. A preconstruction survey would be conducted to identify whether thread-leaved brodiaea specimens have moved into the temporary or permanent impact areas since the focused surveys were conducted. While not anticipated, in the unlikely event that thread-leaved brodiaea are identified in the temporary or permanent impact areas during the preconstruction survey, then Caltrans would initiate formal Section 7 Consultation with USFWS to amend the existing Biological Opinion for the Inland Rail Trail project and SANDAG would seek approval of a 2081 incidental take permit from the California

Department of Fish and Game (CDFG). SANDAG would implement mitigation, if required, in accordance with the USFWS Biological Opinion and conditions of the incidental take permit from CDFG. No impacts to thread-leaved brodiaea or its Critical Habitat are anticipated as a result of the proposed project.

The project will result in temporary impacts (an approximate total of 0.10 acre waters of the U.S. and 0.12 acre waters of the State) and permanent impacts (an approximate total of 0.30 acre waters of the U.S. and 0.34 acre waters of the State) to Buena Vista Creek, Buena Creek and potentially jurisdictional concrete lined drainage channels. The only area where wetlands occur is at the Buena Creek; all other waters of the U.S. are non-wetland waters. Implementation of environmental permit conditions, appropriate Caltrans Standard Best Management Practices (BMPs), including, but not limited to erosion control, spill prevention, effective dust stabilization, erosion and sediment control and ensuring unauthorized fill and unforeseen impacts are avoided, and avoidance and minimization measures will reduce the proposed project's negative impacts on the existing environment. Impacts to waters of the U.S. and waters of the State have been previously mitigated by the City of San Marcos in 2001 for impacts anticipated for the full project alignment (see Appendix G). The City of San Marcos purchased 0.90 acre of credit for $108,000 from Caltrans' Pilgrim Creek Mitigation Bank on January 4, 2001 to mitigate for impacts to wetlands, southern willow scrub, and other riparian habitats that would be impacted by the Oceanside-Escondido Bikeway Project (City of San Marcos, 2013). Since mitigation for these impacts was completed by the City of San Marcos, no additional mitigation is expected. During the permitting phase, SANDAG will coordinate with the Army Corps of Engineers to confirm that prior mitigation will be adequate for the impacts to waters addressed in this Natural Environment Study.

During the environmental permitting phase of the project. SANDAG will obtain a Section 401 Water Quality Certification from the San Diego Regional Water Quality Control Board, coverage under the Construction Activities Storm Water General Permit (2009-0009-DWQ Permit) from the State Water Resources Control Board (SWRCB), coverage under Section 404 Nationwide Permit 14 from the US Army Corps of Engineers, and a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code.

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List of Abbreviated Terms

°	**Degrees**
amsl	**Above Mean Sea Level**
BMPs	**Best Management Practices**
BSA	**Biological Study Area or Project Area**
CAL-IPC	**California Invasive Plant Council**
Caltrans	**California Department of Transportation**
CDFG	**California Department of Fish and Game**
CEQA	**California Environmental Quality Act**
CESA	**California Endangered Species Act**
CFG	**California Fish & Game**
CFR	**Code of Federal Regulations**
CNDDB	**California Natural Diversity Database**
CNPS	**California Native Plant Society**
CWA	**Clean Water Act**
Dokken	**Dokken Engineering**
EO	**Executive Order**
EPA	**Environmental Protection Agency**
ESA	**Environmentally Sensitive Area**
F	**Fahrenheit**
FEMA	**Federal Emergency Management Agency**
FESA	**Federal Endangered Species Act**
FHWA	**Federal Highway Administration**
MBTA	**Migratory Bird Treaty Act**
MHCP	**Multiple Habitat Conservation Program**
MSCP	**Multiple Species Conservation Program**
MOU	**Memoranda of Understanding**
NCTD	**North County Transit District**
NEPA	**National Environmental Policy Act**
NES	**Natural Environment Study**
NPDES	**National Pollutant Discharge Elimination System**

Project	**Inland Rail Trail**
R	**Range**
ROW	**Right-Of-Way**
RWQCB	**Regional Water Quality Control Board**
SANDAG	**San Diego Association of Governments**
sp(p)	**species (singular and plural)**
T	**Township**
U.S.	**United States**
USACE	**United States Army Corp of Engineers**
USFWS	**United States Fish and Wildlife Service**
USGS	**United States Geological Survey**

Chapter 1. Introduction

This Natural Environment Study (NES) was prepared for the Inland Rail Trail Project (project), which is approximately 7 miles along the North County Transit District (NCTD) right-of-way (ROW) from the intersection of Oceanside Boulevard and Melrose Drive in the City of Vista to the intersection of West Mission Road and North Pacific Street in the City of San Marcos, San Diego County, California (Figure 1. Project Vicinity and Figure 2. Project Location). The project is located between State Route 76 and State Route 78, approximately 7 miles east of the Pacific Ocean. The project lies within the following: Township (T) 11S & Range (R) 4W, Sections 13 & 24; T 11S & R 3W, Sections 19, 29, 30 32, 33; and T 12S & R 3W of the San Marcos and San Luis Rey United States Geological Survey (USGS) 7 ½ Minute Quadrangles. San Diego Association of Governments (SANDAG), in cooperation with the California Department of Transportation (Caltrans), proposes to create a Class I bike facility between the City of San Marcos and the City of Vista.

1.1. Project History

Background

In 1999 and 2000, National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) environmental documents were approved for the Inland Rail Trail Project; a 31-mile long Class 1 bikeway project spanning from the City of Escondido to the City of Oceanside in San Diego County, California. The majority of this bikeway was proposed to be located on NCTD ROW, with the western most portion in the City of Oceanside to be located along Oceanside Boulevard. The City of San Marcos was the lead agency under CEQA (representing the Cities of Escondido, Vista, Oceanside, and San Diego County), while Caltrans was the lead agency under NEPA, acting under delegation from the Federal Highway Administration (FHWA). NEPA approval for this project was necessary because the project utilized federal funding. Since the initial environmental approvals in 1999 and 2000, the eastern most portion of the bikeway has been constructed from the Escondido Rail Station in the City of Escondido to the intersection of West Mission Road and North Pacific Street in the City of San Marcos.

In 2011, SANDAG agreed to take over responsibility as the CEQA lead agency and decided to design and construct the next seven miles of the Inland Rail Trail Project from the intersection of West Mission Road and North Pacific Street in the City of San Marcos to the intersection of North Melrose Drive and West Bobier Drive. In order to accurately document changes in the natural and built environment, as well as any changes in environmental regulations since 2000, SANDAG will prepare a revalidation of the NEPA environmental document and a CEQA

V:\1948 Inland Rail Trail\F1 Vicinity.mxd

Source: ESRI 2008; Dokken Engineering8/24/2012; Created By: angelas

0 5 10 Miles

FIGURE 1
Project Vicinity
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

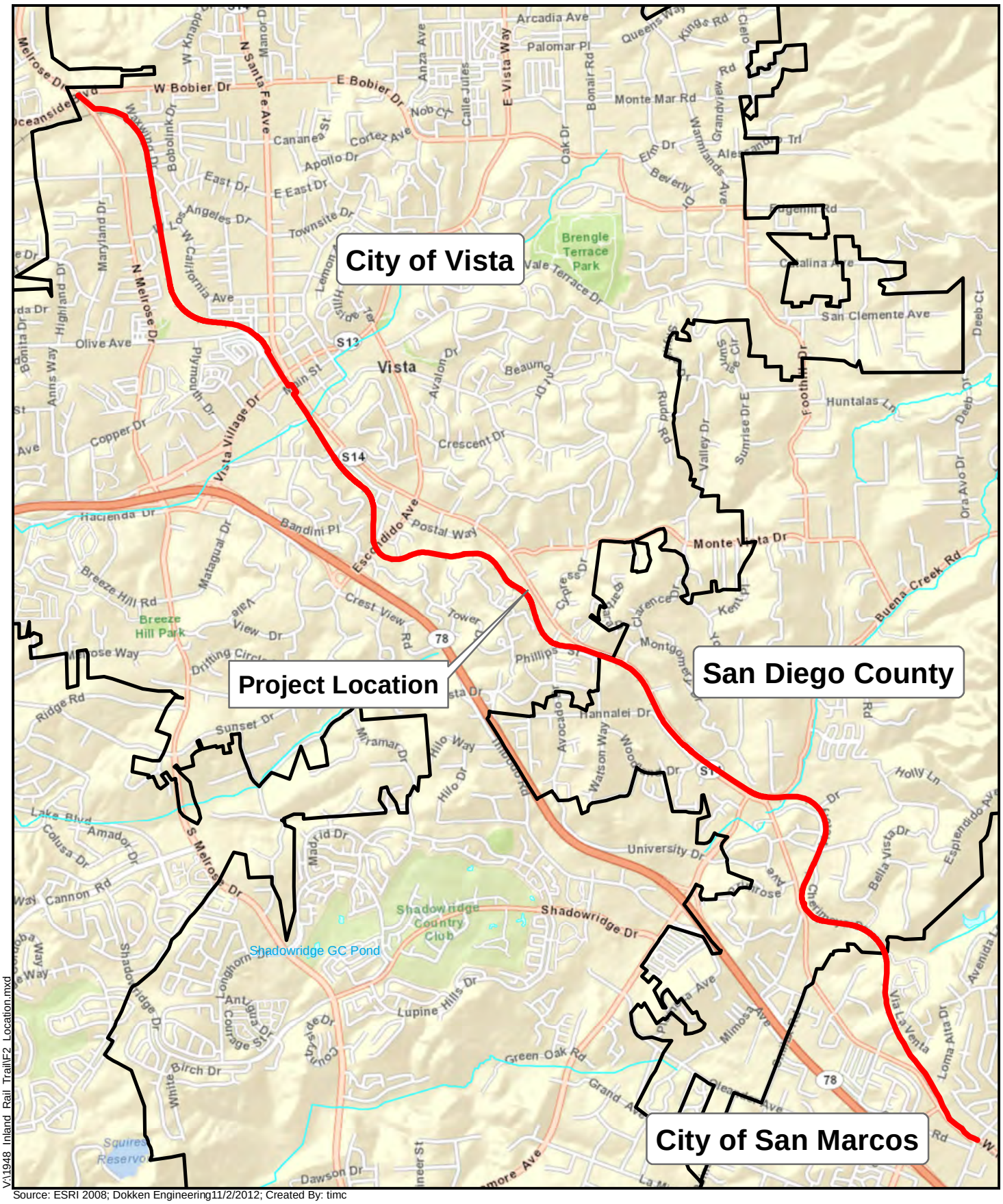

FIGURE 2
Project Location
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

environmental document to fully update the environmental record. This process will document changes to the proposed project and any additional avoidance, minimization, and mitigation measures, to reduce potential environmental impacts caused by the project.

1.1.1. Project Description

SANDAG, in cooperation with the City of San Marcos, County of San Diego, City of Vista, and Caltrans, proposes to construct a seven-mile segment of the Inland Rail Trail within the Cities of San Marcos and Vista, and the County of San Diego. Construction is estimated to require 500 working days and to begin in April 2014 and extend approximately through April 2016 to allow for potential phasing of construction. The purpose of this project is to provide a continuous east-west, non-motorized vehicle route along the SR 78 corridor in order to aid in the improvement of regional air quality. Another benefit of this project is to provide a safer bicycle and pedestrian route off of major arterial roadways in the cities of San Marcos and Vista and in the County of San Diego.

The proposed project would involve the construction of a Class I bikeway along the NCTD railroad ROW between the intersection of West Mission Road and North Pacific Street in the City of San Marcos and the intersection of North Melrose Drive and West Bobier Drive in the City of Vista. The bikeway would typically consist of two 5-foot bicycle lanes, two 2-foot unpaved shoulders and two 2-foot landscaped zones, but the width may be reduced in small sections to avoid impacts to environmental resources or due to topographical and ROW constraints. The California Public Utilities Commission has required the bikeway to depart the NCTD railroad ROW to meet the nearest intersection when there are at-grade crossings with City and County roadways to ensure bicycle and pedestrian safety.

In addition to construction of the trail facility, additional features of this project include fencing on both sides of the trail (where necessary), landscaping, lighting, retaining walls to accommodate for areas with steep slopes, and several small structures to span across existing drainages and the Buena Creek. Improvements associated with the trail, accessibility, and its connections may also be necessary at the NCTD train stations as well as where the trail crosses local roadways. Some of these crossings may require improvements to existing sidewalk, crosswalk, and other pedestrian/bicycle facilities.

Chapter 2. Study Methods

Prior to field work, literature research was conducted through the United States Fish and Wildlife Service (USFWS) Planning Species List (Appendix A: Unofficial USFWS Planning Species List), California Department of Fish and Game (CDFG) *California Natural Diversity Database* (CNDDB) (Appendix B: CNDDB Summary Report) and the California Native Plant Society (CNPS) *Electronic Inventory of Rare and Endangered Plants* to identify habitats and special-status species having the potential to occur within the biological study area (BSA) (Figure 3. Project Layout). Field surveys were conducted in May, June and July of 2012 to document existing biological resources, detect potential jurisdictional waters of the United States (U.S.) and State, and search for suitable habitat and presence of Federal and State protected species. Potential impacts to resources were analyzed based on the proposed project design and ecological resources identified in the field surveys. The following sections discuss regulatory requirements, studies required of the proposed project site, personnel and survey dates and agency coordination to date.

2.1. Regulatory Requirements

This section describes the Federal, State, and local plans, policies, and laws that are relevant to biological resources in the BSA. Applicable Federal permits and approvals that could be required before construction of the proposed project are provided in Chapter 5.

2.1.1. Federal Regulations

The Federal Endangered Species Act (FESA), NEPA, Clean Water Act (CWA), and Executive Orders (EOs) 13112 (invasive species) and 13186 (migratory birds) are applicable to the proposed project.

2.1.1.1. NATIONAL ENVIRONMENTAL POLICY ACT

NEPA provides an interdisciplinary framework for environmental planning by Federal agencies and contains action-forcing procedures to ensure that Federal agency decision makers take environmental factors into account. NEPA applies whenever a Federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. Caltrans is acting as the NEPA lead agency for this project.

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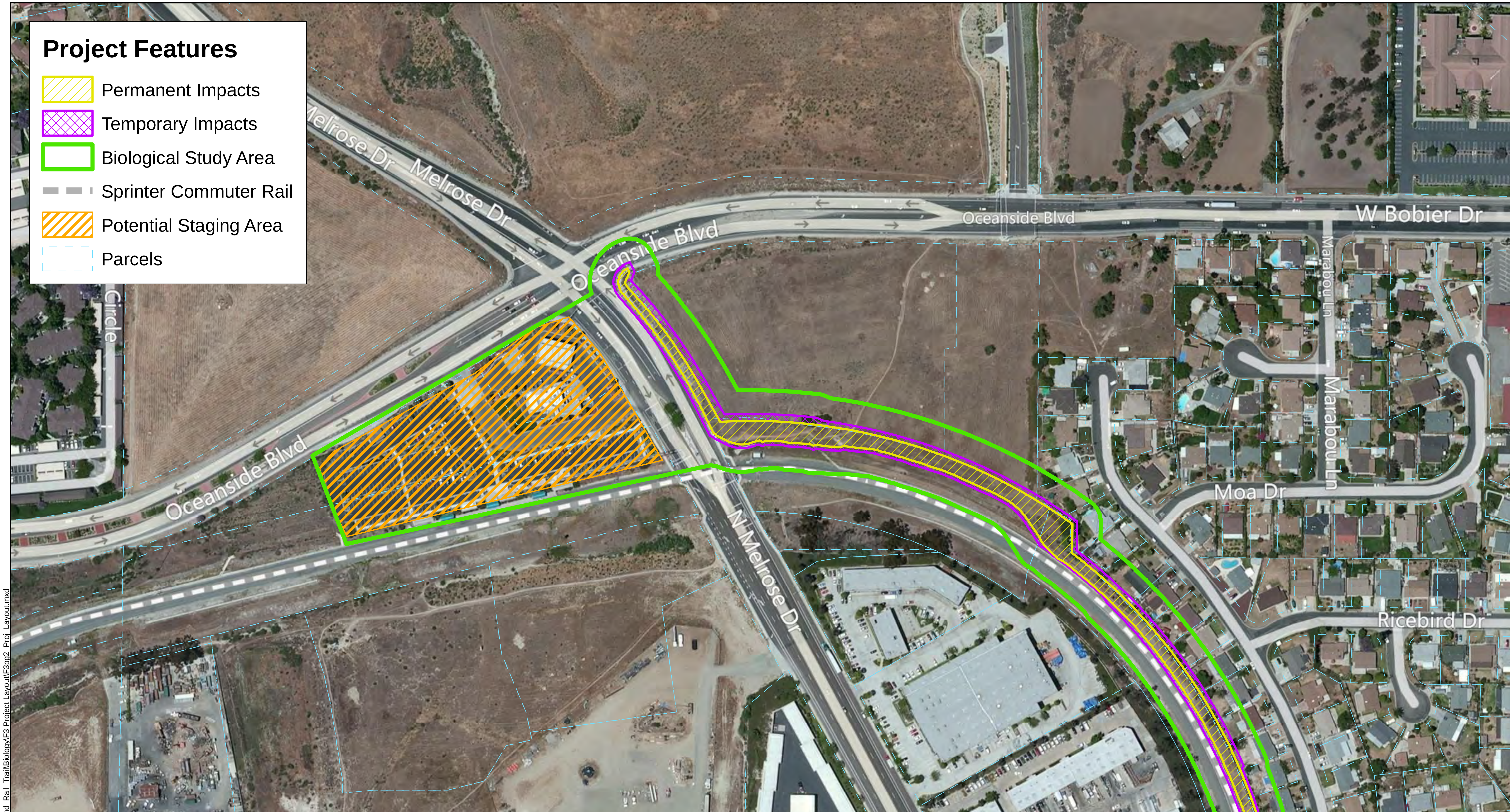

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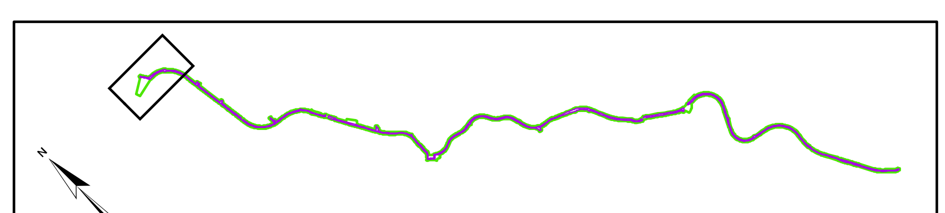

FIGURE 3
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Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 2

Match Line - See Page 4

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Woodrail Dr
Jennifer Circle
Bobolink Dr
North Dr
W California Ave
Calle Elegante
Swallow Dr
Toucan Dr
Waxwing Dr
Melrose Pl
Casa Real Ct
N Melrose Dr
North Ave
Beacon Ct
Bach St

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Source: BING Maps Online; Dokken Engineering 08-20-12; Created By: Z. Liptak

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FIGURE 3
Page 3 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 3

W California Ave
Calle Chapultepec
W Connecticut Ave
Avenida de la Plaza
Avenida de la Luna
Olive Ave
Ocotillo Dr
Dove Circle
Plymouth Dr

Match Line - See Page 5

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Source: BING Maps Online; Dokken Engineering 08-20-12; Created By: Z. Liptak

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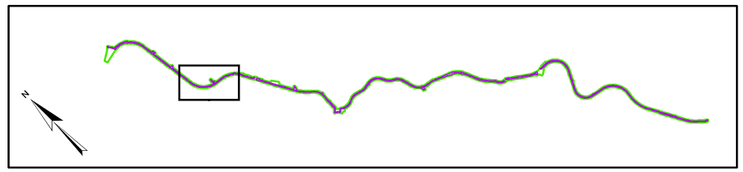

FIGURE 3
Page 4 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

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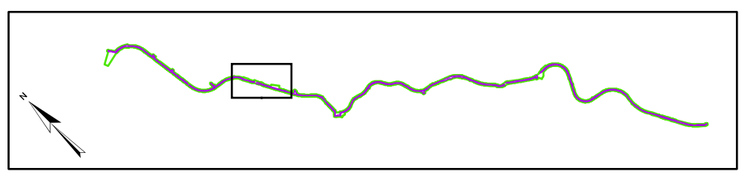

FIGURE 3
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Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

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Match Line - See Page 8

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Source: BING Maps Online; Dokken Engineering 08-20-12; Created By: Z. Liptak

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FIGURE 3
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Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

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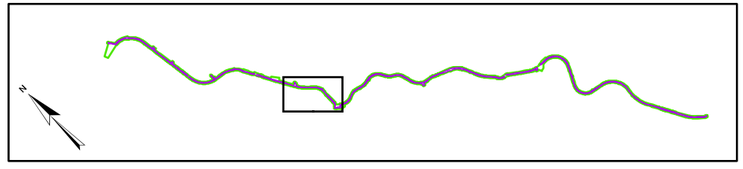

FIGURE 3
Page 6 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 6

Match Line - See Page 8

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Source: BING Maps Online; Dokken Engineering 08-20-12; Created By: Z. Liptak

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FIGURE 3
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Project Layout
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Inland Rail Trail Project
San Diego County, California

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FIGURE 3
Page 8 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 8

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Match Line - See Page 10

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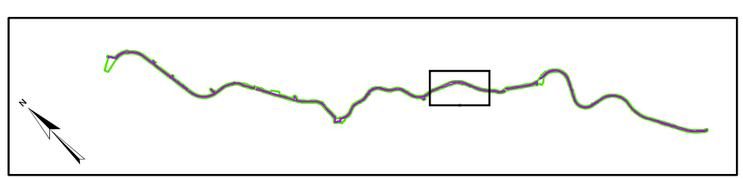

FIGURE 3
Page 9 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 9

Match Line - See Page 11

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Montgomery Dr
York Dr
Devon Pl
S Santa Fe Ave
S14
York Dr
S Santa Fe Ave
S14
S Santa Fe Ave
S14
York Dr
Hesman Dr
Woodland Dr
Anna Ln
Evvia Ct
Northbrook Ct
El Copa Ln
Roberlan Dr

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FIGURE 3
Page 10 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 10

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Buena Vista Creek

Victory Dr

Victory Dr

Estrelita Dr

Estrelita Dr

Loveany Ln

Loveany Ln

Bosna Pl

Palmyra Dr

Estrelita Dr

Apple Blossom Ln

Bell

S San

Match Line - See Page 12

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FIGURE 3
Page 11 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

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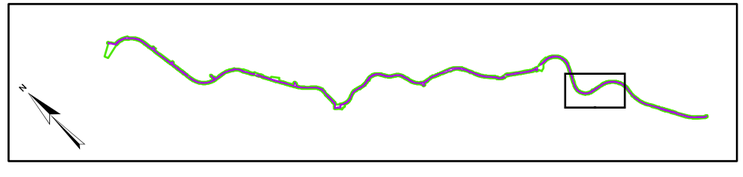

FIGURE 3
Page 12 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 12

Match Line - See Page 14

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Avenida Regina
Via Hacienda Ct
Via la Venta
Pegasus Way
Hydra Ct
Hydra Ct
Hydra Ln
Via la Venta
Via la Venta
Las Flores Dr
Norman Strasse Rd

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FIGURE 3
Page 13 of 14
Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 13

Project Features

- Permanent Impacts
- Temporary Impacts
- Biological Study Area
- Sprinter Commuter Rail
- Potential Staging Area
- Parcels

Curry Comb Dr
Halter Pl
Saddlehorn Dr
Concha Ln
Pommel Way
Silver Spur Way
N Pacific St
Palmae St
Loma Alta Dr
Palomarcos Ave
Santa Fe Ave
S Santa Fe Ave
W Mission Rd
S14
S10
N Rancho Santa Fe Rd
De Leone Rd
Capalina Rd
Balboa St
Atlantic St
Barranca Rd

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Source: BING Maps Online; Dokken Engineering08-20-12; Created By: Z. Liptak

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FIGURE 3
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Project Layout
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

2.1.1.2. FEDERAL ENDANGERED SPECIES ACT

The FESA of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or National Oceanic and Atmospheric Administration.

2.1.1.3. CLEAN WATER ACT

The CWA was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. CWA serves as the primary Federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations, and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is CWA's primary regulatory tool. This project will require a CWA Section 402 National Pollutant Discharge Elimination System (NPDES) Permit regulated by the State Water Resources Control Board.

The U.S. Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the U. S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in the USACE regulations).

The Regional Water Quality Control Board (RWQCB) has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of the USACE (i.e., waters of the U.S. including any wetlands). The RWQCB also asserts authority over "waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act.

2.1.1.4. EXECUTIVE ORDER 13112: PREVENTION AND CONTROL OF INVASIVE SPECIES

EO 13112 (signed February 3, 1999) directs all Federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO

and directives from FHWA require consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

2.1.1.5. EXECUTIVE ORDER 13186: MIGRATORY BIRD TREATY ACT

EO 13186 (signed January 10, 2001) directs each Federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding (MOU) that will promote the conservation of migratory bird populations. Protocols developed under the MOU will include the following agency responsibilities:

- avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and
- prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist Federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations [CFR] 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

2.1.2. State Regulations

CEQA and the following California Fish and Game (CFG) Codes are applicable to the proposed project.

2.1.2.1. CALIFORNIA ENVIRONMENTAL QUALITY ACT

California State law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. SANDAG is acting as the CEQA lead agency for this project.

2.1.2.2. CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) (CFG Code Section 2050 et seq.) requires CDFG to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires the CDFG to comply with the CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. The CDFG's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity (California Code Regulations, Title 14, Section 783.5(d)(3)). CDFG cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species (CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)).

2.1.2.3. SECTION 1602: STREAMBED ALTERATION AGREEMENT

Under CFG Code 1602, public agencies are required to notify CDFG before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFG is required to propose reasonable project changes to protect the resources. These modifications are formalized in a streambed alteration agreement that becomes part of the plans, specifications, and bid documents for the project.

2.1.2.4. SECTIONS 3503 AND 3503.5: BIRDS AND RAPTORS

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Trees and shrubs are present in and adjacent to the study area and could provide potential nesting habitat for birds and raptors.

2.1.2.5. SECTION 3513: MIGRATORY BIRDS

CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

2.1.3. Local Regulations

City of San Marcos

This project has been designed to be consistent with the City of San Marcos 2012 General Plan. The San Marcos General Plan address the current and future needs and of the City San Marcos Community. The General Plan identifies an overlapping of existing open space/preserved land use and General Plan open space land use north of Rancho Santa Fe within and adjacent to the project location. Impacts to biological resources will be avoided and minimized to the maximum extent practicable. Coordination with regulatory agencies including CDFG, USFWS, and USACE will be implemented to ensure that impacts to sensitive resources are minimized or

mitigated for, as appropriate. With the implementation of project measures, Caltrans Standard Best Management Practices (BMPs), permit conditions and project design, the project is in conformance with the following Policies and Codes: Policy COS-1.1 Support the protection of biological resources, Policy COS-1.2 Maintain the biotic habitat value of riparian areas, habitat linkages and other sensitive biological habitats, Policy COS-2.1 Protect open space areas, and Policy COS-2.2 Limit the conversion of open space areas to urban uses.

In addition the project shall implement the following:

BIO-1: Where feasible, SANDAG and the construction contractor shall preserve healthy mature trees (defined as trees equal to or larger than 15" in circumference or approximately 5" diameter at breast height) within the City of San Marcos; where removal is necessary, trees shall be replaced at a minimum ratio of 1:1.

City of Vista

This project has been designed to be consistent with the City of Vista 2011 General Plan, Resource Conservation and Sustainability Element. Impacts to biological resources will be avoided and minimized to the maximum extent practicable. Coordination with regulatory agencies including CDFG, USFWS, and USACE will be implemented to ensure that impacts to sensitive resources are minimized or mitigated for, as appropriate. With the implementation of project measures, Caltrans Standard BMPs, permit conditions and project design, the project is in conformance with the following Policies and Codes: RCS Policy 4.3 Preserve protect and enhance water quality within the San Luis Rey and Carlsbad Hydrologic Units, RCS Policy 4.12 Alteration to existing channelized streams, RCS Policy 5.3 Preserve the integrity of riparian habitat areas creek corridors and other drainages, and RCS Policy 5.3 Avoid/minimize sensitive habitats.

San Diego County

This project has been designed to be consistent with the San Diego County Code of Regulatory Ordinance, San Diego County 2011 General Plan, Conservation and Open Space Element and the 2011 North County Metropolitan Sub regional Plan and the 2009 Draft North County Multiple Species Conservation Program (MSCP). Impacts to biological resources will be avoided and minimized to the maximum extent practicable. Coordination with regulatory agencies including CDFG, USFWS, and USACE will be implemented to ensure that impacts to sensitive resources are minimized or mitigated for, as appropriate. With the implementation of project measures, Caltrans Standard BMPs, permit conditions and project design, the project is in conformance with the following Policies and Codes: General Plan COS-2.1 (Protection, Restoration and Enhancement), General Plan COS-2.2 (Habitat Protection through Site Design),

General Plan COS-3.2 (Minimize Impacts of Development), Regulatory Ordinance Section 86.1 Endangered Species, and Regulatory Ordinance Section 86.6 Resource Protection Ordinance. Until the North County MSCP Plan is approved, project is exempt from Regulatory Code Section 86.5 Biological Mitigation Ordinance.

In addition, the project shall implement the following:

BIO-2: SANDAG shall use the mitigation ratios for impacts to sensitive biological habitats established in the Draft North County MSCP. The 2009 Draft North County MSCP establishes a mitigation ratio of 1:1 for all riparian forest and freshwater marsh communities in the Buena Creek area.

SANDAG

This project has been designed to be consistent with SANDAG's 2003 Multiple Habitat Conservation Program (MHCP), a comprehensive, multiple jurisdictional planning program designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County. The portions of the project that occur within the boundaries of the MHCP are the Inland Rail Trail segments within the Cities of Vista and San Marcos. However, all impacts to sensitive habitat resources occur outside the MHCP boundaries and the project is located outside all MHCP special conservation areas or focused planning areas. Although the project occurs in proximity to a thread-leaved brodiaea "Critical Location", the project remains in conformance with the MHCP since it has been designed to avoid direct or indirect impacts to that Critical Habitat.

Non-native grassland is the only natural habitat to be affected within the boundaries of the MHCP requiring special conditions. An approximate total of 3.6 acres permanent impacts are anticipated to fragmented and isolated patches of non-native grassland. To minimize impacts to non-native grassland, the project shall implement the following:

BIO-3: Within the boundaries of the MHCP, SANDAG shall use the mitigation ratios for impacts to non-native grassland habitats established in the 2003 MHCP. The 2003 MHCP establishes a mitigation ratio of 0.5:1 for impacts to non-native grassland. As the project occurs outside the boundaries of designated focused planning areas, mitigation shall occur at an offsite location through purchase of mitigation credits from an approved conservation bank, or through the purchase and permanent conservation of habitat lands inside a focused planning area. Conserved habitat may be out-of-kind, if it is shown to be a viable addition to the regional preserve system.

2.2. Studies Required

Information compiled from USFWS, CNDDB, and CNPS within the San Marcos, San Luis Rey, Valley Center, Escondido, Rancho Santa Fe, and Encinitas USGS 7 ½ Minute Quadrangles, resulted in the identification of 6 special-status species with low to moderate expectancy of occurrence and/or low to moderate habitat potential, and 1 with presumed presence within the BSA. Chapter 3, Table 3 provides a comprehensive list of special-status species with potential to occur within the region and provides a determination of the likelihood of occurrence for each species within the BSA. Based upon literature research the following surveys and studies were conducted: general biological surveys, survey for potential waters of the U.S. and State, rare plant focused surveys, and Habitat Assessments for coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*) and Stephens' kangaroo rat (*Dipodomys stephensi*).

2.2.1. Biological Surveys

Prior to field surveys, literature searches were conducted for Federal and State listed endangered, threatened, and protected species and their likelihood of occurrence in the BSA. The general reconnaissance level surveys were conducted by walking meandering transects through the entire BSA, mapping vegetation communities, compiling detected flora and fauna, and assessing the potential for existing habitat to support sensitive plant and wildlife. Biological surveys were conducted to update information provided in the 1996 Biological Resources Technical Report prepared for the Oceanside-Escondido Rail Project. Floral and wildlife inventories of species encountered during the surveys are documented in Table 2 and Table 3.

2.2.2. Rare Plant Focused Surveys

Prior to focused plant surveys, information on special status rare plants within the project area was gathered from several sources including CNPS Inventory of Rare and Endangered Plants of California (CNPS 2012), CNDDB (CNDDB 2012), and Calflora (Calflora 2012). The focused plant surveys update information provided in the 1996 Biological Resources Technical Report and were conducted by walking meandering transects through the entire BSA.

2.2.3. Jurisdictional Survey Assessment

Potential jurisdictional waters were assessed within the BSA on May 1 & 2 and June 29, 2012 to update information provided in the 1996 Biological Resources Technical Report. The BSA was assessed to determine potential wetlands and "other waters" resources. Buena Vista Creek a concrete lined channel, Buena Creek, an earthen bottomed perennial creek, and concrete lined/ natural bottomed drainage channels were identified as the only hydraulic features within the BSA and were assessed for Federal and State jurisdiction.

2.2.4. Coastal California Gnatcatcher Habitat Assessment

The USFWS and CDFG lists coastal California gnatcatcher as having the potential to occur in the vicinity of the proposed project; no Critical Habitat occurs at the project site. Habitat was assessed for suitability for coastal California gnatcatcher to update information provided in the 1996 Biological Resources Technical Report. The Habitat Assessment and accompanying surveys were conducted on March 16 from 10 A.M. to 6 P.M and on March 20, 2012 from 9:00 A.M. to 5:00 P.M. by Debra Kinsinger of Kinsinger Environmental Consulting (Appendix C: Coastal California Gnatcatcher and Least Bell's Vireo Habitat Assessment).

2.2.5. Least Bell's Vireo Habitat Assessment

The USFWS and CDFG lists least Bell's vireo as having the potential to occur in the vicinity of the proposed project; no Critical Habitat occurs at the project site. Habitat was assessed for suitable least Bell's vireo habitat to update information provided in the 1996 Biological Resources Technical Report. Assessments of the riparian willow habitat and accompanying non-protocol level surveys were conducted on June 24, 2012 from 8:44 AM to 1:00 PM by Debra Kinsinger of Kinsinger Environmental Consulting (Appendix C: Coastal California Gnatcatcher and Least Bell's Vireo Habitat Assessment).

2.2.6. Stephens' Kangaroo Rat Habitat Assessment

The USFWS and CDFG lists Stephens' kangaroo rat as having the potential to occur in the vicinity of the proposed project; no Critical Habitat occurs at the project site. Habitat was assessed for suitable Stephens' kangaroo rat habitat and searched for presence of kangaroo rat sign to update information provided in the 1996 Biological Resources Technical Report. Assessments of the potential habitat were conducted on July 27, 2012 from 8:00 AM to 3:00 PM by Philippe Vergne of ENVIRA (Appendix D: Stephens' Kangaroo Rat Site Assessment Report).

2.3. Personnel and Survey Dates

2.3.1. Biological Surveys

On March 16 and March 20, 2012 Debra Kinsinger of Kinsinger Environmental conducted coastal California gnatcatcher Habitat Assessments and accompanying surveys on foot. In addition, Ms. Kinsinger surveyed for least Bell's vireo and suitable riparian willow habitat on June 24, 2012. Geo-reference of the habitat types was collected using a hand held GPS and aerial photo interpretation. A floral and wildlife inventory of all species observed during the course of the survey was documented.

On May 1 and 2, 2012 Dokken biologists, Sarah Holm and Angela Scudiere, surveyed the BSA. On June 29, 2012 additional surveys were conducted by Sarah Holm between El Corto Drive and North Pacific Street. The surveys consisted of a general assessment of biological conditions, a preliminary jurisdictional survey, a focused botanical survey, and general habitat assessments for sensitive plant and wildlife species. Meandering transects were walked throughout the entire BSA and biological conditions and species were recorded. Specific attention was given to sensitive plant and wildlife species that have the potential of occurring in the BSA. The assessment of biological conditions included identifying and evaluating biological communities and determining their suitability for sensitive and common plant and wildlife species. A floral and wildlife inventory of all species observed during the course of the survey was documented and is presented in Table 2 and Table 3.

On July 27, 2012, Philippe Vergne of ENVIRA conducted Stephens' kangaroo rat Habitat Assessments and searched for presence of kangaroo rat sign for all potentially suitable Stephens' kangaroo rat habitat within the BSA on foot.

2.4. Agency Coordination and Professional Contacts

Electronic sensitive species lists were obtained from USFWS, CNDDB and CNPS. The CNDDB identifies the presence of an extant thread-leaved brodiaea (*Brodiaea filifolia*) population located within the project BSA.

Based on a sign found within the BSA, Dokken Engineering contacted William Haas of Pacific Coast Conservation Alliance on August 16, 2012 for information regarding a conservation area located within the BSA. Mr. Haas confirmed Pacific Coast Conservation Alliance manages the conservation area (identified within this document as Area C) and the presence of an extant thread-leaved brodiaea population within the managed conservation area.

Based on a second sign found within the BSA, Dokken Engineering contacted Justin Fishback of Helix Environmental on August 16, 2012 for information regarding a conservation area located within the BSA. Mr. Fishback confirmed Helix Environmental manages the conservation area (identified within this document as Area B). Based on the 2010 Rancho Santalina Thread-leaved Brodiaea Transplantation 7 Year Monitoring Report provided by Mr. Fishback, an extant thread-leaved brodiaea population occurs within the managed conservation areas.

Based on the proximity of thread-leaved brodiaea Critical Habitat within the BSA, Caltrans contacted Sally Brown of USFWS on October 17, 2012 for guidance on the extent of Critical Habitat designation in the BSA. Ms. Brown clarified that all thread-leaved brodiaea Critical

Habitat in the BSA vicinity occurs exclusively on private property; no thread-leaved brodiaea Critical Habitat occurs within the NCTD ROW or within project limits.

Critical Habitat located south of North Rancho Santa Fe Road (identified within this document as Area D), was documented to be outside of a conservation area. Critical Habitat located north of Oceanside Boulevard (identified within this document as Area A) is just outside the project BSA.

Based on the proximity of thread-leaved brodiaea occurrences documented within the vicinity and the negative 2012 thread-leaved brodiaea focused survey results, Caltrans contacted Tim Dillingham from CDFG on October 30, 2012 for guidance on the probability of thread-leaved brodiaea occurring in the temporary and permanent impact areas of the proposed project. Mr. Dillingham concurred that the probability of thread-leaved brodiaea within the project impact area is low, and that pre-construction surveys would be appropriate.

2.5. Limitations That May Influence Results

All surveys were conducted during appropriate weather, temperature and seasonal conditions. Spring botanical surveys capture the blooming season of all sensitive plant species with the exception of Palmer's grapplinghook (*Harpagonella palmeri*) California Rare Plant Rank 4.2 species.

Chapter 3. Results: Environmental Setting

The project is located in San Diego County, in the Southwestern California, South Coast floristic region and ecological subsection 261Bi (Coastal Hills) of California (Hickman 1993, USDA 2005 and 2007). The South Coast experiences a mild Mediterranean-like climate with a maritime influence and wet winters in conjunction with dry, hot summers and occasional drought conditions (Hickman 1993, USDA 2005 and 2007).

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area

The BSA was delineated with an approximate 50-ft buffer around all permanent and temporary project impacts, including proposed ROW, construction easements, cut and fill limits, and potential staging areas. (Figure 3. Project Layout). The BSA, which encompasses roughly 136 acres, approximately 7 miles along the NCTD ROW from the intersection of Oceanside Boulevard and Melrose Drive in the City of Vista to the intersection of West Mission Road and North Pacific Street in the City of San Marcos, San Diego County, California and the associated commercial and urban residential development parcels adjacent to the NCTD rail tracks. Much of the BSA is either developed or greatly disturbed as the project parallels the active NCTD railroad corridor. Recent track and drainage improvements to the NCTD corridor have resulted in a large percentage of the BSA to be comprised of decomposed granite, disturbed soils and ruderal vegetation. Commercial and residential developments along the project consist of hardscape, compacted soils, landscaping, and disturbed native and non-native vegetation (Appendix F: Photographs 1-4).

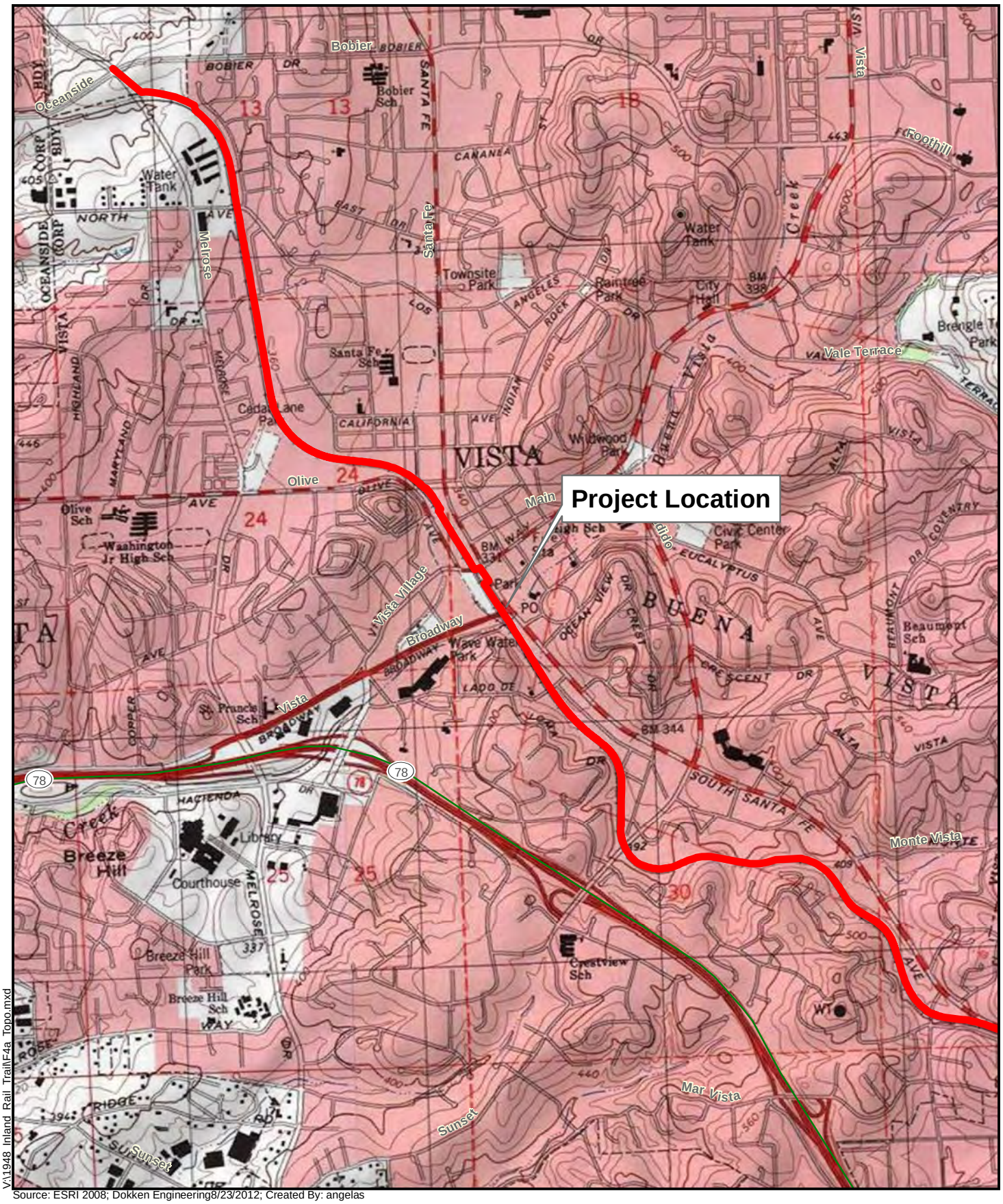
3.1.2. Physical Conditions

3.1.2.1. GEOLOGY

The project occurs within the South Coast floristic region and ecological subsection 261Bi (Coastal Hills), which is a geologically defined region characterized by narrow, low elevation ranges with alluvial lowlands and coastal terraces. Geological formations of the project vicinity include late Holocene alluvial flood-plain deposits, middle Eocene Santiago Formation, and mid-Cretaceous undivided Tonalite (Kennedy and Tang 2002).

3.1.2.2. TOPOGRAPHY

The BSA is in the USGS San Marcos and San Luis Rey 7 ½ Minute Quadrangles (Figure 4 Topographical Map of Project Area). Topographical features in the project vicinity include the San Luis Rey River to the north, San Marcos Mountains to the east, Lake San Marcos to the south and the Pacific Ocean to the west. Within the project vicinity, topography is dominated by

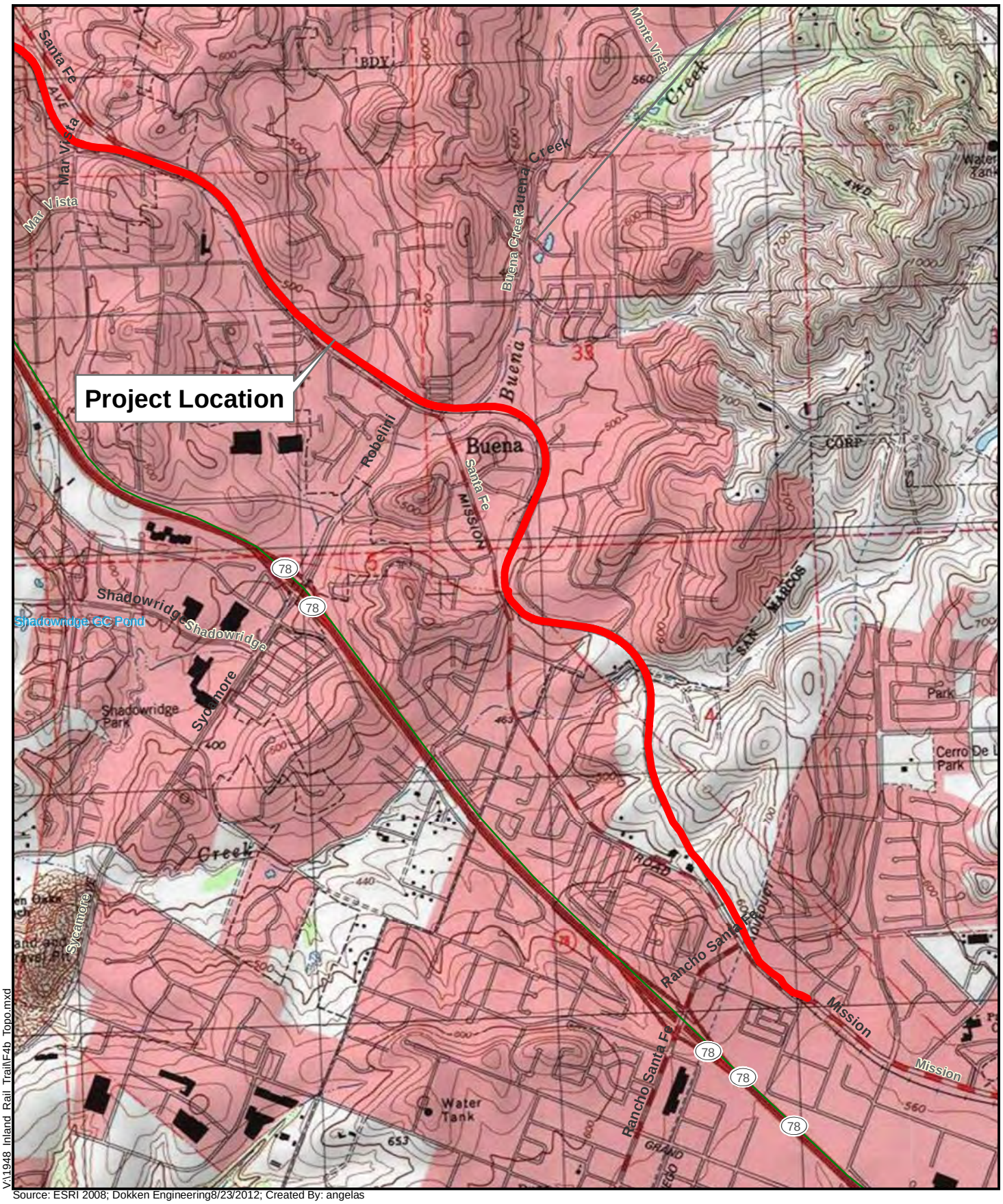


Source: ESRI 2008; Dokken Engineering8/23/2012; Created By: angelas

V:\1948 Inland Rail Trail\F4a Topo.mxd

0 0.25 0.5 0.75 1 Miles

FIGURE 4a
Topographical Map
CML 5381(003)
Inland Rail Trail Project
San Diego County, California



Source: ESRI 2008; Dokken Engineering8/23/2012; Created By: angelas

V:\1948 Inland Rail Trail\F4b Topo.mxd

0 0.25 0.5 0.75 1 Miles

FIGURE 4b
Topographical Map
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

the many small, low elevation hills and accompanying valleys. The BSA is slightly sloping to flat along the project length, largely following the natural low points of the surrounding hills. The project lies between the approximate elevations of 330 and 580 feet above mean sea level (amsl).

3.1.2.3. SOILS

A diverse range of soil series occur within the project area, dominated by soil families composed of sandy loam, loamy fine sand, course sandy loam, clay, and clay loam. The dominating soils in this subsection are well to moderately-well drained, with many specific to slope conditions. Table 1 summarizes all the soils types found within the study area (NRCS 2012).

Table 1: Soil Types Found Within/Immediately Adjacent to the BSA

Soil Map Unit Symbol	Soil Map Unit Name
AtC	Altamont clay, 5 to 9 percent slopes
AwC	Auld clay, 5 to 9 percent slopes
AwD	Auld clay, 9 to 15 percent slopes
BIC	Bonsall sandy loam, 2 to 9 percent slopes
BIC2	Bonsall sandy loam, 2 to 9 percent slopes, eroded
BID2	Bonsall sandy loam, 9 to 15 percent slopes, eroded
BsD	Bosanko clay, 9 to 15 percent slopes
DaC	Diablo clay, 2 to 9 percent slopes
DaD	Diablo clay, 9 to 15 percent slopes
EsC	Escondido very fine sandy loam, 5 to 9 percent slopes
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
FaE2	Fallbrook sandy loam, 15 to 30 percent slopes, eroded
GrC	Greenfield sandy loam, 5 to 9 percent slopes
HrC	Huerhuero loam, 2 to 9 percent slopes
HrC2	Huerhuero loam, 5 to 9 percent slopes, eroded
LeC	Las Flores loamy fine sand, 2 to 9 percent slopes
LeC2	Las Flores loamy fine sand, 5 to 9 percent slopes, eroded
LeD2	Las Flores loamy fine sand, 9 to 15 percent slopes, eroded
LrE	Las Posas stony fine sandy loam, 9 to 30 percent slopes
PeC	Placentia sandy loam, 2 to 9 percent slopes
PeC2	Placentia sandy loam, 5 to 9 percent slopes, eroded
PeD2	Placentia sandy loam, 9 to 15 percent slopes, eroded
PfC	Placentia sandy loam, thick surface, 2 to 9 percent slopes
SbA	Salinas clay loam, 0 to 2 percent slopes
TuB	Tujunga sand, 0 to 5 percent slopes
VsE2	Vista coarse sandy loam, 15 to 30 percent slopes, eroded

3.1.2.4. HYDROLOGICAL RESOURCES

Based on survey results, the USGS San Marcos and San Luis Rey 7 ½ Minute Quadrangles, USFWS National Wetland Inventory, and Federal Emergency Management Agency (FEMA) 100-year floodplain map, the following hydraulic features occur within the study area: Buena Vista Creek and Buena Creek (USFWS 2012, FEMA 2012). Surveys revealed the presence of many drainage ditches spanning the length of the NCTD railway; the majority of observed ditches are concrete lined, with only a few containing natural bottoms.

3.1.3. Biological Conditions in the Biological Study Area

3.1.3.1. VEGETATION COMMUNITIES

The project is located in San Diego County, in the Southwestern California, South Coast floristic region and ecological subsection 261Bi (Coastal Hills) of California (Hickman 1993, USDA 2005 and 2007). Native plant communities typical to the region include coastal-sage scrub and chaparral communities interspersed with riparian vegetation associated with natural drainages and creeks. Much of the vegetation within the BSA is highly disturbed or absent due to NCTD rail improvements, urbanization, and pedestrian use (walking/cycling trails) which continually degrades the native vegetative communities and associated habitat.

Urban and Developed Areas

The BSA is largely dominated by urban and developed areas. The disturbed habitat within the BSA occurs as a result of past disturbance and compaction of soils due to commercial, urban residential, pedestrian use (walking/cycling trails), and improvements to the NCTD rail. These disturbed non-native ruderal areas make up the majority of the habitat present within the project limits and consist of native and non-native landscaping, and ruderal vegetation associated with compacted soils.

Developed areas are the dominant feature within the BSA. These areas consist of roads, NCTD railroad tracks, hardscape, decomposed granite along the NCTD rail, developed commercial and developed residential areas. Developed areas within the BSA offer little or no habitat value to surrounding wildlife and vegetation. It is dominated by sparse non-native ruderal vegetation or limited native and non-native landscaping (Appendix F: Photographs 1-4).

Non-native Grassland

A large portion of the BSA, second to urban and developed, is composed of non-native grassland dominated by Mediterranean exotics. Non-native grassland habitat is characterized by dense to sparsely vegetated annual grasses below 3 feet high often in association with native and non-native annual/perennial herbaceous forbs; habitat elevations often occur below 3,000 feet amsl (Holland 1986). Non-native grassland within the BSA occurs at adjacent fields and hillsides and

along urban developments (bordering fences, roads and the NCTD rail) (Appendix F: Photographs 1 and 9). An approximate total of 3.6 acres of permanent impacts to fragmented and isolated patches of non-native grassland habitat are anticipated. Per conditions in SANDAG'S 2003 MHCP, the project shall implement **BIO-3** to minimize regional impacts to non-native grassland.

Disturbed Diegan Coastal Sage Scrub

A very small portion (approximately 0.05 acres) of the BSA outside of the NCTD ROW includes disturbed Diegan Coastal Sage Scrub. Diegan Coastal Sage Scrub habitat is characterized by low, drought deciduous shrubs or sub-shrubs less than 3 feet tall, often with patches of unvegetated bare soil between shrubs. Typical of a low moisture ecosystem, growth largely occurs during winter and spring as growth is limited by drought conditions experienced in the typically steep, xeric slopes or clay soils during the dry fall and summer months. Dominants within the community often include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), and white sage (*Salvia apiana*). Diegan Coastal Sage Scrub communities are known to extend throughout coastal southern California from the Los Angeles region southwards through Baja California (Holland 1986).

Southern Willow Riparian Forest

A small portion of the BSA (approximately 0.13 acres) in proximity to the Buena Creek Sprinter Station within the NCTD ROW includes southern willow riparian forest. Canopy dominants typical of a willow riparian forest include one or several species of shrub/tree willows (*Salix* sp.) and may include cottonwood (*Populus* sp.) and California sycamore (*Platanus racemosa*). Typical of a moist, stream environment, willow riparian forest within the BSA occurs on the banks of the perennial Buena Creek adjacent and within the NCTD rail ROW (Holland 1986) (Appendix F: Photograph 5).

South Coast Live Oak Riparian Forest

A small portion of the BSA (approximately 0.63 acres) in proximity to the Buena Creek Sprinter Station within the NCTD ROW includes South Coast Live Oak Riparian Forest. The South Coast Live Oak Riparian Forest is an open to dense evergreen riparian woodland which lacks a distinct shrub understory. Canopy dominants typical of a South Coast Live Oak Riparian Forest are limited to coast live oak (*Quercus agrifolia*) and with an understory dominated by herbs. Typical of a riparian environment the South Coast Live Oak Riparian Forest within the BSA occurs on moist the banks of the perennial Buena Creek, upstream of the project area (Holland 1986) (Appendix F: Photograph 6).

Arundo Scrub

A small portion of the BSA in proximity to the Buena Creek Sprinter Station within the NCTD ROW includes invasive arundo scrub. Arundo scrub is a disturbed wetland community type dominated by the aquatic invasive arundo (*Arundo donax*). This species has invaded riverine and aquatic sites throughout the State, displacing native stands of riparian and wetland vegetation. The subsequent colonization of these areas by arundo eliminates valuable habitat to wildlife and sensitive vegetative communities. Within the BSA, an arundo scrub infestation occurs on the northwestern banks of the perennial Buena Creek (Cal-IPC 2012).

Freshwater Marsh

A small portion of the BSA (approximately 0.02 acres) in proximity to the Buena Creek Sprinter Station within the NCTD ROW includes freshwater marsh. Freshwater marsh is often found in proximity to still or slow moving water sources such as river mouths, lake margins and springs where sites are perennially inundated/flooded. Vegetative dominants associated with freshwater marsh usually are composed of rush (*Scirpus* sp.) and/or cattails (*Typha* sp.). Typical of a slow moving, perennially moist, stream environment, the freshwater marsh within the BSA occurs in close proximity to the rail bridge over the perennial Buena Creek and is dominated by a thick stand of cattail (Holland 1986) (Appendix F: Photograph 7 & 8).

3.1.3.2. COMMON PLANT SPECIES

Botanical surveys of the BSA were conducted on May 1 and 2, 2012. Table 2 lists the plant species observed during these surveys.

Table 2: Plant Species Observed Within the BSA

Scientific Name	Common Name	Native (N)/ Non-native (X)
Acacia pycnantha	Golden wattle .	X (Invasive)
Acmispon glaber	Deerweed	N
Agave americana	American century plant	X
Alnus sp.	Alder sp.	Unknown
Ambrosia psilostachya	Western ragweed	N
Anagallis arvensis	Scarlet pimpernel	X
Aptenia cordifolia	Dew plant	X
Artemisia californica	California sagebrush	N
Atriplex prostrata	Fat-hen	X
Arundo donax	Giant reed	X (Invasive)
Avena fatua	Common wild oats	X (Invasive)
Baccharis pilularis	Coyote brush	N
Baccharis salicifolia	Mule fat	N

Baccharis sarothroides	Broom baccharis	N
Bougainvillea spectabilis	Bougainvillea	X
Brassica nigra	Black mustard	X (Invasive)
Bromus diandrus	Ripgut brome	X (Invasive)
Bromus madritensis	Foxtail brome	X (Invasive)
Bromus tectorum	Cheatgrass	X (Invasive)
Melaleuca viminalis	Bottlebrush	X
Calystegia macrostegia	Island morning glory	N
Carduus pycnocephalus	Italian thistle	X (Invasive)
Carpobrotus chilensis	Sea fig	X (Invasive)
Carpobrotus edulis	Iceplant	X (Invasive)
Castilleja sp.	Owl's clover	N
Centaurea melitensis.	Tocalote	X (Invasive)
Chlorogalum sp.	Soaproot sp.	N
Chrysanthemum coronarium	Crown daisy	X
Cirsium vulgare	Bullthistle	X (Invasive)
Conium maculatum	Poison hemlock	X
Convolvulus arvensis	Field bindweed	X (Invasive)
Conyza bonariensis	Flax-leaved horseweed	X
Cortaderia selloana	Pampas grass	X
Cucurbita palmata	Coyote melon	N
Cupressus sempervirens	Italian cypress	X
Cynara cardunculus	Artichoke thistle	X (Invasive)
Datura wrightii	Western jimson weed	N
Deinandra fasciculata	Clustered tarweed	N
Dimorphotheca sinuata	African daisy	X (Invasive)
Drosanthemum floribundum	Rosy ice plant	X
Encelia californica	California brittlebush	N
Eremocarpus setigerus	Dove weed	N
Eriobotrya japonica	Loquat	X
Eriogonum fasciculatum	California buckwheat	N
Eriophyllum staechadifolium	Seaside golden yarrow	N
Erodium botrys	Long beaked filaree	X (Invasive)
Erodium cicutarium	Redstem stork's bill	X
Erodium moschatum	White stemmed filaree	X (Invasive)
Eschscholzia caespitosa	Tufted poppy	N
Eschscholzia californica	California poppy	N

Eucalyptus globulus	Blue gum	X (Invasive)
Eucalyptus sideroxylon	Red iron bark	X
Festuca perennis	Italian rye	X
Ficus carica	Edible fig	X (Invasive)
Foeniculum vulgare	Fennel	X
Fraxinus uhdei	Shamel ash	X (Invasive)
Hazardia squarrosa	Sawtooth goldenbush	N
Hedera canariensis	Canary ivy	X (Invasive)
Helianthemum scoparium	Rushrose	N
Helminthotheca echioides	Bristly ox-tongue	X (Invasive)
Hesperoyucca whipplei	Chaparral yucca	N
Heterotheca grandiflora	Telegraph weed	N
Heteromeles arbutifolia	Toyon	N
Hirschfeldia incana	Mediterranean hoary mustard	X (Invasive)
Hordeum murinum	Foxtail barley	X
Hordeum sp.	Barley sp.	X
Ipomoea indica	Oceanblue morning glory	X
Iris pseudacorus	Water iris	X (Invasive)
Isocoma menziesii	Menzies' goldenbush	N
Isomeris arborea	Bladderpod	N
Juncus sp.	Rush sp.	N
Lantana sp.	Lantana	X
Lathyrus tingitanus	Tangier pea	X
Limonium perezii	Canarian sea lavender	X
Lonicera japonica	Japanese honeysuckle	N
Lotus scoparius	California broom	N
Lotus unifoliolatus	American bird's foot trefoil	N
Lupinus sp.	Lupine sp.	N
Lycianthes rantonnetii	Blue potato bush	X
Malacothamnus fasciculatus	Chaparral mallow	N
Malosma laurina	Laurel suman	N
Malva sp.	Mallow	X
Malvella leprosa	Alkali mallow	N
Medicago minima	Burclover	X
Melilotus albus	White sweetclover	X (Invasive)
Melilotus indicus	Annual sweet yellow clover	X
Mesembryanthemum nodiflorum	Slenderleaf iceplant	X

Myoporum laetum	Lollypop tree	X
Nerium oleander	Oleander	X (Invasive)
Nicotiana glauca	Tree tobacco	X
Opuntia sp.	Prickly pear	N
Oxalis pes-caprae	Bermuda buttercup	X (Invasive)
Passiflora caerulea	Passion flower	X
Pelargonium ×hortorum	Garden geranium	X
Pennisetum setaceum	Fountaingrass	X (Invasive)
Phormium tenax	New Zealand flax	X
Photinia fraseri	Photinia	X
Pinus sp.	Pine sp.	
Plantago lanceolata	English plantain	X (Invasive)
Platanus x acerifolia	London plane tree	
Platanus racemosa	California sycamore	N
Plumbago auriculata	Cape leadwort	X
Pseudognaphalium sp.	Cudweed sp.	N
Pyracantha sp.	Firethorn	X
Quercus agrifolia	Coast live oak	N
Quercus berberidifolia	Scrub oak	N
Raphanus sativus	Wild radish	X (Invasive)
Rhamnus ilicifolia	Hollyleaf redberry	N
Rhus integrifolia	Lemonade berry	N
Ricinus communis	Castor bean	X (Invasive)
Romneya coulteri	Matilija poppy	N
Rosa sp.	Rose	X
Rosmarinus officinalis	Rosemary	X
Rubus discolor	Himalaya blackberry	
Rubus ursinus	California blackberry	N
Rumex crispus	Curly dock	X (Invasive)
Salix lasiandra	Pacific willow	N
Salix lasiolepis	Arroyo willow	N
Salsola sp.	Russian thistle	X (Invasive)
Salvia apiana	White sage	N
Salvia mellifera	Black sage	N
Sambucus nigra	Black elderberry	N
Schinus molle	Peruvian pepper tree	X (Invasive)
Sisyrinchium bellum	Blue eyed grass	N
Schinus terebinthifolius	Brazilian pepper tree	X (Invasive)
Solanum elaeagnifolium	Silverleaf nightshade	X (Invasive)

Sonchus oleraceus	Sow thistle	X
Stephanomeria diegensis	Wreathplant	N
Syagrus romanzoffiana	Queen palm	X
Tamarisk sp.	Tamarisk sp.	X (Invasive)
Tecoma capensis	Cape honeysuckle	X
Thunbergia gregorii	Orange clock vine	X
Toxicodendron diversilobum	Poison oak	N
Tropaeolum majus	Garden nasturtium	X (Invasive)
Typha latifolia	Broadleaf cattail	N
Ulmus parvifolia	Chinese elm	X
Urtica dioica	Stinging nettle	N
Viguiera laciniata	San Diego sunflower	N
Vinca major	Periwinkle	X (Invasive)
Vulpia sp.	Fescue sp.	
Washingtonia robusta.	Washington fan palm	X (Invasive)
Yucca sp.	Yucca sp.	Unknown

3.1.3.3. COMMON ANIMAL SPECIES

Habitat available to wildlife within the BSA is largely degraded and fragmented, with some portions of moderate habitat potential. Smaller birds and mammals (e.g., rodents), snake and lizard species are especially adapted to the dominant communities within the BSA (Urban and Developed and Non-native Grassland). These species were likewise represented during the biological surveys of the BSA. Table 3 lists wildlife species observed in the BSA, during the March 16 and 20, May 1 and 2, June 24, and July 27, 2012 surveys:

Table 3: Wildlife Species Observed Within the BSA

Scientific Name	Common Name	Native (N)/ Non-native (X)
Bird		
Accipiter cooperii	Cooper's hawk	N
Amphispiza belli	Sage sparrow	N
Anas platyrhynchos	Mallard	N
Aphelocoma californica	Western scrub jay	N
Buteo jamaicensis	Red-tailed hawk	N
Buteo lineatus	Red-shouldered hawk	N
Butorides virescens	Green heron	N
Calypte anna	Anna's hummingbird	N
Calypte costae	Costa's hummingbird	N

Carpodacus mexicanus	House finch	N
Cathartes aura	Turkey vulture	N
Charadrius vociferus	Killdeer	N
Cistothorus palustris	Marsh wren	N
Columba livia	Rock dove	X
Corvus brachyrhynchos	American crow	N
Corvus corax	Common raven	
Falco sparverius	American kestrel	N
Gallus gallus domesticus	Chicken	X
Geothlypis trichas	Common yellowthroat	N
Icterus cucullatus	Hooded oriole	N
Junco hyemalis	Dark eyed junco	N
Melanerpes formicivorus	Acorn woodpecker	N
Melospiza melodia	Song sparrow	N
Melozone crissalis	California towhee	N
Mimus polyglottos	Northern mockingbird	N
Molothrus ater	Brown-headed cowbird	X
Oreothlypis celata	Orange-crowned warbler	N
Passer domesticus	House sparrow	X
Pavo cristatus	Peacock	X
Picoides nuttallii	Nuttall's woodpecker	N
Pipilo maculatus	Spotted towhee	N
Psaltriparus minimus	Bushtit	N
Sayornis nigricans	Black phoebe	N
Sialia mexicana	Western bluebird	N
Spinus psaltria	Lesser goldfinch	N
Stelgidopteryx serripennis	Northern rough-winged swallow	N
Sturnella neglecta	Western meadowlark	N
Sturnus vulgaris	European starling	X
Tyrannus verticalis	Western kingbird	N
Tyrannus vociferans	Cassin's kingbird	N
Zenaida macroura	Mourning dove	N
Mammal		
Canis latrans	Coyote	N
Canis lupus familiaris	Domestic dog	X
Didelphis virginiana	Virginia opossum	X
Family Geomyidae	Gopher sp.	N
Felis catus	Domestic cat	X

Procyon lotor	Racoon	N
Spermophilus beecheyi	California ground squirrel	N
Sylvilgagus audubonii	Desert cottontail	N
Invertebrate		
Procambarus sp.	Crayfish	X
Reptile		
Elgaria multicarinata webii	Southern alligator lizard	N
Sceloporus occidentalis	Western fence lizard	N
Sceloporus orcuttii	Granite spiny lizard	N

Additional yearlong resident species not observed but expected to occur in the vicinity of the BSA, are as follows: Bird species in the area include oak titmouse (*Baeolophus inornatus*), brewer's blackbird (*Euphagus cyanocephalus*), house wren (*Troglodytes aedon*), American robin (*Turdus migratorius*), and barn owl (*Tyto alba*). Reptile and amphibian species in the area likely include sagebrush lizard (*Sceloporus graciosus*), sideblotched lizard (*Uta stansburiana*), gopher snake (*Pituophis catenifer*), common kingsnake (*Lampropeltis getula*), common garter snake (*Thamnophis sirtalis*), western rattlesnake (*Crotalus viridis*), western toad (*Bufo boreas*), California chorus frog (*Pseudacris cadaverina*) and pacific chorus frog (*Pseudacris egilla*). Mammal species expected to occur in the vicinity of the BSA include the deer mouse (*Peromyscus maniculatus*), house mouse (*Mus musculus*), striped skunk (*Mephitis mephitis*), and gray fox (*Urocyon cinereoargenteus*).

3.1.3.4. INVASIVE SPECIES

Based on the California Invasive Plant Council (Cal-IPC) Inventory Database for the Southwest floristic province, the following species were observed during biological surveys and are designated with a high invasive rating in the Southwest Province area: arundo, iceplant (*Carpobrotus edulis*), pampasgrass (*Cortaderia selloana*), fennel (*Foeniculum vulgare*), canary ivy (*Hedera canariensis*), foxtail brome (*Bromus madritensis*), and cheatgrass (*Bromus tectorum*) (Cal-IPC 2006). Additional species listed as invasive in Table 2 have a low to moderate invasive rating in the Southwest Province area. Measures to prevent the spread of invasive plant species will be incorporated into the project design. All landscaping designs for this project will not contain invasive species in the plant selections or seed mixtures.

3.1.3.5. AQUATIC RESOURCES

Based on survey results, review of the USGS the USGS San Marcos and San Luis Rey 7 ½ Minute Quadrangles and FEMA 100-year Zone AE floodplain maps, Buena Creek, a natural lined creek feature and tributary to Agua Hedionda Creek, is the only natural aquatic resource persisting in the BSA. The perennial creek feature crosses both the existing NCTD rail and the proposed project. Buena Creek contains relatively undisturbed aquatic habitat which supports the

small wetland patch adjacent to the NCTD rail tracks and the narrow willow-riparian corridor along the banks (Appendix F: Photograph 10).

3.1.3.6. MIGRATION CORRIDORS

Based on survey results, Buena Creek, a natural lined creek feature likely acts as a migration corridor for wildlife in the area, providing linear access under the existing railway facility free from vehicular and human disturbance. The perennial water source matched with the adjacent riparian vegetation creates ideal conditions for wildlife to disperse throughout the region. Due to the developed nature of the study areas, the Buena Creek corridor is likely one of the few remaining natural migration corridors in the project vicinity. As the project is placing a bike bridge spanning over the channel, any impacts to wildlife migrations associated with project construction would be temporary. Construction over Buena Creek will not take place at night, the likely peak in wildlife usage for migration purposes. At completion of construction, full usage of the channel as a migration corridor would be restored; as a result, a further discussion of migration corridors is not included in this document.

3.2. Regional Species and Habitats of Concern

Plant and animal species are considered to have special-status if they are at least one of the following: listed as endangered or threatened under FESA or CESA, listed as rare under the California Native Plant Protection Act, or listed as a Species of Special Concern by the CDFG. Prior to the field surveys, queries of the CNDDB and CNPS databases were conducted to identify special-status species. Table 4 is a compilation of special-status species within the San Marcos, San Luis Rey, Valley Center, Escondido, Rancho Santa Fe, and Encinitas USGS 7 ½ Minute Quadrangles listed by the CNDDB, CNPS and USFWS. The queries identified 102 species of special-status plant and wildlife species, 6 of which, Palmer's grapplinghook, yellow warbler (*Dendroica petechia brewsteri*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), western yellow bat (*Lasiurus xanthinus*), and two-striped garter snake (*Thamnophis hammondii*), have a low to moderate chance of occurring and 1 of which, thread-leaved brodiaea, is assumed present within the BSA. The rest of the species listed in Table 4 are presumed absent from the BSA.

Table 4: Special-status Species with Potential to Occur in the Project Vicinity

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Plant Species					
Acanthomintha ilicifolia	San Diego thorn-mint	Fed: CA: CNPS:	T E 1B.1	An annual herb inhabiting vernal pools, and clay soils and openings within chaparral, valley and foothill grassland, and coastal-sage scrub communities. Flowers April-June (32-3,149 feet).	**Presumed Absent;** Project site is disturbed and developed and lacks the preferred vernal pools and clay soils in association with the typical vegetation communities; habitat unsuitable for San Diego thorn-mint.
Adolphia californica	California adolphia	Fed: CA: CNPS:	-- -- 2.1	A perennial shrub inhabiting chaparral, valley grassland, and coastal sage scrub communities. Flowers December-May (147-2,427 feet).	**Presumed Absent;** Project site is disturbed and developed but has strips of non-native grassland potentially suitable for the species. Nearest CNDDB occurrence is approximately 2.5 miles from project site. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.
Ambrosia pumila	San Diego ambrosia	Fed: CA: CNPS:	T -- 1B.1	A perennial rhizomatous herb inhabiting sandy loams, clay and occasionally alkaline soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pool communities. Flowers April-October (65-1,361 feet).	**Presumed Absent;** Project site is disturbed and developed but has strips of non-native grassland and contains sandy loam soils potentially suitable for the species. Nearest CNDDB occurrence is approximately 3 miles from project site and is believed extirpated. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	Fed: CA: CNPS:	E -- 1B.1	A perennial evergreen shrub inhabiting maritime sandy chaparral communities. Flowers December- June (0-1,197 feet).	**Presumed Absent;** Site is disturbed and developed and lacks suitable maritime sandy chaparral communities; habitat unsuitable for Del Mar manzanita.
Arctostaphylos rainbowensis	Rainbow manzanita	Fed: CA: CNPS:	-- -- 1B.1	A perennial evergreen shrub inhabiting granitic outcrops and chaparral communities. Flowers January- February (738-2,198 feet).	**Presumed Absent;** Project site elevation ranges 330 and 580 feet amsl, outside of the species' elevation range; habitat unsuitable for rainbow manzanita.
Artemisia palmeri	San Diego sagewort	Fed: CA: CNPS:	-- -- 4.2	A perennial deciduous shrub inhabiting moist drainages and sandy mesic soils of Chaparral, Coastal Scrub, riparian forest/woodland, and riparian scrub communities. Flowers February – September (49-3,001 feet).	**Presumed Absent;** Site is disturbed and developed, but does contain a natural bottomed creek feature, Buena Creek, potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from project site. Focused surveys in May 2012 found no specimens within the BSA; presumed absent.
Atriplex coulteri	Coulter's saltbush	Fed: CA: CNPS:	-- -- 1B.2	A perennial herb inhabiting alkaline or clay soils of coastal scrub, coastal bluff scrub, coastal dunes and valley and foothill grassland communities. Flowers March – October (10-1,509 feet).	**Presumed Absent;** Project site is disturbed and developed but has strips of non-native grassland and in association with some small patches of clay soils potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from project site. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Atriplex pacifica	South coast saltscale	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting coastal bluff scrub, coastal dunes and scrub, and playas communities. Flowers March-October (0-459 feet).	**Presumed Absent;** Project site is disturbed and developed and lacks the requisite coastal bluff scrub, coastal dunes and scrub, or playas communities; habitat unsuitable for south coast saltscale
Atriplex serenana var. *davidsonii*	Davidson's saltscale	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting alkaline bluffs of coastal bluff scrub or coastal scrub communities. Flowers April-October (33-656 feet).	**Presumed Absent;** Project site is disturbed and developed and lacks the requisite alkaline bluffs; habitat unsuitable for Davidson's saltscale.
Baccharis vanessae	Encinitas baccharis	Fed: CA: CNPS:	T E 1B.1	A perennial deciduous shrub inhabiting sandstone of maritime chaparral, cistmontane woodland and Torrey-pine forest communities. Flowers August- November (196-2,362 feet).	**Presumed Absent;** Project site is disturbed and developed and lacks the maritime chaparral, cistmontane woodland and Torrey-pine forest communities required for species; habitat unsuitable for Encinitas baccharis.
Bloomeria clevelandii	San Diego golden star	Fed: CA: CNPS:	-- -- 1B.1	A perennial bulbiferous herb inhabiting clay soils of mesa grasslands, scrub edges within coastal sage scrub, chaparral, valley grassland, freshwater wetland and vernal pools communities. Flowers May (164-1,525 feet).	**Presumed Absent;** Project site is disturbed and developed with strips of non-native grassland but lacks the mesa grasslands preferred by the species; habitat unsuitable for San Diego golden star.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Brodiaea filifolia	Thread-leaved brodiaea	Fed: CA: CNPS:	T E 1B.1	A perennial bulbiferous herb inhabiting grassland, vernal pools, chaparral openings, cismontane woodland, coastal scrub, playas, and valley and foothill grassland communities. Species often occurs within clay soils. Flowers March-June (82-3,999 feet).	**Low to Moderate Potential;** Site contains non-native grassland habitat potentially suitable for the species; portions of thread-leaved brodiaea designated Critical Habitat Subunit 8b occurs within the BSA, but outside the project limits. Nearest CNDDB occurrence is immediately adjacent to project area and a known population occurs within adjacent conservation areas. Focused surveys conducted during the spring blooming season in May 2012 and the surveys between El Corto Drive and North Pacific Street in June 2012 found no specimens within the BSA.
Brodiaea orcuttii	Orcutt's brodiaea	Fed: CA: CNPS:	-- -- 1B.1	A perennial bulbiferous herb inhabiting mesic, clay and sometimes serpentinite soils of closed cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (near streams) and vernal pool communities. Flowers May-July (0-5,551 feet).	**Presumed Absent;** The project site does not contain the requisite closed cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley or foothill grassland (near streams) and vernal pool communities; habitat unsuitable for Orcutt's brodiaea.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Camissonia lewisii	Lewis' evening-primrose	Fed: CA: CNPS:	-- -- 3	An annual herb inhabiting sandy or clay soils of coastal grassland, coastal bluff scrub, cismontane woodland, coastal dunes, valley and foothill grassland, and coastal scrub communities. Flowers March-June (0-984 feet).	**Presumed Absent;** Project site is disturbed and developed with strips of non-native grassland potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from the project area. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.
Ceanothus verrucosus	Wart-stemmed ceanothus	Fed: CA: CNPS:	-- -- 2.2	A perennial evergreen shrub inhabiting rocky slopes and chaparral communities. Flowers December-May (3-1,246 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite rocky slopes and chaparral communities; habitat unsuitable for wart-stemmed ceanothus.
Centromadia parryi ssp. *australis*	Southern tarplant	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting salt marshes, vernally mesic valley and foothill grassland, vernal pools, coastal scrub, and marsh and swamp margin communities. Flowers May-November (0-1,394 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite vernally mesic or marsh and swamp margin communities; habitat unsuitable for southern tarplant.
Centromadia pungens ssp. *laevis*	Smooth tarplant	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting alkaline soils of open, chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland communities. Flowers April-September (0-2,100 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite alkaline soils with chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland communities; habitat unsuitable for smooth tarplant.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting coastal dunes and sandy coastal bluff scrub communities. Flowers January-August (3-328 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite coastal dunes and sandy coastal bluff scrub; habitat unsuitable for Orcutt's pincushion.
Chorizanthe orcuttiana	Orcutt's spineflower	Fed: CA: CNPS:	E E 1B.1	An annual herb inhabiting sandy openings of closed cone coniferous forest, maritime chaparral, and coastal scrub communities. Flowers March-May (10-410 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite sandy openings of closed cone coniferous forest, maritime chaparral, or adequate coastal scrub communities; habitat unsuitable for Orcutt's spineflower.
Chorizanthe polygonoides var. *longispina*	Long-spined spineflower	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting sand and often clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland and vernal pool communities. Flowers April-June (98-5,019 feet).	**Presumed Absent;** Project site is disturbed and developed with strips of non-native grassland potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from the project site. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.
Clarkia delicata	Delicate clarkia	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting oak woodland, chaparral, and cismontane woodland communities of often gabbroic soils. Flowers April-May (770-3,280 feet).	**Presumed Absent;** Site is disturbed and developed and the site elevation ranges 330 and 580 feet amsl, outside of the species' elevation range; habitat unsuitable for delicate clarkia.
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	Fed: CA: CNPS:	-- -- 1B.2	A perennial evergreen shrub inhabiting chaparral and cismontane woodland communities. Flowers April-June (98-2,592 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite chaparral and cismontane woodland communities; habitat unsuitable for summer holly.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	Fed: CA: CNPS:	-- -- 1B.1	A perennial herb inhabiting sandy soils of maritime chaparral openings, coastal scrub and coastal bluff scrub communities. Flowers May-September (49-492 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite maritime chaparral openings, coastal bluff scrub or adequate coastal scrub communities; habitat unsuitable for Del Mar Mesa sand aster.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	Fed: CA: CNPS:	-- -- 1B.1	A perennial herb inhabiting rocky, often clay or serpentine soils of coastal bluff scrub, valley and foothill grassland, chaparral and coastal scrub communities. Flowers April-June (16-1,476 feet).	**Presumed Absent;** Project site is disturbed and developed but has strips of non-native grassland and in association with some small patches of clay soils potentially suitable for the species. Nearest CNDDB occurrence is approximately 5 miles from project site. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.
Dudleya variegata	Variegated dudleya	Fed: CA: CNPS:	-- -- 1B.2	A perennial herb inhabiting clay soils, dry hillsides and mesas of chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool communities. Flowers April-June (10-1,902 feet).	**Presumed Absent;** Project site is disturbed and developed but has strips of non-native grassland and in association with some small patches of clay soils potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from project site. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Dudleya viscida	Sticky dudleya	Fed: CA: CNPS:	-- -- 1B.2	A perennial herb inhabiting rocky soils of coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub communities. Often inhabits bluffs and cliffs. Flowers May-June (33-1,804 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite rocky soils; habitat unsuitable for sticky dudleya.
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	Fed: CA: CNPS:	-- -- 1B.1	A perennial evergreen shrub inhabiting mesic soils of chaparral and coastal scrub communities. Flowers September-November (90-1,968 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite mesic soils of chaparral and coastal scrub communities; habitat unsuitable for Palmer's goldenbush.
Eryngium aristulatum var. *parishii*	San Diego button-celery	Fed: CA: CNPS:	E E 1B.1	An annual or perennial herb inhabiting vernal pools and marshes, or mesically in coastal scrub, and valley and foothill grassland communities. Flowers April-June (66-2,034 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite vernal pools, marshes, or mesic scrub, and grassland communities; habitat unsuitable for San Diego button-celery.
Erysimum ammophilum	Sand-loving wallflower	Fed: CA: CNPS:	-- -- 1B.2	A perennial herb inhabiting sandy openings of maritime chaparral, coastal dunes, and coastal scrub communities. Flowers February-June (0-197 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite sandy openings of maritime chaparral, coastal dunes, and coastal scrub communities; habitat unsuitable for sand-loving wallflower.
Euphorbia misera	Cliff spurge	Fed: CA: CNPS:	-- -- 2.2	A perennial shrub inhabiting rocky soils of coastal bluffs; coastal bluff scrub, coastal scrub, and mojavean desert scrub communities. Flowers January-August (32-1,640 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite rocky soils; habitat unsuitable for cliff spurge.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Ferocactus viridescens	San Diego barrel cactus	Fed: CA: CNPS:	-- -- 2.1	A perennial stem succulent inhabiting sandy to rocky soils of chaparral, coastal scrub, valley and foothill grassland, and vernal pool communities. Flowers May-June (10-1,476 feet).	**Presumed Absent;** Project site is disturbed and developed but has strips of non-native grassland potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from project site. Focused surveys in May 2012 and the surveys between El Corto Drive and North Pacific St. in June 2012 found no specimens within the BSA; presumed absent.
Harpagonella palmeri	Palmer's grapplinghook	Fed: CA: CNPS:	-- -- 4.2	An annual herb inhabiting clay soils and dry sites of chaparral, coastal scrub, and valley and foothill grassland communities. Flowers March-April (66-3,133 feet).	**Low to Moderate Potential;** Project site is disturbed and developed but has strips of non-native grassland potentially suitable for the species. Nearest CNDDB occurrence is approximately 2 miles from project site. Focused surveys in May and June 2012 found no specimens; surveys conducted outside the blooming season.
Hazardia orcutti	Orcutt's hazardia	Fed: CA: CNPS:	C T 1B.1	A perennial evergreen shrub inhabiting maritime chaparral, coastal scrub communities often within clay soils. Flowers August-September (262-656 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite maritime chaparral or adequate coastal scrub communities; habitat unsuitable for Orcutt's hazardia.
Heterotheca sessiliflora ssp. *sessiliflora*	Beach goldenaster	Fed: CA: CNPS:	-- -- 1B.1	A perennial herb inhabiting beaches, dunes and mudflats of coastal chaparral, coastal dunes and coastal scrub communities. Flowers June-September (0-4,019 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite beaches, dunes and mudflats; habitat unsuitable for beach goldenaster.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Horkelia truncata	Ramona horkelia	Fed: CA: CNPS:	-- -- 1B.3	A perennial herb inhabiting dry red clay and gabbroic soils of open chaparral and cismontane woodland communities. Flowers May-June (1,312-4,265 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite open chaparral and cismontane woodland communities and the site elevation ranges 330 and 580 feet amsl, outside of the species' elevation range; habitat unsuitable for Ramona horkelia.
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	Fed: CA: CNPS:	-- -- 1B.2	A perennial shrub inhabiting sandy soils of dunes (landward side), hillsides and arroyos within Chaparral and coastal scrub communities. Flowers July-November (32-656 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite sandy soils of dunes (landward side), hillsides and arroyos; habitat unsuitable for decumbent goldenbush.
Iva hayesiana	San Diego marsh-elder	Fed: CA: CNPS:	-- -- 2.2	A perennial herb inhabiting alkaline flats, depressions and stream banks of marsh, swamp and playa communities. Flowers April-September (32-1,640 feet).	**Presumed Absent;** Site is lacks the requisite alkaline flats, depressions and stream banks of marsh, swamp and playa communities; habitat unsuitable for San Diego marsh-elder.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting playas, coastal salt marshes and swamps and vernal pool communities. Flowers February- June (3-4,002 feet).	**Presumed Absent;** Site lacks the requisite playas, coastal salt marshes and swamps and vernal pool communities; habitat unsuitable for Coulter's goldfields.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting dry soils, of chaparral and coastal scrub communities. Flowers January- July (3-2,903 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite chaparral or adequate coastal scrub communities; habitat unsuitable for Robinson's pepper-grass.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Leptosyne maritima	Sea dahlia	Fed: CA: CNPS:	-- -- 2.2	A perennial herb inhabiting coastal bluff scrub and coastal scrub communities. Flowers March-May (16-492 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite coastal bluff scrub or adequate coastal scrub communities; habitat unsuitable for sea dahlia.
Lotus nuttallianus	Nuttall's lotus	Fed: CA: CNPS:	-- -- 1B.1	An annual herb inhabiting coastal dunes and sandy coastal bluff scrub communities. Flowers March-June (0-98 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite coastal dunes and sandy coastal bluff scrub communities; habitat unsuitable for Nuttall's lotus.
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	Fed: CA: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting rocky granitic slopes or hilltops of chaparral and cismontane woodland communities. Flowers June-August (984-5,167 feet).	**Presumed Absent;** Site elevation ranges 330 and 580 feet amsl, outside of the species' elevation range; habitat unsuitable for felt-leaved monardella.
Myosurus minimus ssp. *apus*	Little mousetail	Fed: CA: CNPS:	-- -- 3.1	An annual herb inhabiting alkaline and valley and foothill grassland vernal pools communities. Flowers March-June (66-2,100 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite vernal pool communities; habitat unsuitable for little mousetail.
Nama stenocarpum	Mud nama	Fed: CA: CNPS:	-- -- 2.2	An annual or perennial herb inhabiting intermittently wet areas including marshes, swamps, lake margins and river banks. Flowers January-July (16-1,640 feet).	**Presumed Absent;** Site is disturbed and developed, but does contain a natural bottomed creek feature, Buena Creek, potentially suitable for the species. Nearest CNDDB occurrence is approximately 3 miles from project site. Focused surveys in May 2012 found no specimens within the BSA; presumed absent.
Navarretia fossalis	Spreading navarretia	Fed: CA: CNPS:	T -- 1B.1	An annual herb inhabiting vernal pools, chenopod scrub, playas, and shallow freshwater marsh and swamp communities. Flowers April-June (43-2,149 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite vernal pool and mesic communities; habitat unsuitable for spreading navarretia.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Nemacaulis denudata var. *denudata*	Coast wooly-heads	Fed: CA: CNPS:	-- -- 1B.2	An annual herb inhabiting coastal dunes and coastal beach communities. Flowers April-September (0-328 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite coastal dunes and coastal beach communities; habitat unsuitable for coast wooly-heads.
Nemacaulis denudata var. *gracilis*	Slender cottonheads	Fed: CA: CNPS:	-- -- 2.2	An annual herb inhabiting sandy soils of coastal dunes, desert dunes, and Sonoran desert scrub communities. Flowers April-May (164-1,312 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite coastal dunes, desert dunes, and Sonoran desert scrub communities; habitat unsuitable for slender cottonheads.
Orcuttia californica	California Orcutt grass	Fed: CA: CNPS:	E E 1B.1	An annual herb inhabiting vernal pool communities. Flowers April-August (49-2,165 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite vernal pool communities; habitat unsuitable for California Orcutt grass.
Orobanche parishii ssp. *brachyloba*	Short-lobed broomrape	Fed: CA: CNPS:	-- -- 4.2	A perennial parasitic herb residing on coastal shrubs (often *Isocoma menziesii*) which inhabit sandy soils and in proximity to the ocean. Occurs within coastal dunes, coastal scrub, and coastal bluff scrub communities. Flowers May-August (10-1,000 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite coastal dunes, coastal bluff scrub or adequate coastal scrub communities in close proximity to the ocean; habitat unsuitable for short-lobed broomrape.
Quercus dumosa	Nuttall's scrub oak	Fed: CA: CNPS:	-- -- 1B.1	A perennial tree inhabiting sandy or clay loam soils within closed cone coniferous forest, chaparral, and coastal sage scrub communities. Flowers February- August (49-1,312 feet).	**Presumed Absent;** Site is disturbed and developed and lacks the requisite closed cone coniferous forest, chaparral, or coastal sage scrub communities; habitat unsuitable for Nuttall's scrub oak.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Stemodia durantifolia	Purple stemodia	Fed: CA: CNPS:	-- -- 2.1	A perennial herb inhabiting drying streambeds, Sonoran desert scrub and riparian communities, often in mesic sandy soils. Flowers January-December (590-984 feet).	**Presumed Absent;** Site is just outside the species elevation range, but does contain a natural bottomed creek feature, Buena Creek, potentially suitable for the species. Nearest CNDDB occurrence is greater than 5 miles from project site. Focused surveys in May 2012 found no specimens within the BSA; presumed absent.
Suaeda esteroa	Estuary seablite	Fed: CA: CNPS:	-- -- 1B.2	A perennial herb inhabiting coastal salt marsh and swamp communities. Flowers May-October (0-16 feet).	**Presumed Absent;** Site lacks the requisite coastal salt marsh and swamp communities and the site elevation ranges 330 and 580 feet amsl, outside of the species' elevation range; habitat unsuitable for estuary seablite.
Tetracoccus dioicus	Parry's tetracoccus	Fed: CA: CNPS:	-- -- 1B.2	A perennial deciduous shrub inhabiting dry slopes of chaparral and coastal scrub communities. Flowers April-May (541-3,280 feet).	**Presumed Absent;** Site contains minimal coastal scrub and the site elevation is at the lower limit of the species range. Focused surveys in May 2012 found no specimens within the BSA; presumed absent.
Avian Species					
Athene cunicularia	Burrowing owl	Fed: CA: DFG:	-- -- SSC	Species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Requires friable soils for burrow construction (Below 5,300 feet).	**Presumed Absent;** Project site is disturbed and developed but contains potentially suitable open grassland. Nearest CNDDB occurrence is greater than 5 miles from project site. Surveys conducted in May and June 2012 observed no specimens or suitable burrows. Habitat was determined unsuitable for burrowing owl; presumed absent.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Campylorhynchus brunneicapillus sandiegensis	Coastal cactus wren	Fed: CA: DFG:	-- -- SSC	Inhabits southern California coastal sage scrub communities. Species requires tall *Opuntia* sp. cacti for nesting and roosting. Breeds March – June; frequently produces two broods per season.	**Presumed Absent;** Project site is disturbed and developed and lacks appropriate tall *Opuntia* sp. for nesting; habitat unsuitable for coastal cactus wren.
Charadrius alexandrinus nivosus	Western snowy plover	Fed: CA: DFG:	T -- SSC	Inhabits sandy or gravelly beaches along the coast, on estuarine salt ponds, and the shores of large alkali lakes. Species requires sandy, gravelly or friable soil substrate for nesting. Nests are often in proximity to driftwood, rocks, or defoliated bushes. Breeds April- August.	**Presumed Absent;** Project site is not located on beaches along the coast, estuarine salt ponds, or the shores of large alkali lakes; habitat unsuitable for western snowy plover.
Circus cyaneus	Northern harrier	Fed: CA: DFG:	-- -- SSC	Species occurs in flat, or hummocky, open areas of tall, dense grasses and moist or dry shrubs. Inhabits meadows, grasslands, open rangelands, desert sinks, and fresh or saltwater emergent wetland communities. Nesting occurs on the ground within grasslands, grain fields, sagebrush or other shrubby vegetation. Nest sites are often chosen at marsh edges or in proximity to water. Breeds April – September (0-5,700 feet).	**Presumed Absent;** Project site is disturbed and developed and lacks adequate open areas in proximity to waters; habitat unsuitable for northern harrier.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Dendroica petechia brewsteri	Yellow warbler	Fed: CA: DFG:	-- -- SSC	Breeds in several southern California mountain ranges and throughout most of San Diego County. Species prefers to nest in areas with trees and shrubs typical of low, open-canopy riparian woodland. Species has been known to breed in riparian woodlands from coastal and desert lowlands and montane shrubbery in open conifer forests. Occurs up to 8,000 feet in the Sierra Nevada. Breeds April-August.	**Low to Moderate Potential;** Project site crosses Buena Creek which contains potentially suitable riparian patches. Nearest CNDDB occurrence is approximately 2 miles from project site.
Elanus leucurus	White-tailed kite	Fed: CA: DFG:	-- -- FP	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Breeds February- October.	**Presumed Absent;** Project site is not located in proximity to suitable river bottomlands or marshes; habitat unsuitable for white-tailed kite.
Empidonax traillii extimus	South-western willow flycatcher	Fed: CA: DFG:	E E --	Breeds in riparian habitats characterized by dense vegetation in proximity to open water or saturated soil. Species is associated with dense willow-covered islands and riparian habitats at elevations up to 7,875 feet. Breeds in April-August.	**Presumed Absent;** Project site at Buena Creek does not provide an adequate riparian habitat patch size with the density and complexity required by the species; habitat unsuitable for South-western willow flycatcher.
Icteria virens	Yellow-breasted chat	Fed: CA: DFG:	-- -- SSC	An uncommon summer resident of coastal California coastal California and in foothills of the Sierra Nevada arriving in April and departing by late September. Requires riparian thickets of willow and other brushy tangles near watercourses for nesting and foraging. Breeds from May-August (0-4800 feet in southern California).	**Low to Moderate Potential;** Project site crosses Buena Creek which contains a potentially suitable riparian patch. Nearest CNDDB occurrence is approximately 2 miles from project site.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Laterallus jamaicensis coturniculus	California black rail	Fed: CA: DFG:	-- T FP	A rare yearlong California resident of brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and lower Colorado River; extirpated from San Diego County and the majority of coastal southern California. Occurs in tidal emergent wetlands dominated by pickleweed, in brackish marshes dominated by bulrushes with pickleweed and in freshwater wetlands dominated by bulrushes, cattails, and saltgrass. Species prefers high wetland areas, away from areas experiencing fluctuating water levels. Requires vegetation providing adequate overhead cover for nesting. Eggs laid March-June.	**Presumed Absent;** Project site lacks the requisite wetland and marsh conditions; habitat unsuitable for California black rail. Further, California black rail is believed extirpated from San Diego County.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	Fed: CA: DFG:	-- E --	A southern California endemic, the species inhabits southern California coastal salt marshes year-round. Species is strongly associated with dense pickleweed vegetation, especially Pacific swampfire (*Salicornia virginica*). Most nests occur within the preferred pickleweed communities.	**Presumed Absent;** Project site lacks the requisite coastal salt marshes; habitat unsuitable for Belding's savannah sparrow.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Polioptila californica californica	Coastal California gnatcatcher	Fed: CA: DFG:	T -- SSC	Inhabits arid washes, mesas, and slopes of coastal hills dominated by dense, low-growing, drought-deciduous shrubs and subshrubs of Coastal sage scrub. May also use Chaparral, Grassland, and Riparian communities when adjacent or intermixed with sage scrub vegetation. Breeds February-August (0- 2,500 feet).	**Presumed Absent;** Project site lacks adequate Coastal sage scrub habitat. Habitat Assessments completed in April 2012 determined marginal habitat occurs outside the NCTD railway and outside the project BSA.
Rallus longirostris levipes	Light-footed clapper rail	Fed: CA: DFG:	E E FP	Species current range extends from Ventura County south to the Mexican border. Inhabits coastal salt marshes, lagoons, and mudflats for foraging and associated higher vegetation for cover during periods of high water. For nesting, species utilizes tall, dense cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia virginica*) in the low littoral zone, wrack deposits in the low marsh zone, and hummocks of high marsh within the low marsh zone. Nesting occurs from March-August.	**Presumed Absent;** Project site lacks the requisite wetland and marsh conditions; habitat unsuitable for light-footed clapper rail.
Riparia riparia	Bank swallow	Fed: CA: DFG:	-- T --	A migratory colonial nester inhabiting lowland and riparian habitats west of the desert during spring – fall. Majority of current breeding populations occur along the Sacramento and Feather rivers in the north Central Valley. Requires vertical banks or cliffs with fine textured/sandy soils for nesting (tunnel and burrow excavations). Nests exclusively near streams, rivers, lakes or the ocean. Breeds May-July.	**Presumed Absent;** Project site lacks the requisite cliffs in proximity to streams, rivers, lakes for nesting; habitat unsuitable for bank swallow.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Sternula antillarum browni	California least tern	Fed: CA: DFG:	E E FP	A Californian nesting migrant from April-September. Forages in near-shore ocean water and shallow estuaries and lagoons. Species nests in colonies on sandy soils with sparse vegetation along the ocean, lagoons, and bays.	**Presumed Absent;** Project site lacks the requisite estuaries and lagoons; habitat unsuitable for California least tern.
Vireo bellii pusillus	Least Bell's vireo	Fed: CA: DFG:	E E --	Summer resident of southern California inhabiting low riparian habitats in the vicinity of water and dry river bottoms. Prefers willows, baccharis, mesquite and other low, dense vegetation as nesting sites (below 2000 feet).	**Presumed Absent;** Habitat Assessments conducted in April and June 2012 determined the project site at Buena Creek does not provide an adequate riparian habitat patch size with the density and complexity required by the species; habitat unsuitable for Least Bell's vireo.
Mammal Species					
Antrozous pallidus	Pallid Bat	Fed: CA: DFG:	-- -- SSC	Inhabits low elevations of deserts, grasslands, shrub lands, woodlands and forests year round. Most common in open, dry habitats with rocky areas for roosting. Forages over open ground within 1-3 miles of day roosts. Prefers caves, crevices, and mines for day roosts, but may utilize hollow trees and buildings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Maternity colonies form early April and young are born April-July (below 10,000 feet).	**Presumed Absent;** Project site is largely within the NCTD ROW and lacks preferred caves, crevices, and mines for day roosts. However, project site may provide suitable foraging habitat for the species. The nearest CNDDB occurrence is approximately 4 miles from the project site and recorded in 1949.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Chaetodipus californicus femoralis	Dulzura pocket mouse	Fed: CA: DFG:	-- -- SSC	Within San Diego county inhabits a variety of habitats particularly coastal scrub, chaparral and grasslands. Species occurs in brushy areas, but may be attracted to grass-chaparral edges. Parent species (*C. californicus* ssp.) elevation range occurs from sea level to 7,900 feet and birth April-July.	**Low to Moderate Potential;** BSA is heavily disturbed and degraded within the NCTD ROW and lacks preferred brushy areas, but contains edges of non-native grassland habitat potentially suitable to the species. The nearest CNDDB occurrence is over 5 miles from the project site.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	Fed: CA: DFG:	-- -- SSC	Within San Diego county inhabits arid coastal and desert border areas of coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland communities. Species strongly associated with rocky, gravelly or sandy substrates. Breeds March-May (0-6,000 feet).	**Low to Moderate Potential;** BSA is heavily disturbed and degraded within the NCTD ROW but contains non-native grassland habitat potentially suitable to the species. The nearest CNDDB approximately 3 miles from the project site.
Choeronycteris mexicana	Mexican long-tongued bat	Fed: CA: DFG:	-- -- SSC	A summer resident of San Diego County. Inhabits desert and montane riparian, desert succulent scrub, desert scrub and pinyon juniper communities. Species is primarily a nectar feeder and migrates to acquire flowering food sources; strong preference to agave and yucca. Day roosts in caves, mines and buildings, particularly dimly-lit sites. Births in June and early July, with lactation extending to August.	**Presumed Absent;** Project site is disturbed and degraded and does not provide the day roost habitat or adequate nectar sources required by the species; habitat unsuitable for Mexican long-tongued bat.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Dipodomys stephensi	Stephens' kangaroo rat	Fed: CA: DFG:	E T --	Inhabits annual and perennial grasslands and coastal scrub or sagebrush with sparse canopy cover. Prefers sparse grassland over dense grassland habitats and species prefers buckwheat, chamise, brome grass and filaree as food sources. Species prefers sandy and gravely soils, of level to gently sloping habitat with slopes less than 50%. Requires patches of fine grained soils or dusty pockets for sand bathing. Burrows frequently found in clusters. Likely breeds April – June (180-4,100 feet).	**Presumed Absent;** Habitat Assessments conducted on July 27, 2012 determined the project site does not provide adequate habitat or patch size required by the species and site indicates kangaroo rats are not present; habitat unsuitable for Stephens' kangaroo rat.
Eumops perotis californicus	Western mastiff bat	Fed: CA: DFG:	-- -- SSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Prefers open, rugged, rocky areas where suitable crevices are available for day roosts. Roots in cliff face crevices, high buildings, trees and tunnels. Roosting sites must have a minimum 10 foot vertical drop. Births early April through August or September (240-8,475 feet).	**Presumed Absent;** Project site is without preferred cliff rock crevice or cave features as day roosting sites; habitat unsuitable.
Lasiurus xanthinus	Western yellow bat	Fed: CA: DFG:	-- -- SSC	Species known in California only in Los Angeles and San Bernardino Counties south to the Mexican border. Inhabits valley foothill riparian, desert riparian, desert wash and palm oasis habitats in proximity to water. Species utilizes trees and palms for roosting and maternity colonies. Births in June and July (below 2000 feet).	**Low to Moderate Potential;** Project site crosses Buena Creek which contains a potentially suitable riparian patch for roosting and foraging. Nearest CNDDB occurrence is documented within the project area with a location uncertainty of 2-3 miles.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Fed: CA: DFG:	-- -- SSC	Inhabits coastal sage scrub communities in Southern California. Species requires intermediate canopy stages of shrub and herbaceous habitats for cover and breeding. Breeds year-round, with a peak in April-May.	**Presumed Absent;** BSA lacks adequate coastal sage scrub with intermediate canopy stages of shrub and herbaceous habitats; habitat unsuitable for San Diego black-tailed jackrabbit.
Neotoma lepida intermedia	San Diego desert woodrat	Fed: CA: DFG:	-- -- SSC	Inhabits moderate to dense canopied rocky areas from San Diego County to San Luis Obispo County. Prefers habitat with rock outcrops, rocky cliffs and slopes for nesting, food caching, and predator escape. Breeds October to May, depending on habitat conditions (0-8,500 feet).	**Presumed Absent;** BSA lacks the requisite rock outcrops, rocky cliffs and slopes; habitat unsuitable for San Diego desert woodrat.
Nyctinomops femorosaccus	Pocketed free-tailed bat	Fed: CA: DFG:	-- -- SSC	Inhabits pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis communities. Prefers rocky desert areas with high cliffs or rock outcrops and frequently selects roosts in cliff rock crevices. Species must have an adequate drop from the roost to gain flight. Maternity sites are located in rock crevices, caverns and buildings. Young are born June-July.	**Presumed Absent;** Project site lacks the rocky desert areas with high cliffs or rock outcrops required for day roosting; habitat unsuitable for pocketed free-tailed bat.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Nyctinomops macrotis	Big free-tailed bat	Fed: CA: DFG:	-- -- SSC	Species is rare in California. Records of the species are from urban areas of San Diego County and vagrants found in the fall and winter. Prefers rugged, rocky canyons and roosts in buildings, caves, crevices of high cliffs or rock outcrops and occasionally within tree holes. Young born June-July; not believed to breed within California (up to 8,000 feet).	**Presumed Absent;** Project site lacks the rugged, rocky canyons and roosts in buildings, caves, crevices of high cliffs or rock outcrops required for day roosting.
Perognathus longimembris pacificus	Pacific pocket mouse	Fed: CA: DFG:	E -- SSC	Inhabits sandy soils of coastal strand, coastal dunes, river alluvium, and coastal sage scrub habitats on marine terraces. Occurs within close proximity to the Pacific Ocean. Species hibernates from November to February and birth April-June (0-600 feet).	**Presumed Absent;** Project site is lacks the requisite sandy soils of coastal strand, coastal dunes, river alluvium, and coastal sage scrub habitats on marine terraces; habitat unsuitable for pacific pocket mouse.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Taxidea taxus	American Badger	Fed: CA: DFG:	-- -- SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons.	**Presumed Absent;** Project site is heavily disturbed and degraded within the NCTD ROW and does not contain adequate habitat acreage to support the species; habitat unsuitable for American badger.
Amphibian Species					
Bufo californicus	Arroyo toad	Fed: CA: DFG:	E -- SSC	Inhabits semi-arid regions near washes or intermittent streams of valley foothill, desert riparian, desert wash or similar communities. Requires sandy, low gradient, open wash habitat with slow moving or pooling water and associated woody riparian vegetation for breeding. Adults active from March to July.	**Presumed Absent;** Project site does not contain adequate sandy, low gradient, open wash habitat; habitat unsuitable for arroyo toad.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Spea hammondii	Western spadefoot	Fed: CA: DFG:	-- -- SSC	Inhabits burrows within grassland and valley foothill hardwood woodland communities. Requires vernal, shallow, temporary pools formed by heavy winter rains for reproduction. Breeds late winter-March.	**Presumed Absent;** Project site does not contain requisite vernal, shallow pool habitat; habitat unsuitable for western spadefoot.
Reptile Species					
Aspidoscelis hyperythra	Orangethroat whiptail	Fed: CA: DFG:	-- -- SSC	Inhabits low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats, especially in areas with summer morning fog. Prefers washes and other sandy areas with patches of brush and rocks for cover and foraging. Reproduces April-July; young emerge August – September (0-3,410 feet).	**Presumed Absent;** Project site does not contain washes and other sandy areas with patches of brush and rocks for cover and foraging; habitat unsuitable for orangethroat whiptail.
Crotalus ruber	Red-diamond rattlesnake	Fed: CA: DFG:	-- -- SSC	Inhabits chaparral, woodland, and arid desert communities and requires rocky areas or areas of dense vegetation. Utilizes rodent burrows, cracks in rocks and surface cover objects for cover. Species is seasonally active, with the greatest activity occurring from March to June. Young are live-born from mid-August to October in quiet, safe locations (0-3,000 feet).	**Presumed Absent;** Project site does not contain adequate rocky areas or areas of dense vegetation; habitat unsuitable for red-diamond rattlesnake.
Emys marmorata	Western pond turtle	Fed: CA: DFG:	-- -- SSC	A fully aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open field) upland habitat for reproduction (0-4,690 feet).	**Presumed Absent;** Project site contain stream habitat at Buena Creek, but lacks requisite basking sites and upland habitat; habitat unsuitable for western pond turtle.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Phrynosoma blainvillii	Coast horned lizard	Fed: CA: DFG:	-- -- SSC	Frequents a variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open basking areas, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Presumed Absent;** Project site is heavily disturbed and degraded within the NCTD ROW and the grassland habitat within BSA is likely too dense to be suitable to the species; habitat unsuitable for coast horned lizard.
Plestiodon skiltonianus interparietalis	Coronado Island skink	Fed: CA: DFG:	-- -- SSC	A secretive southern California coast resident from west of the deserts at Riverside County south to Baja. Inhabits coastal sage scrub, chaparral, oak woodlands, pinon-juniper, riparian woodland, and pine forest communities, frequently in early successional vegetative stages or open areas. Species prefers mesic site conditions.	**Presumed Absent;** Project site contain stream habitat at Buena Creek, but lacks requisite early successional vegetative stages or open areas; habitat unsuitable for Coronado Island skink.
Salvadora hexalepis virgultea	Coast patch-nosed snake	Fed: CA: DFG:	-- -- SSC	Inhabits semi-arid brushy or shrubby areas and chaparral in canyons, rocky hillsides, and plains. Species is an active forager, and is susceptible to high levels of vehicle mortality. Requires small mammal burrows for refuge and overwintering sites (below sea level-7,000 feet).	**Presumed Absent;** Project site does not contain requisite chaparral in canyons, rocky hillsides, and plains; habitat unsuitable for coast patch-nosed snake.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Thamnophis hammondii	Two-striped garter snake	Fed: CA: DFG:	-- -- SSC	Species is diurnal, highly aquatic and inhabits locations in proximity to permanent or semi-permanent bodies of water bordered by dense vegetation. Seasonally alters habitats: in summer occupies streamside sites and in winter occupies nearby uplands. Thought to utilize holes, mammal burrows, crevices, and surface objects as night cover. Births August-November usually in secluded sites such as under the loose bark of rotting logs or in dense vegetation near pond or stream margins (0-8,000 feet).	**Low to Moderate Potential;** Project site crosses Buena Creek which contains potentially suitable riparian habitat. Nearest CNDDB occurrence is within approximately 3 miles of the project area.
Thamnophis sirtalis ssp.	South coast garter snake	Fed: CA: DFG:	-- -- SSC	Ranges from Ventura County within the southern California coastal plain, south to San Diego County. Inhabits marsh and upland habitats in close proximity to permanent water and associated riparian vegetation (0-2,789 feet).	**Presumed Absent;** Project site does not contain requisite marsh and upland habitats in close proximity to permanent water; habitat unsuitable for south coast garter snake.
Invertebrate Species					
Branchinecta sandiegonensis	San Diego fairy shrimp	Fed: CA: DFG:	E -- --	A coastal San Diego and Orange County endemic vernal pool species. Inhabits shallow ephemeral vernal pools between 2 and 12 inches within select vernal pool complexes. Currently there are only five vernal pool complexes in Orange County known to support the species.	**Presumed Absent;** Project site does not contain requisite vernal pools; habitat unsuitable for San Diego fairy shrimp.

Scientific Name	Common Name	Status		General Habitat Description	Potential for Occurrence and Rationale
Streptocephalus woottoni	Riverside fairy shrimp	Fed: CA: DFG:	E -- --	A Ventura, Los Angeles, Orange, Riverside and San Diego County vernal pool endemic species. Inhabits deep ephemeral vernal pools greater than 12 inches within chaparral, coastal sage scrub and grassland communities. Species requires pools filled with sufficient rainfall; emerges late in the season within warm waters.	**Presumed Absent;** Project site does not contain requisite vernal pools; habitat unsuitable for Riverside fairy shrimp.
Fish Species					
Eucyclogobius newberryi	Tidewater goby	Fed: CA: DFG:	E -- SSC	A benthic, annual species inhabiting brackish, shallow lagoons and lower stream reaches in fairly still, but not stagnant water. The species is rarely enters marine or freshwater habitats and is typically found at the fresh-saltwater interface in water less than 3.3 feet deep with salinities less than 12 parts per thousand. Breeding occurs year-round, with peaks in spring and summer.	**Presumed Absent;** Project site does not contain requisite brackish, shallow lagoons; habitat unsuitable for tidewater goby.
Oncorhynchus mykiss	Southern California steelhead	Fed: CA: DFG:	E -- SSC	Spawning occurs in small tributaries on course gravel beds in riffle areas. Southern California steelhead are found in the short southern coastal streams immediately adjacent to the coast and the Santa Maria, Santa Ynez, Ventura, Santa Clara, San Gabriel, Santa Ana, and San Diego Rivers.	**Presumed Absent;** Project site does not contain requisite small tributaries on course gravel beds; habitat unsuitable for southern California steelhead.

Federal Designations (Fed): (FESA, USFWS)	**State Designations (CA):** (CESA, CDFG)
E: Federally listed, endangered **T:** Federally listed, threatened **C:** Candidate species **D**: Delisted	**E:** State-listed, endangered **T:** State-listed, threatened **C:** Candidate species **D**: Delisted

Other Designations
DFG_SSC: DFG Species of Special Concern
DFG_FP: DFG Fully Protected

California Native Plant Society (CNPS) Designations*:*
Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.
1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2: Plants rare, threatened, or endangered in California but more common elsewhere in their range.
3: Plants about which need more information; a review list.
4: Plants of limited distribution; a watch list.

Plants 1B, 2, and 4 extension meanings:
_.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
_.2 Fairly endangered in California (20-80% occurrences threatened)
_.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Potential for Occurrence Criteria:
Presumed Present: Species was observed on site during a site visit or focused survey.
High: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site.
Low-Moderate: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search.
Presumed Absent: Focused surveys were conducted and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.

Source: (Brock and Kelt 2004), (Brylski 1998), (Burke, Russel L. *et. al*. 1991) (CaliforniaHerps 2012), (CNDDB 2012), (CDFG 1986, 2012), (CNPS 2012), (Evans 2000), (Hickman 1996), (Lahti, M.E. et. al 2010), (Rochester, C., Hathaway, B. et al. 2001), (Sullivan 1996), (USFWS 1994, 2005, 2006, 2007, 2009), (UC Davis 2012), (Zeiner 1988), (Zembal and Hoffman 2010).

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

Impacts within the BSA are described in Figure 3. Project Layout, where permanent impacts are restricted to the areas between the yellow boundary lines and temporary impacts are all areas between the purple and yellow boundary lines. Permanent project impacts may include, but are not limited to select cut, fill and grading limits, placement of asphalt, cement and other hardscape materials, permanent alterations to water and drainage features, and any other action which no longer allows the biological functions of the previous conditions to persist. Temporary project impacts may include, but are not limited to construction easements, potential staging areas, access routes and any other action which at project completion would restore the biological functions of the previous conditions.

4.1. Natural Communities of Special Concern

The project area lies within coastal San Diego, with native ecosystems known to support unique populations of endemic species. However, much of southern California native vegetation, including San Diego, has been replaced by development and overtaken by exotics. Biological and jurisdictional surveys were conducted to assess natural communities existing in the BSA. Surveys concluded Buena Creek, containing southern willow riparian forest, South Coast Live Oak Riparian Forest, and freshwater marsh communities, the small portion of marginal Diegan Coastal Sage Scrub, and the thread-leaved brodiaea Critical Habitat southeast of the project. Surveys and follow up coordination with USFWS determined that the thread-leaved brodiaea Critical Habitat occurs entirely outside of the project temporary and permanent impact areas. There are also jurisdictional waters of the U.S. and state within the BSA.

4.1.1. Waters

A jurisdictional survey assessment was conducted to identify features that are potential waters of the U.S. and State. Surveys have identified two creeks (Buena Vista Creek and Buena Creek) and many potentially jurisdictional concrete lined drainages within the study area. The only areas where wetlands are found within the project area are the riparian and freshwater marsh habitats located at the Buena Creek (see Section 4.2.1 for further discussion on Southern Willow Riparian Forest, South Coast Live Oak Riparian Forest and Freshwater Marsh habitat); all other waters in the project area are non-wetland waters. Jurisdictional Waters within the BSA ultimately terminate at the Pacific Ocean. Features were provided preliminary jurisdictional status based on aerial photographs and field investigations for connectivity to known jurisdictional waters, the

topography of the site in relation to the feature, presence or absence of aquatic vegetation, and likely source of flow (sheet flow, natural depression, creek channel etc.). Drainage ditch features which parallel the length of the project and appear to collect mid-slope water run-off from adjacent development and the NCTD rail are proposed non-jurisdictional unless they feed directly into a jurisdictional feature. Pending verification by USACE, all proposed jurisdictional waters will be considered Waters of the U.S. As Waters of the U.S also fall under jurisdiction of the state, regulatory permits shall be obtained from USACE, CDFG and RWQCB (Figure 5. Potential Jurisdictional and Non-Jurisdictional Waters) (Appendix F: Representative Photographs 10-13).

4.1.1.1. SURVEY RESULTS

Buena Vista Creek where it crosses the project area at Eddie Drive, is a concrete lined channel originating from the base of the San Marcos Mountains and ultimately drains to Buena Vista Lagoon and the Pacific Ocean. Buena Creek, where it crosses the project area south of Buena Creek Road, is a natural, earthen bottomed channel originating from the base of the San Marcos Mountains and tributary to Agua Hedionda Creek and ultimately drains to Agua Hedionda Lagoon and the Pacific Ocean. Within the BSA and in association with Buena Creek, there is a small (approximately 0.02 acre) freshwater marsh community; no National Wetlands Inventory wetlands are located within the BSA (see Section 4.1.2.1 Survey Results for Freshwater Marsh under Sensitive Natural Communities,).

In addition to Buena Vista Creek and Buena Creek, many concrete lined drainage channels and a few natural bottomed drainage channels were observed throughout the BSA. Due to the gently rolling hill topography of the project vicinity, waters from storm events flow to the natural low points, which coincide with many of the concrete lined drainages. Some drainage features within the BSA occur mid-slope and are not natural drainage features.

4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS FOR WATERS

The project has been designed to minimize temporary and permanent impacts to potential jurisdictional waters to the maximum extent practicable. Prior to impacting water features, regulatory permits shall be obtained from USACE, CDFG and RWQCB. Project measures and BMP's incorporated into the design will minimize construction impacts to potentially jurisdictional waters within the BSA. The project will comply with the following measures:

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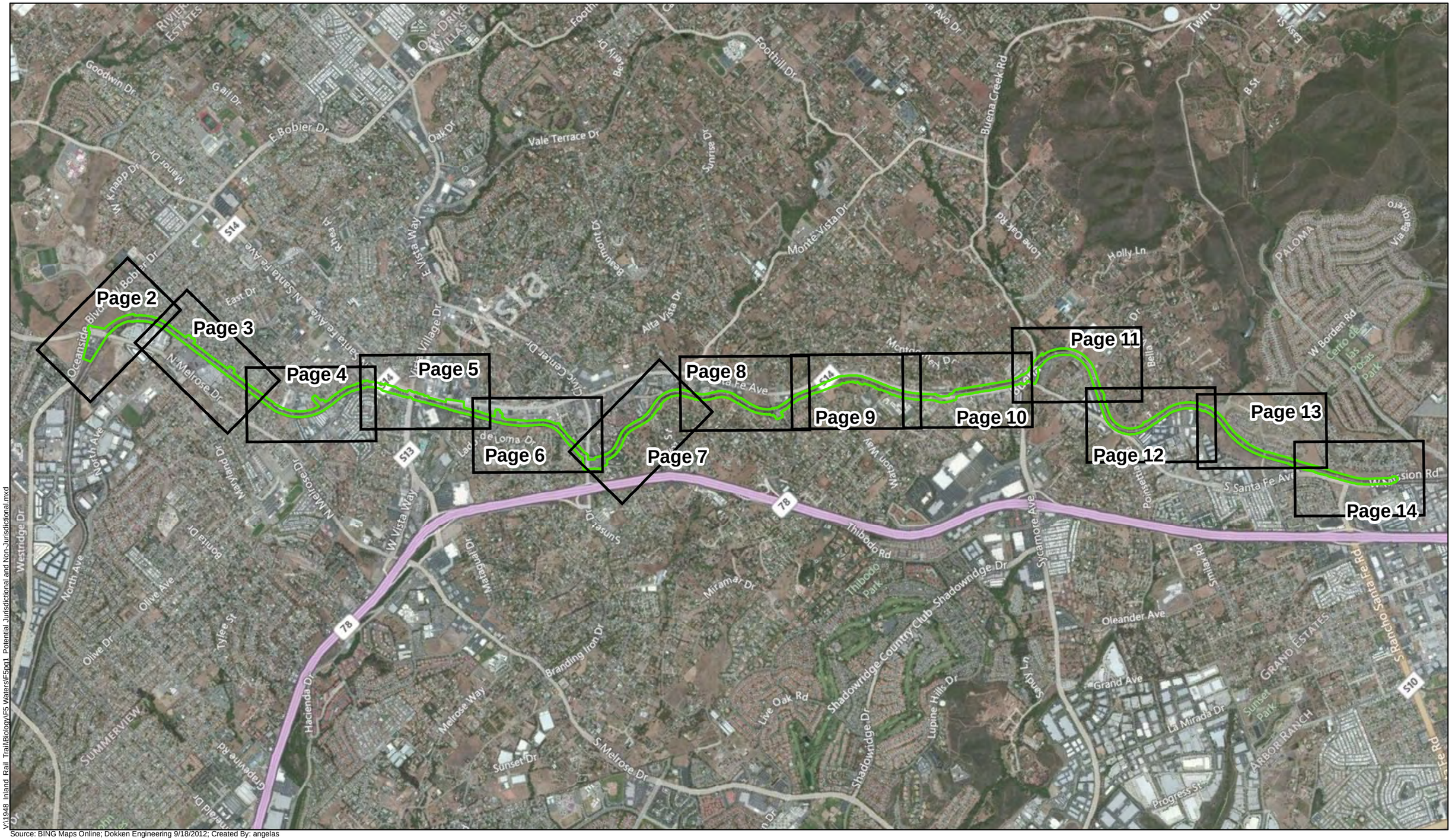

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg1 Potential Jurisdictional and Non-Jurisdictional.mxd

0 0.5 1 1.5 2 2.5 Miles

Biological Study Area

FIGURE 5
Page 1 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg2 Potential Jurisdictional and Non-Jurisdictional.mxd

Match Line - See Page 3

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

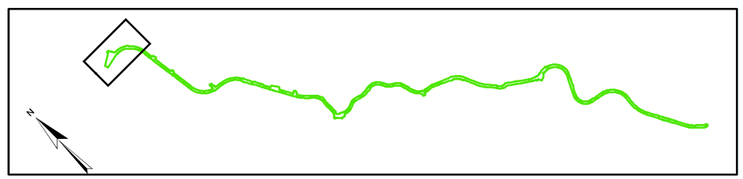

FIGURE 5
Page 2 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

C - Concrete lined rail drainage

C - Concrete lined rail drainage

C - Concrete lined rail drainage

D - Concrete lined rail drainage

D - Concrete lined rail drainage

D - Concrete lined rail drainage

Bobolink Dr

North Dr

Toucan Dr

Starling Dr

Blackbird Dr

Jennifer Circle

W California Ave

W Los Angeles Dr

Calle Elegante

Melrose Pl

Casa Real Ct

Bach St

N Melrose Dr

N Melrose Dr

North Ave

Beacon Ct

Match Line - See Page 2

Match Line - See Page 4

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg3 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 3 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 3

G - Concrete lined canal

C - Concrete lined rail drainage

C - Concrete lined rail drainage

D - Concrete lined rail drainage

F - Concrete lined rail drainage

E - Natural lined/riprap drainage

Match Line - See Page 5

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg4 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 4 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 4

Match Line - See Page 6

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

G - Concrete lined canal

F - Concrete lined rail drainage

Buena Vista Creek

H - Concrete/earthen lined canal

H - Concrete/earthern lined canal

I - Concrete lined rail drainage

I - Concrete lined rail drainage

Washington

Michigan Ave

N Indiana Ave

Vista Village Dr

Main St

E Broadway

S Indiana Ave

Eucalyptus Ave

Park Ave

Olive Ave

S Santa Fe Ave

Goeding Way

W Orange St

S13

S14

S1

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg5 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 5 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 5

Match Line - See Page 7

V:\11948 Inland Rail Trail\Biology\FS Waters\F5pg6 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

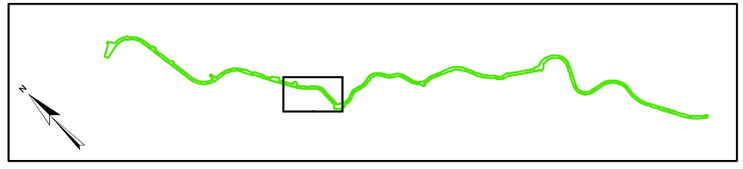

FIGURE 5
Page 6 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 6

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

L - Concrete lined rail drainage

O - Drainage man-holes

M-1 - Concrete lined rail drainage

M-2 - Natural bottomed drainage

Match Line - See Page 8

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg7 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

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FIGURE 5
Page 7 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 7

Match Line - See Page 9

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

M - Concrete lined rail drainage

P - Concrete lined rail drainage

Q - Concrete lined rail drainage

S Santa Fe Ave

Service Dr

Cypress Dr

Glenview Ln

Morning Glory Ln

Morning Glory Pl

Morning Glory Terrace

Dyanna Ct

Kilby Ln

Phillips St

Sandra Circle

Allea Ln

Wallace Ln

Zember Ct

Hawthorn

Circle

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg8 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 8 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 8

Match Line - See Page 10

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

P - Concrete lined rail drainage

R - Natural drainage

Q - Concrete lined rail drainage

S Santa Fe Ave

S14

Sunbury Ct

Phillips Circle

Presley Pl

Lovely Ln

Hannaler Dr

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg9 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 9 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 9

Match Line - See Page 11

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

T - Drainage inlet

T - Concrete lined rail drainage

P - Concrete lined rail drainage

S - Concrete lined rail drainage

York Dr

Devon Pl

S Santa Fe Ave

S14

Hannalei Dr

Hesmay Dr

Woodland Dr

Evvia Ct

Anna Ln

Northbrook Ct

El Copa Ln

Roberlan Dr

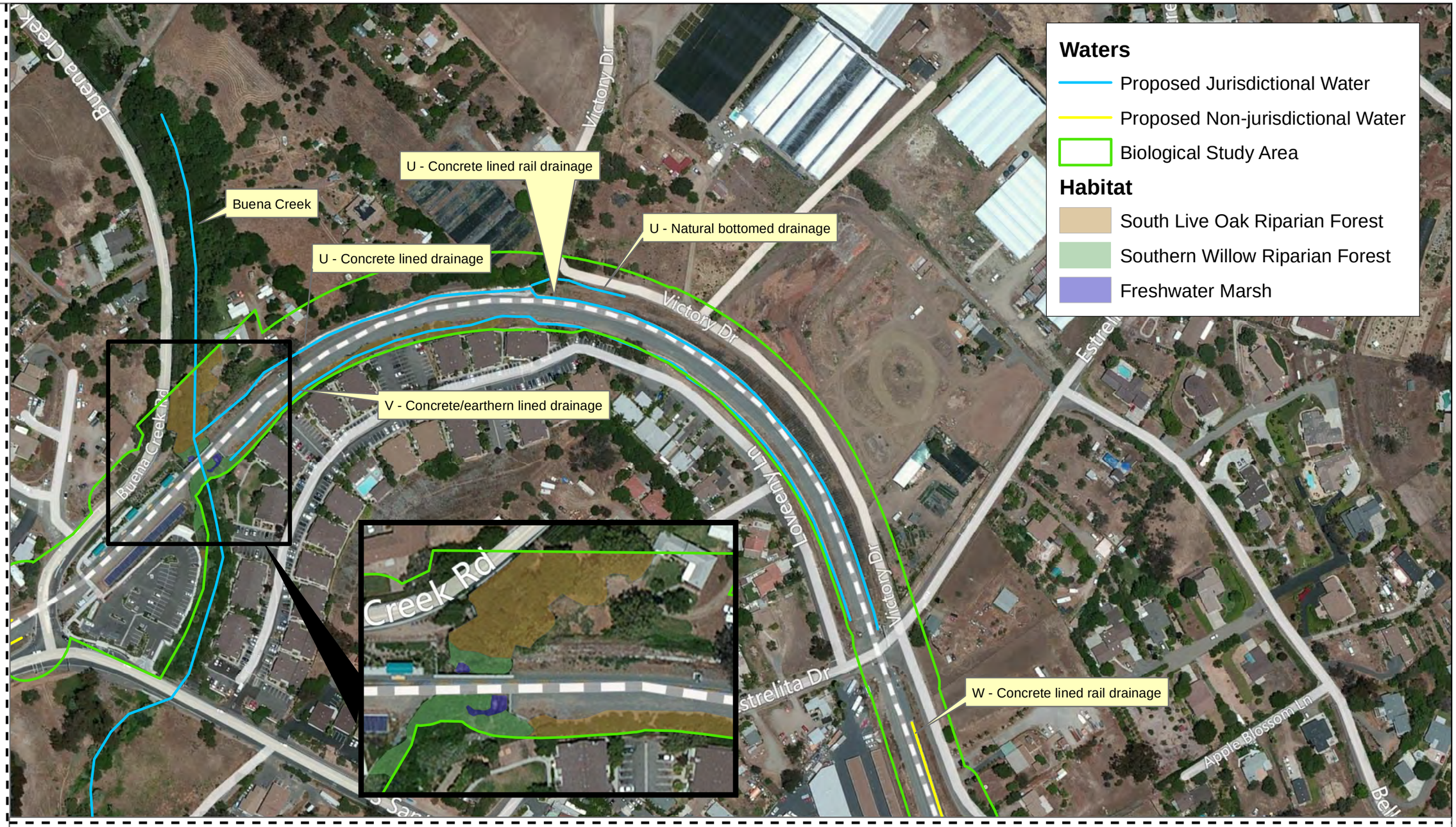
V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg10 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 10 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 10



Match Line - See Page 12

V:\1948_Inland_Rail_Trail\Biology\F5 Waters\F5pg11_Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

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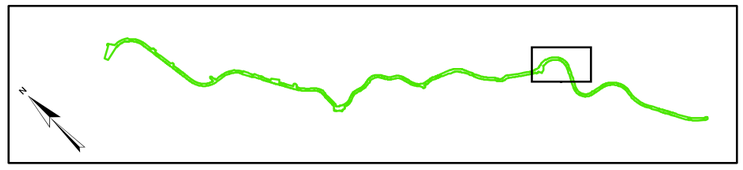


FIGURE 5
Page 11 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 11

V:\11948 Inland Rail Trail\Biology\F5 Waters\F5pg12 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

Match Line - See Page 13

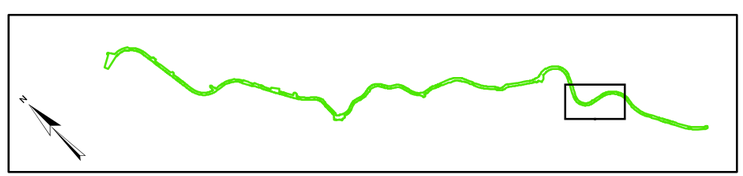


FIGURE 5
Page 12 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 12

Match Line - See Page 14

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

W - Concrete lined rail drainage

Y - Concrete lined drainage

Y - Concrete lined drainage

W - Concrete lined rail drainage

Y - Concrete lined drainage

Z - Concrete lined rail drainage

Z - Concrete lined rail drainage

Avenida Regina

Via Hacienda Ct

Via la Venta

W Borden Rd

Alta Ct

Castle Ln

Loma Alta Dr

Pegasus Way

Hydra Ct

Hydra Ct

Hydra Ln

Via la Venta

Las Flores Dr

Via la Venta

Norman Strasse Rd

V:\1948 Inland Rail Trail\Biology\FS Waters\FSpg13 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 13 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

Match Line - See Page 13

Waters

- Proposed Jurisdictional Water
- Proposed Non-jurisdictional Water
- Biological Study Area

AA - Concreted lined drainage

CC - Concrete lined drainage

BB - Concrete lined rail drainage

W - Concrete lined rail drainage

DD - Concrete lined rail drainage

Saddlehorn Dr
Concha Ln
Pommel Way
Silver Spur Way
N Pacific St
Palmetto St
Palomarcos Ave
Loma Alta
Santa Fe Ave
S Santa Fe Ave
W Mission Rd
S14
S10
N Rancho Santa Fe Rd
De Leone Rd
Hollencrest Rd
Barranca Rd
Capalina Rd
Balboa St
Atlantic St

V:\1948 Inland Rail Trail\Biology\F5 Waters\F5pg14 Potential Jurisdictional and Non-Jurisdictional.mxd

Source: BING Maps Online; Dokken Engineering 9/18/2012; Created By: angelas

0 200 400 600 800 1,000 Feet

FIGURE 5
Page 14 of 14
Proposed Jurisdictional Waters and Sensitive Habitats
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

BIO-4: SANDAG and the construction contractor shall mark the Buena Creek and all associated riparian and wetland vegetation as ESA and it shall be either staked or fenced with orange snow fencing to ensure the construction areas will not encroach further than the work limits designated in the environmental permits. During the construction period, the project biologist shall inspect the construction limits monthly, or less as warranted, in proximity to Buena Creek to ensure sensitive locations remain undisturbed.

4.1.1.3. PROJECT IMPACTS TO WATERS

Permanent Impacts

The project will result in permanent impacts (an approximate total of 0.30 acre waters of the U.S. and 0.34 acre waters of the State) to Buena Vista Creek, Buena Creek and potentially jurisdictional drainage channels (see Section 4.1.2.3 Project Impacts to Sensitive Natural Communities for project impacts to Freshwater Marsh). Table 5 is a compilation of anticipated impacts to waters of the U.S. and State within the project area. Creation of a new bridge over Buena Creek will permanently modify a small portion of the natural bottomed channel immediately adjacent to the existing NCTD rail bridge creek crossing. Permanent modifications (less than 0.01 acre waters of the U.S. and State) to the concrete lined Buena Vista Creek channel will occur; however, impacts to biological resources would be negligible since the channel has already been permanently altered with concrete-lining. Impacts to potentially jurisdictional drainage channels, the majority of which are concrete lined, will include permanently piping some features within the IRT ROW. Impacts to concrete lined ditches are not expected to incur impacts on biological resources.

Table 5: Anticipated Impacts to Waters Within the Project Area

	Waters of the U.S.		**Waters of the State**	
Feature	**Temporary**	**Permanent**	**Temporary**	**Permanent**
Buena Creek (natural bottom)	0.01 acre	0.01 acre	0.03	0.04
Buena Vista Creek (concrete lined)	0.01 acre	< 0.01 acre	0.01 acre	< 0.01 acre
Proposed Jurisdictional Drainage Features (natural bottom)	0.02 acre	< 0.01 acre	0.02 acre	< 0.01 acre
Proposed Jurisdictional Drainage Features (concrete lined)	0.06	0.28	0.06	0.28
Total	**0.10 acre**	**0.30 acre**	**0.12 acre**	**0.34 acre**

Temporary Impacts

The project will result in temporary impacts (an approximate total of 0.10 acre waters of the U.S. and 0.12 acre waters of the State) to Buena Vista Creek, Buena Creek and potentially jurisdictional concrete lined drainage channels (see Section 4.1.2.3 Project Impacts to Sensitive Natural Communities for project impacts to Freshwater Marsh). (Table 5 Anticipated Impacts to Waters Within the Project Area). However, temporary impacts (0.01 acre waters of the U.S. and State) to Buena Vista Creek and are anticipated to be negligible as the channel is currently concrete lined.

4.1.1.4. COMPENSATORY MITIGATION FOR WATERS

Impacts to waters of the U.S. and waters of the State have been previously mitigated by the City of San Marcos in 2001 for impacts anticipated for the full project alignment (see Appendix G). The City of San Marcos purchased 0.90 acre of credit for $108,000 from Caltrans' Pilgrim Creek Mitigation Bank on January 4, 2001 to mitigate for impacts to wetlands, southern willow scrub, and other riparian habitats that would be impacted by the Oceanside-Escondido Bikeway Project (City of San Marcos, 2013). Since mitigation for these impacts was completed by the City of San Marcos, no additional mitigation is expected. Impacts to waters will be further mitigated through revegetation of the Buena Creek discussed in BIO-2. During the permitting phase, SANDAG will coordinate with the USACE to confirm that prior mitigation will be adequate for the impacts to waters addressed in this Natural Environment Study.

4.1.1.5. CUMULATIVE IMPACTS TO WATERS

Temporary and permanent impacts are anticipated to occur within Buena Vista Creek, Buena Creek, and potentially jurisdictional drainage channels (see Section 4.1.2.5 Cumulative Impacts to Sensitive Natural Communities for cumulative project impacts to Freshwater Marsh). Project impacts are anticipated to have less than 0.10 acre permanent impacts to natural bottomed water features and all remaining permanent impacts will occur to previously disturbed, permanently concrete lined features. With the exception of proposed project impacts, additional impacts to waters within the BSA are not anticipated due to the recent NCTD rail drainage improvements. The proposed project has been designed to minimize all temporary and permanent impacts to the maximum extent practicable through the use of Caltrans Standard BMPs, implementation of regulatory permit conditions, ESA fencing and compensatory mitigation. Compensatory mitigation previously provided by the project would ensure a no net loss in waters of the U.S. and State within the region; therefore no cumulative impacts attributed to the project would be anticipated.

4.1.2. Sensitive Natural Communities

Biological surveys were conducted in May, June and July 2012 to identify sensitive habitats within the BSA. Surveys have identified four sensitive habitat types within the BSA: disturbed Coastal Sage Scrub, southern willow riparian forest, South Coast Live Oak Riparian Forest, and freshwater marsh.

4.1.2.1. SURVEY RESULTS

Disturbed Diegan Coastal Sage Scrub

North of NCTD ROW, above Cherimoya Drive, is a small portion of fringe, low quality Diegan Coastal Sage Scrub habitat. The community within the BSA is dominated with non-native grassland species and other exotics and occurs outside the project construction limits.

Southern Willow Riparian Forest

At Buena Creek adjacent to the NCTD rail tracks, the natural, earthen bottomed perennially moist channel is vegetated with southern willow riparian forest community. The southern willow riparian forest onsite is dominated by dense willow shrubs and accompanying understory vegetation. This community is within the project's construction limits.

South Coast Live Oak Riparian Forest

At Buena Creek north of the NCTD ROW, and south of the NCTD rail tracks is vegetated with South Coast Live Oak Riparian Forest community. The South Coast Live Oak Riparian Forest onsite is dominated by dense to open canopied coast live oaks, with some willow interspersed. This community is within the project construction limits.

Freshwater Marsh

Within Buena Creek in close proximity to the NCTD rail bridge, a natural, earthen bottomed slow moving, perennially moist basin contains a small freshwater marsh community. The freshwater marsh onsite is dominated by dense cattails. This community is within the project construction limits.

4.1.2.2. AVOIDANCE AND MINIMIZATION EFFORTS FOR SENSITIVE NATURAL COMMUNITIES

The project has been designed to minimize and avoid temporary and permanent impacts to sensitive communities to the maximum extent practicable. Prior to impacts to aquatic habitats, regulatory permits shall be obtained from USACE, and CDFG and RWQCB. Project measures and BMP's incorporated into the design will prevent construction activities from affecting sensitive habitats within the BSA. The project will comply with the following measures:

BIO-5: At construction completion, SANDAG shall ensure that the Buena Creek Channel within the project impact area will be revegetated with native riparian trees and understory. Species selected for the revegetation shall be selected from reference sites located along Buena Creek.

4.1.2.3. PROJECT IMPACTS TO SENSITIVE NATURAL COMMUNITIES

Permanent Impacts

Disturbed Diegan Coastal Sage Scrub

The community occurs outside the project construction limits; no permanent impacts to Diegan Coastal Sage Scrub are anticipated.

Southern Willow Riparian Forest

The community occurs within the project construction limits and a small amount (approximately 0.02 acre) of permanent impacts is anticipated to accommodate the IRT Buena Creek crossing. Table 6 is a compilation of anticipated impacts to sensitive habitat features within the project area. However, the proposed project has been designed to minimize all temporary impacts to the maximum extent practicable. Use of Caltrans Standard BMPs, implementation of regulatory permit conditions, and implementation of **BIO-4** & **BIO-5** would minimize and avoid impacts to southern willow riparian forest.

South Coast Live Oak Riparian Forest

The community occurs within the project construction limits and a small amount (approximately 0.02 acre) of permanent impacts is anticipated to accommodate the IRT Buena Creek crossing (See Table 6). However, the proposed project has been designed to minimize all permanent impacts to the maximum extent practicable.

Freshwater Marsh

The community occurs within the project construction limits and a small amount (less than 0.01 acre) of permanent impacts is anticipated to accommodate the IRT Buena Creek crossing. However, the proposed project has been designed to minimize all permanent impacts to the maximum extent practicable.

Table 6: Anticipated Impacts to Sensitive Habitats Within the Project Area

Feature	Temporary	Permanent
Southern Willow Riparian Forest	0.01acre	0.02 acre
South Coast Live Oak Riparian Forest	0.02 acre	0.02 acre
Freshwater Marsh	Less than 0.01 acre	Less than 0.01 acre

Disturbed Diegan Coastal Sage Scrub	0 acre	0 acre
Total	**0.03 acre**	**0.04 acre**

Temporary Impacts

Disturbed Diegan Coastal Sage Scrub

The community occurs outside the project construction limits; no temporary impacts to Diegan Coastal Sage Scrub are anticipated.

Southern Willow Riparian Forest

The community occurs within the project construction limits and a small amount (approximately 0.01 acre) of temporary impacts are anticipated (See Table 6). However, the proposed project has been designed to minimize all temporary impacts to the maximum extent practicable.

South Coast Live Oak Riparian Forest

The community occurs within the project construction limits and a small amount (approximately 0.02 acre) of temporary impacts are anticipated (See Table 6). However, the proposed project has been designed to minimize all temporary impacts to the maximum extent practicable.

Freshwater Marsh

The community occurs within the project construction limits and a small amount (less than 0.01 acre) of temporary impacts is anticipated to accommodate the IRT Buena Creek crossing. However, the proposed project has been designed to minimize all temporary impacts to the maximum extent practicable.

4.1.2.4. COMPENSATORY MITIGATION FOR SENSITIVE NATURAL COMMUNITIES

Impacts to both southern willow scrub and freshwater marsh habitats resulting from the Oceanside-Escondido Bikeway Project were mitigated by the City of San Marcos in 2001 (see Appendix A). The City of San Marcos purchased 0.90 acre of credit for $108,000 from Caltrans' Pilgrim Creek Mitigation Bank on January 4, 2001 to mitigate for impacts to wetlands, southern willow scrub, and other riparian habitats that would be impacted by the Oceanside-Escondido Bikeway Project (City of San Marcos, 2013). Since the impacts of the proposed project to these habitats are within the scope of impacts identified in this NES and mitigated by City of San Marcos, no additional mitigation is required. Impacts to these habitats will be further reduced with inclusion of measures BIO-2 and BIO-5 (revegetation of Buena Creek).

4.1.2.5. CUMULATIVE IMPACTS TO SENSITIVE NATURAL COMMUNITIES

Disturbed Diegan Coastal Sage Scrub

The community occurs outside the project construction limits; no cumulative impacts to Diegan Coastal Sage Scrub are anticipated.

Southern Willow Riparian Forest

The community occurs within the project construction limits and a small amount of temporary and permanent impacts are anticipated to accommodate the IRT Buena Creek crossing. However, the proposed project has been designed to minimize all impacts to the maximum extent practicable through the use of Caltrans Standard BMPs, implementation of regulatory permit conditions, compensatory mitigation and implementation of **BIO-4** & **BIO-5**. Compensatory mitigation provided by the project would ensure a no net loss of sensitive habitats within the region; therefore no cumulative impacts attributed to the project would be anticipated.

South Coast Live Oak Riparian Forest

The community occurs within the project construction limits and a small amount of temporary and permanent impacts are anticipated to accommodate the IRT Buena Creek crossing. However, the proposed project has been designed to minimize all impacts to the maximum extent practicable through the use of Caltrans Standard BMPs, implementation of regulatory permit conditions, compensatory mitigation and implementation of **BIO-4** & **BIO-5**. Compensatory mitigation provided by the project would ensure a no net loss of sensitive habitats within the region; therefore no cumulative impacts attributed to the project would be anticipated.

Freshwater Marsh

The community occurs within the project construction limits and a small amount (less than 0.01 acre) of permanent and temporary impacts are anticipated to accommodate the IRT Buena Creek crossing. However, the proposed project has been designed to minimize all impacts to the maximum extent practicable through the use of Caltrans Standard BMPs, implementation of regulatory permit conditions, compensatory mitigation and implementation of **BIO-4** & **BIO-5**. Compensatory mitigation provided by the project would ensure a no net loss of sensitive habitats within the region; therefore no cumulative impacts attributed to the project would be anticipated.

4.2. Special Status Plant Species

4.2.1. Sensitive Plants Survey Results

On May 1 and 2, 2012 Dokken biologists, Sarah Holm and Angela Scudiere, surveyed the BSA. On June 29, 2012 additional surveys were conducted by Sarah Holm between El Corto Drive and North Pacific Street. The survey included a focused botanical survey and habitat assessment for

the special-status plant species identified in Table 3. No special-status species were observed, however per the CNDDB, thread-leaved brodiaea, a federally Threatened, State Endangered and CNPS list 1B.1 species and its Critical Habitat was shown to occur within and/or adjacent to the BSA, but outside the project temporary and permanent impact areas. Subsequent coordination with adjacent conservation areas confirms the presence of a local extant population in thread-leaved brodiaea Critical Habitat. Coordination with USFWS on October 17, 2012 clarified that all thread-leaved brodiaea Critical Habitat in the BSA vicinity occurs exclusively on private property; no thread-leaved brodiaea Critical Habitat occurs within the NCTD ROW or within project limits. Focused spring surveys for thread leaved brodiaea conducted in the 2012 blooming season were negative, as were surveys conducted for the Sprinter rail in blooming season of 2000. Through coordination with CDFG, CDFG confirmed that there is a low probability of thread-leaved brodiaea presence within the project temporary and permanent impact areas (Appendix E: Thread-leaved Brodiaea Critical Habitat Federal Register Excerpts).

4.2.2. Sensitive Plants Avoidance and Minimization Efforts

Implementation of the following measures will avoid and minimize potential impacts to sensitive plant species:

Thread-leaved brodiaea

During project development and preliminary engineering design, design modifications were evaluated to minimize and avoid project impacts to thread-leaved brodiaea and thread-leaved brodiaea Critical Habitat. Among the engineering evaluated were the project construction methods and alternative alignments. Based on coordination with USFWS all thread-leaved brodiaea Critical Habitat in the BSA vicinity occurs exclusively on private property; no thread-leaved brodiaea Critical Habitat occurs within project limits. A preconstruction blooming season survey will be conducted to ensure specimens do not move into the project area and are not affected by project activities; however, no impacts to the thread-leaved brodiaea are anticipated. CDFG concurred with Caltrans' determination that pre-construction surveys would be appropriate to ensure project avoidance. The following measures shall be implemented to further minimize project effects to thread-leaved brodiaea and thread-leaved brodiaea Critical Habitat:

BIO-6: Prior to initiating construction, the construction contractor shall install ESA fencing along the project limits to avoid encroachment into thread-leaved brodiaea Critical Habitat. During the construction period, the project biologist shall inspect the construction limits monthly adjacent to thread-leaved brodiaea Critical Habitat areas to ensure sensitive locations remain undisturbed.

BIO-7: SANDAG shall ensure that within 500 feet of thread-leaved brodiaea Critical Habitat, any landscaping installed as part of the project shall consist of a biologist approved plant palette from native, locally adapted species. Any landscaping for the remainder of the project shall utilize a native drought tolerant plant palette to the maximum extent practicable and shall not include species considered invasive by the California Invasive Plant Council.

BIO-8: Prior to construction, SANDAG shall conduct a minimum of 2 rare plant focused surveys for thread-leaved brodiaea in the project impact areas, adjacent to thread-leaved brodiaea Critical Habitat. Surveys shall be completed by the project biologist between May 1 and June 15. Surveys shall be conducted 2-3 weeks apart to capture variances in blooming.

BIO-9: SANDAG shall conduct environmental awareness training prior to the onset of project work in proximity to thread-leaved brodiaea Critical Habitat for construction personnel discussing thread-leaved brodiaea and its Critical Habitat.

If thread-leaved brodiaea is found within the project area and cannot be feasibly avoided during construction, the project will then identify appropriate measures to minimize adverse effects to thread-leaved brodiaea and initiate Section 7 Consultation with USFWS and Section 2081 Consultation with CDFG. The following mitigation measures will be implemented to reduce project effects to the species. Any additional measures required by CDFG or USFWS as a result of the consultation process would be implemented as necessary.

BIO-10: Should any sensitive plant species be found within the project area during preconstruction surveys, specimens shall be ESA fenced or relocated as determined by the project biologist or appropriate regulatory agency (USFWS and/or CDFG). All observed specimens shall be marked in the field with pin flags and their precise locations shall be recorded using a GPS. Pin flags shall be left in place until ESA installation/plant relocation occurs.

BIO-11: Where feasible, the construction contractor shall install ESA fencing with a minimum 2 foot setback of all thread-leaved brodiaea specimens prior to any ground disturbance or vegetation removal activities. The project biologist shall be present during the installation of thread-leaved brodiaea ESA fencing.

BIO-12: Where installation of a minimum 2 foot setback is not feasible, SANDAG and the project biologist shall coordinate relocation of thread-leaved brodiaea specimens to a conservation area located adjacent to the project area, or at another CDFG and USFWS-approved location.

BIO-13: Where plant relocation pursuant to **BIO-12** is necessary, the corms shall be relocated by a licensed landscape contractor, under the supervision of the project biologist, experienced in brodiaea translocation using corms and soil block or clump translocation per the following:

During the fall dormant season (September 1 –November 30) large clumps of soil (approximately 4 square feet) containing the brodiaea corms shall be removed to a depth of 8 to 12 inches. Soil clumps shall be immediately moved to a prepared, USFWS and CDFG approved site and installed in a manner that replicates the surface elevation of the donor site. The clumps shall be carefully transported to ensure that they are not fragmented or impacted during the move. Any corms found on the margins of the blocks or which fall out during the excavation process shall be transplanted by hand.

After installation, the spaces between the blocks shall be filled with native soils, gently compacted, and irrigated to prevent the formation of cracks or air pockets. Three inches of weed seed-free mulch shall be laid over the installed soil to prevent drying out of the corms or invasion by exotics, where appropriate. A locally native seed mix shall be applied in September 1 – December 15 to the transplantation area no more than 2 weeks after the completion of relocation activities. The seed mix shall contain species compatible with thread-leaved brodiaea and shall include species attractive to native pollinators.

All relocation activities shall be monitored by the project biologist.

4.2.3. Project Impacts to Sensitive Plants

Thread-leaved brodiaea

Focused surveys for thread-leaved brodiaea conducted for the proposed project in 2012 and for the Oceanside-Escondido Rail Project in 2000 were negative. Therefore, the species is not anticipated to occur within the project temporary and permanent impact areas, and would not be affected by the project. Preconstruction surveys would be performed during the blooming season to confirm that thread-leaved brodiaea specimens are not present. If one or more thread-leaved brodiaea specimens are encountered during preconstruction surveys and cannot be feasibly avoided by the proposed project, the project will then identify feasible measures to minimize adverse effects to the species and would initiate formal Section 7 Consultation with USFWS, obtain a 2081 incidental take permit from CDFG, and perform appropriate compensatory mitigation following agency coordination. No impacts to the thread-leaved brodiaea are anticipated.

4.2.4. Project Impacts to Sensitive Plant Critical Habitat

Thread-leaved brodiaea Critical Habitat

Pursuant to coordination with USFWS, all thread-leaved brodiaea Critical Habitat in the BSA vicinity is located exclusively on private property; no thread-leaved brodiaea Critical Habitat occurs within the NCTD ROW or within project limits. Therefore, no project impacts to thread-leaved brodiaea Critical Habitat are anticipated (Figure 6. Thread-leaved Brodiaea Critical Habitat Avoidance) (Appendix F: Representative Photograph 14).

4.2.5. Compensatory Mitigation for Sensitive Plants

Thread-leaved brodiaea

No project impacts to thread-leaved brodiaea are anticipated; compensatory mitigation is not required or proposed. Preconstruction surveys will determine if any individual thread-leaved brodiaea specimen are located within the project area and if any are found that cannot be fully avoided during construction, minimization and/or mitigation measures would be required to ensure that impacts are not substantial.

4.2.6. Compensatory Mitigation for Sensitive Plant Critical Habitat

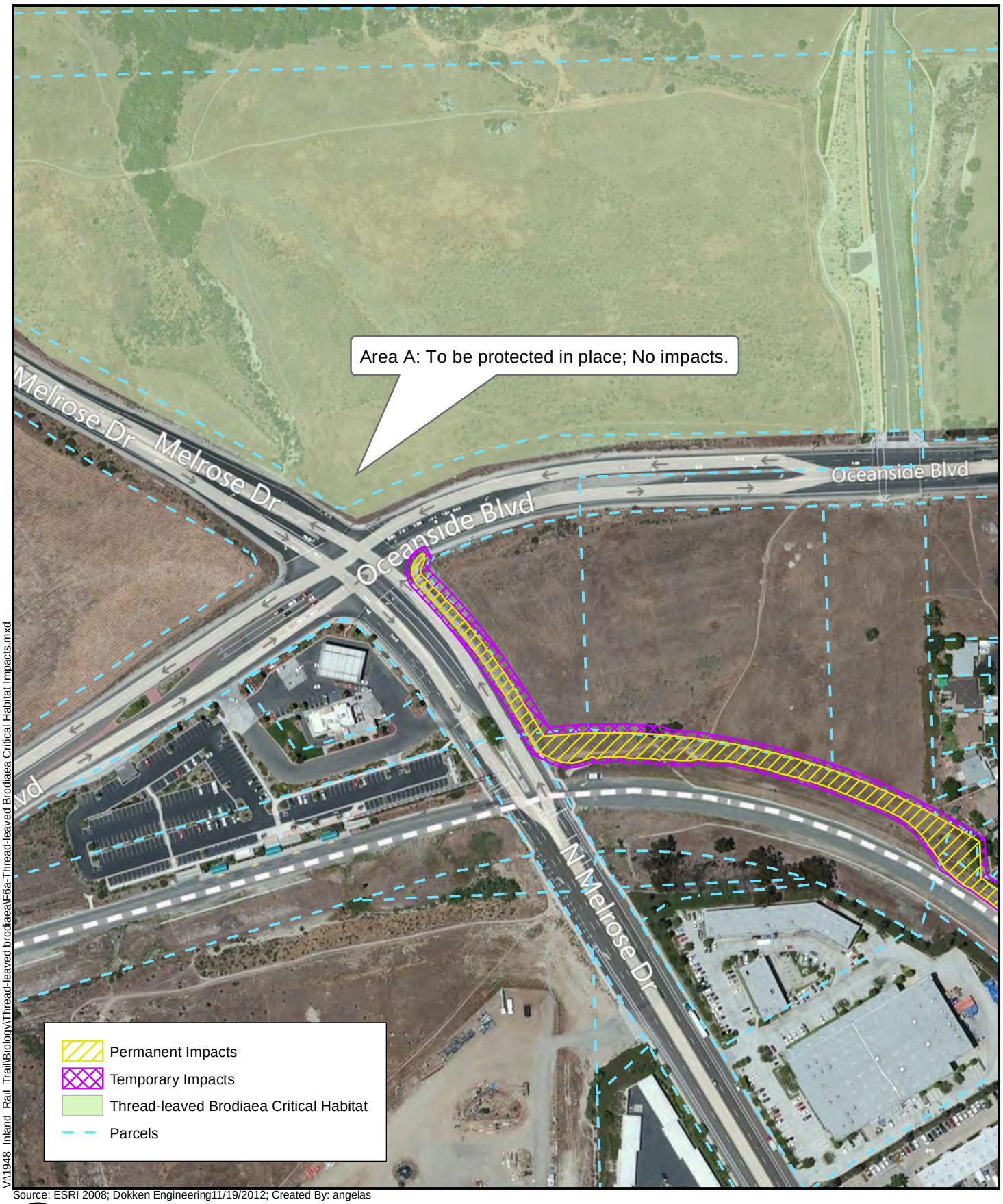
Thread-leaved brodiaea

No project impacts to thread-leaved brodiaea Critical Habitat are anticipated; compensatory mitigation is not required or proposed.

4.2.7. Cumulative Effects to Sensitive Plants

Thread-leaved brodiaea

No project impacts to thread-leaved brodiaea or thread-leaved brodiaea Critical Habitat are anticipated. The proposed project has been designed to avoid impacts to thread-leaved brodiaea and its Critical Habitat to the maximum extent practicable through the implementation of avoidance measures **BIO-7** through **BIO-9**. If any individual plant specimens are found, **BIO-10** through **BIO-13** would further minimize potential impacts to the protected species. Consultation is not anticipated with either USFWS or CDFG for thread-leaved brodiaea. Should preconstruction surveys encounter thread-leaved brodiaea, the project would initiate formal Section 7 Consultation with USFWS, obtain a 2081 incidental take permit from CDFG, and perform appropriate compensatory mitigation following agency coordination. No impacts to the thread-leaved brodiaea are anticipated; therefore, no cumulative impacts attributed to the project would be anticipated.



V:\1948 Inland Rail Trail\Biology\Thread-leaved brodiaea\F6a-Thread-leaved Brodiaea Critical Habitat Impacts.mxd

Source: ESRI 2008; Dokken Engineering11/19/2012; Created By: angelas

0 125 250 375 500 Feet

FIGURE 6a
Thread-leaved Brodiaea Critical Habitat Avoidance
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

V:\1948 Inland Rail Trail\Biology\Thread-leaved brodiaea\F6b-Thread-leaved Brodiaea Critical Habitat Impacts.mxd

Source: ESRI 2008; Dokken Engineering11/19/2012; Created By: angelas

0 125 250 375 500 Feet

FIGURE 6b
Thread-leaved Brodiaea Critical Habitat Avoidance
CML 5381(003)
Inland Rail Trail Project
San Diego County, California

4.3. Special Status Animal Species Occurrences

No special status species were observed during the biological surveys within the BSA. The Habitat Assessments for coastal California gnatcatcher, least Bell's vireo and Stephens' kangaroo rat found no potentially suitable habitat within the BSA. The following 5 species were determined to have low to moderate chances of occurrence within the BSA: yellow warbler, Dulzura pocket mouse, northwestern San Diego pocket mouse, western yellow bat, and two-striped garter snake.

4.3.1. Yellow Warbler

The yellow warbler is not a State or Federally listed species, but is a CDFG Species of Special Concern. Yellow warblers were historically more common throughout riparian San Diego County, however due to habitat fragmentation and degradation coupled with urbanization, and brown-headed cowbird (*Molothrus ater*) nest parasitism, populations have been much reduced. The warbler is a California migrant typically breeding in riparian deciduous habitats with canopy species such as cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Nesting activity occurs from April through August (Zeiner 1990).

4.3.1.1. YELLOW WARBLER SURVEY RESULTS

During the March, May, June, and July 2012 biological surveys, no sign of the yellow warbler was observed. However, the project site contains disturbed deciduous riparian forest habitat at the Buena Creek project crossing which is potentially suitable for yellow warbler. Considering the project's proximity to suitable foraging sites and the availability of possible nesting habitat, the yellow warbler has potential to occur. The nearest CNDDB occurrence is approximately 2 miles from project site.

4.3.1.2. YELLOW WARBLER AVOIDANCE AND MINIMIZATION EFFORTS

To minimize and avoid potential impacts to yellow warbler, the project will comply with the following measures:

BIO-14: The construction contractor shall avoid downing of riparian vegetation during the yellow warbler breeding season (April 1st-September 1st). Should work in proximity to Buena Creek occur within the nesting season, the project biologist shall conduct preconstruction nesting surveys within 100 feet of project construction limits for yellow warbler within 2 weeks before construction clearing and grubbing activities in proximity to Buena Creek begin.

BIO-15: If active yellow warbler nests are found within the survey area, a minimum no disturbance buffer of 100 feet shall be established as ESA by the project biologist. Exact buffer

distance and sound restrictions will be established through coordination with CDFG. ESA buffer restrictions shall remain until the project biologist determines the juveniles have fledged.

4.3.1.3. PROJECT IMPACTS TO THE YELLOW WARBLER

Although no yellow warbler or yellow warbler sign was observed during the May-July 2012 surveys, the species could occur within the project vicinity. Considering the amount of development and hardscape in the BSA, the amount of available riparian habitat within the project limits, implementation of minimization and avoidance measures **BIO-4, BIO-5**, **BIO-14** & **BIO-15** and use of Caltrans Standard BMPs, the project will not impact the viability of the overall population.

4.3.1.4. COMPENSATORY MITIGATION FOR YELLOW WARBLER

Impacts to the viability of yellow warbler are not anticipated; compensatory mitigation is not required or proposed.

4.3.1.5. CUMULATIVE EFFECTS TO YELLOW WARBLER

Considering the amount of development and hardscape in the BSA, the amount of available riparian habitat within the project limits, implementation of minimization and avoidance measures **BIO-4, BIO-5, BIO-14 & BIO-15**, use of Caltrans Standard BMPs, and compensatory mitigation provided by the project to ensure a no net loss in sensitive riparian habitat within the region, no cumulative impacts attributed to the project would be anticipated.

4.3.2. Dulzura Pocket Mouse

The Dulzura pocket mouse is not a State or Federally listed species, but is a CDFG Species of Special Concern. The Dulzura pocket mouse is a yearlong San Diego resident that inhabits coastal scrub, chaparral and grasslands, particularly in brushy areas. Populations are believed to have declined due to habitat degradation and urbanization, and urban domestic animal predation (CNDDB 2012, Zeiner 1990).

4.3.2.1. DULZURA POCKET MOUSE SURVEY RESULTS

During the May and June 2012 biological surveys and the July 2012 Stephens' kangaroo rat Habitat Assessment, no sign of the Dulzura pocket mouse were observed. The site is disturbed and developed with a high level of anthropogenic disturbance, hardscape, landscape and improvements to the NCTD rail. However, the BSA contains non-native grassland habitat and degraded coastal sage scrub potentially suitable to the species. The nearest CNDDB occurrence is over 5 miles from the project site and when combined with the minimal habitat present onsite, the species is anticipated to have a low chance of occurrence.

4.3.2.2. DULZURA POCKET MOUSE AVOIDANCE AND MINIMIZATION EFFORTS

The following measures will minimize project impacts to Dulzura pocket mouse and other special-status species:

BIO-16: Except what is permitted to eradicate arundo, the contractor shall not apply rodenticides or herbicides in the project area during construction activities.

BIO-17: The contractor shall dispose of all food-related trash in closed containers, and shall remove it from the project area each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the project area.

BIO-18: In the unlikely event a worker inadvertently injures or kills a special-status species or finds one dead, injured, or entrapped, the worker shall immediately report the incident to the project biologist.

BIO-19: Project-related vehicles and construction equipment shall be restricted to designated work areas by the Resident Engineer.

BIO-20: If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed.

4.3.2.3. PROJECT IMPACTS TO THE DULZURA POCKET MOUSE

Although no Dulzura pocket mice were observed during the May- July 2012 surveys, the species could occur in the project vicinity. However, considering the amount of available potential habitat within the project impact area, the level of development and hardscape in the BSA, the high level of anthropogenic activity, and recent NCTD rail improvements, implementation of minimization and avoidance measures **BIO-16** through **BIO-20**, and use of Caltrans Standard BMPs, the project will not impact the viability of the overall population.

4.3.2.4. COMPENSATORY MITIGATION FOR DULZURA POCKET MOUSE

Impacts to the viability of the Dulzura pocket mouse population are not anticipated; consequently, mitigation is not proposed.

4.3.2.5. CUMULATIVE EFFECTS TO DULZURA POCKET MOUSE

Considering impacts to the Dulzura pocket mouse population are not anticipated combined with the amount of available potential habitat within the project impact area, the level of development and hardscape in the BSA, the high level of anthropogenic activity, and recent NCTD rail improvements, implementation of minimization and avoidance measures **BIO-16** through **BIO-20**, and use of Caltrans Standard BMPs; cumulative impacts to the Dulzura pocket mouse are not anticipated.

4.3.3. Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse is not a State or Federally listed species, but is a CDFG Species of Special Concern. Northwestern Sand Diego Pocket mice can be found in arid coastal and desert border areas of coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland communities. Usually the mouse is found in association with sandy, rocky or gravelly soils to elevations no higher than 6,000 feet (Zeiner 1990, CNDDB 2012).

4.3.3.1. Northwestern San Diego Pocket Mouse Survey Results

During the May and June 2012 biological surveys and the July 2012 Stephens' kangaroo rat Habitat Assessment, no sign of the northwestern San Diego pocket mouse were observed. The site is disturbed and developed with a high level of anthropogenic disturbance, hardscape, landscape and improvements to the NCTD rail. However, the BSA contains non-native grassland habitat potentially suitable to the species. The nearest CNDDB occurrence is approximately 3 miles from the project site and when combined with the minimal habitat present onsite, the species is anticipated to have a low to moderate chance of occurrence.

4.3.3.2. Northwestern San Diego Pocket Mouse Avoidance and Minimization Efforts

To minimize and avoid potential impacts to northwestern San Diego pocket mouse, the project shall comply with the measures the previous Dulzura pocket mouse measures (**BIO-16** through **BIO-20**

4.3.3.3. Project Impacts to the Northwestern San Diego Pocket Mouse

Although no northwestern San Diego pocket mice were observed during the May-July 2012 surveys, the species could occur in the project vicinity. However, considering the amount of available potential habitat within the project impact area, the level of development and hardscape in the BSA, the high level of anthropogenic activity, and recent NCTD rail improvements, implementation of minimization and avoidance measures **BIO-16** through **BIO-20**, and use of Caltrans Standard BMPs, the project will not impact the viability of the overall population.

4.3.3.4. Compensatory Mitigation for Northwestern San Diego Pocket Mouse

Impacts to the viability of the northwestern San Diego pocket mouse population are not anticipated; consequently, mitigation is not proposed.

4.3.3.5. Cumulative Effects to Northwestern San Diego Pocket Mouse

Considering impacts to the northwestern San Diego pocket mouse population are not anticipated combined with the amount of available potential habitat within the project impact area, the level of development and hardscape in the BSA, the high level of anthropogenic activity, and recent NCTD rail improvements, implementation of minimization and avoidance measures **BIO-16**

through **BIO-20,** and use of Caltrans Standard BMPs; cumulative impacts to the northwestern San Diego pocket mouse are not anticipated.

4.3.4. Western Yellow Bat

The western yellow bat is not a State or Federally listed species, but is a CDFG Species of Special Concern. Western yellow bats are a rare yearlong southern California resident from Los Angeles and San Bernardino Counties south to the Mexican border. The species typically occurs close to water within valley foothill riparian, desert riparian, desert wash and palm oasis habitats. As a resident of riparian habitats, the species roots in trees and palms. Young are born in June and July (Zeiner 1990).

4.3.4.1. Western yellow bat Survey Results

During the May and June 2012 biological surveys, no sign of the western yellow bat was observed. However, the project site contains deciduous riparian forest habitat at the Buena Creek project crossing which is potentially suitable for western yellow bat foraging and roosting habitat. Considering the project's proximity to suitable foraging sites and the availability of potential roosting habitat, the yellow warbler has potential to occur. The nearest CNDDB occurrence is approximately 2 to 3 miles from project site.

4.3.4.2. Western yellow bat Avoidance and Minimization Efforts

To minimize and avoid potential impacts to western yellow bat, the project will comply with measures **BIO-14 through BIO-20** and the following:

BIO-21: To protect nocturnal riparian species during construction, no night work (defined as the period between one hour prior to dusk and one hour after dawn) shall be permitted within 100 feet of the Buena Creek riparian corridor.

BIO-22: To minimize permanent lighting within the Buena Creek riparian corridor, all trail lighting proposed to be established within 30 feet of Buena Creek shall be shielded and directed away from the creek. Project wide, all proposed trail lighting shall be in compliance with local lighting regulations.

4.3.4.3. Project Impacts to the Western yellow bat

Although no western yellow bat or western yellow bat sign was observed during the May and June 2012 surveys, the species could occur within the project vicinity. Considering the amount of development and hardscape in the BSA, the amount of available riparian habitat within the project limits, implementation of minimization and avoidance measures **BIO-14 through BIO-22** and use of Caltrans Standard BMPs, the project will not impact the viability of the overall population.

4.3.4.4. COMPENSATORY MITIGATION FOR WESTERN YELLOW BAT

Impacts to the viability of western yellow bat are not anticipated; mitigation is not required or proposed.

4.3.4.5. CUMULATIVE EFFECTS TO WESTERN YELLOW BAT

Considering the amount of development and hardscape in the BSA, the amount of available riparian habitat within the project limits, implementation of minimization and avoidance measures **BIO-14 through BIO-22**, use of Caltrans Standard BMPs, and compensatory mitigation provided by the project to ensure a no net loss in sensitive riparian habitat within the region, no cumulative impacts attributed to the project would be anticipated.

4.3.5. Two-striped Garter Snake

The two-striped garter snake is not a State or Federally listed species, but is a CDFG Species of Special Concern. Two-striped garter snakes are a secretive yearlong southern California resident of vegetated aquatic habitats. The species typically occurs along stream or pond margins with thick vegetative cover and access to winter upland habitats. Often the species is found in association within thick vegetative debris, logs, or loose bark. Young are born live, typically between August and November (Zeiner 1990, CNDDB 2012).

4.3.5.1. TWO-STRIPED GARTER SNAKE SURVEY RESULTS

During the May biological surveys, no sign of the two-striped garter snake was observed. However, the species is very secretive and the project site contains riparian forest habitat and a small dense cattail wetland at the Buena Creek project crossing which is potentially suitable for two-striped garter snake. Considering the project's proximity to suitable foraging sites and the channel's connectivity to winter upland habitat further upstream, the two-striped garter snake has potential to occur. The nearest CNDDB occurrence is approximately 3 miles from project site.

4.3.5.2. TWO-STRIPED GARTER SNAKE AVOIDANCE AND MINIMIZATION EFFORTS

To minimize and avoid potential impacts to two-striped garter snake, the project will comply with measures **BIO-14 through BIO-22.**

4.3.5.3. PROJECT IMPACTS TO THE TWO-STRIPED GARTER SNAKE

Although no two-striped garter snake was observed during the May 2012 surveys, the species could occur within the project vicinity. Considering the amount of development and hardscape in the BSA, the amount of available riparian habitat within the project limits, implementation of minimization and avoidance measures **BIO-14 through BIO-22**, and use of Caltrans Standard BMPs, the project will not impact the viability of the overall population.

4.3.5.4. COMPENSATORY MITIGATION FOR TWO-STRIPED GARTER SNAKE

Impacts to the viability of two-striped garter snake are not anticipated; mitigation is not required or proposed.

4.3.5.5. CUMULATIVE EFFECTS TO TWO-STRIPED GARTER SNAKE

Considering the amount of development and hardscape in the BSA, the amount of available riparian habitat within the project limits, the minimal impacts at Buena Creek, use of ESA to prevent equipment from encroaching upon suitable habitat adjacent to the project limits, implementation of minimization and avoidance measures **BIO-14 through BIO-22**, use of Caltrans Standard BMPs, and compensatory mitigation provided by the project to ensure a no net loss in sensitive riparian habitat within the region, no cumulative impacts attributed to the project would be anticipated.

Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

5.1. Federal Endangered Species Act Consultation Summary

Coordination with USFWS clarified that all thread-leaved brodiaea Critical Habitat in the BSA vicinity occurs exclusively on private property; no thread-leaved brodiaea Critical Habitat occurs within the NCTD ROW or within project limits. Focused surveys for thread leaved brodiaea were negative and there is a low probability for thread-leaved brodiaea occurrence within the project impact area. The project does not anticipate to negatively affect thread-leaved brodiaea. A preconstruction blooming season survey will be conducted to ensure specimens have not moved into the project area and that they are not affected by project activities. Should preconstruction surveys encounter thread-leaved brodiaea, the project would initiate formal Section 7 Consultation with USFWS and perform appropriate compensatory mitigation following agency coordination. No impacts to the thread-leaved brodiaea are anticipated and further coordination with USFWS is not anticipated. No additional Federally threatened or endangered species or suitable habitat occurs within the BSA and further coordination with USFWS is not anticipated.

5.2. California Endangered Species Act Consultation Summary

Focused surveys for thread leaved brodiaea, a State endangered species, were negative and therefore the project does not anticipate to negatively affect the thread-leaved brodiaea. A preconstruction blooming season survey will be conducted to ensure specimens have not moved into the project area and that they are not affected by project activities. Should preconstruction surveys encounter thread-leaved brodiaea, the project would obtain a 2081 incidental take permit from CDFG, and perform appropriate compensatory mitigation following agency coordination. No impacts to the thread-leaved brodiaea are anticipated and further coordination with CDFG is not anticipated.

With the exception of habitat located at Buena Creek, the BSA is not anticipated to provide quality habitat for the yellow warbler, Dulzura pocket mouse, western yellow bat or two striped garter snake, all CDFG Species of Special Concern due to the amount of development and hardscape, the high level of anthropogenic activity, and the disturbed condition of preferred habitats. As these species have a low to moderate chance of occurrence, minimization and avoidance measures have been incorporated into the project design. No additional suitable habitat for State sensitive, threatened or endangered species occur within the BSA.

5.3. Invasive Species

In February 1999, EO 13112 was signed, requiring Federal agencies to work on preventing and controlling the introduction and spread of invasive species. The following protective measures will be included in the project plans to ensure that invasive species are not introduced or spread:

BIO-23: Within 500 feet of Buena Creek and thread-leaved brodiaea Critical Habitat, all landscaping installed as part of the project shall consist of a biologist approved plant palette from native, locally adapted species. Landscaping for the remainder of the project shall utilize a native drought tolerant plant palette to the maximum extent practicable and shall not include species considered invasive by the Cal IPC.

BIO-24: Prior to arrival at the project site and prior to leaving the project site, the construction contractor shall clean all construction equipment that may contain invasive plants and/or seeds to reduce the spreading of noxious weeds.

BIO-25: Prior to clearing and grubbing arundo infested areas, the construction contractor shall cut all arundo approximately 1 foot from the ground and the biomass removed from the area. The stumps shall then be cut to ground level (within two to four inches of the substrate) and full strength Glyphosate Rodeo (with a surfactant), approved for use in wetlands, shall be directly applied to the entire cut surface of the stem with a paint brush, sponge, finger trigger spray bottle, backpack sprayer or similar localized herbicide delivery method within one to two minutes after stem cutting. A wetland approved surfactant shall be included in the Glysophate Rodeo in the amount directed by label recommendations. Care shall be taken to avoid application to adjacent vegetation. Dye shall be added to the Glyphosate Rodeo solution to mark treated stumps and ensure full coverage. The contractor is required to complete two or more rounds of arundo eradication to ensure plant material is dead, as determined by the project biologist. Each application shall be completed at least 2 weeks apart. Contractor shall allow a minimum of 14 days after the last Glyphosate Rodeo application prior to disturbing or removing underground roots. Rhizomes and roots easily break and separate during attempts at removal. All roots, rhizomes and parts thereof shall be completely removed from the project area by hand tools, backhoe or similar equipment; at no time shall arundo or parts thereof be allowed to enter the live stream.

5.4. Wetlands and Other Waters Coordination Summary

The Project will have an approximate permanent impact on 0.30 acres and an approximate temporary impact of 0.11 acres of waters of the U.S. and State. Impacts to waters of the U.S. and waters of the State have been previously mitigated by the City of San Marcos in 2001 for

impacts anticipated for the full project alignment (see Appendix G). The City of San Marcos purchased 0.90 acre of credit for $108,000 from Caltrans' Pilgrim Creek Mitigation Bank on January 4, 2001 to mitigate for impacts to wetlands, southern willow scrub, and other riparian habitats that would be impacted by the Oceanside-Escondido Bikeway Project (City of San Marcos, 2013). Since mitigation for these impacts was completed by the City of San Marcos, no additional mitigation is expected. During the permitting phase, SANDAG will coordinate with the USACE to confirm that prior mitigation will be adequate for the impacts to waters addressed in this Natural Environment Study.

Prior to work within waters the project will obtain coverage under Nationwide Permit 14 (CWA Section 404) from the USACE, a Section 401 Water Quality Certification from the San Diego RWQCB, coverage under the Construction Activities Storm Water General Permit regulated by the State Water Resources Control Board, and a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code.

5.5. Other

5.5.1. Migratory Birds

Native birds, protected under the MBTA and similar provisions under CFG code, currently nest or have the potential to nest within the BSA and the project impact area. During the biological surveys, evidence of potentially suitable nesting habitat was observed within the trees and shrubs adjacent to the proposed project BSA, especially within the riparian corridor at Buena Creek (Appendix F: Photograph 5 and 8). The following measure shall be utilized to ensure protection of migratory nesting birds.

BIO-26: If the construction contractor needs to remove vegetation during the breeding season (February 15th – September 1st), a pre-construction nesting bird survey shall be conducted within 7 days prior to vegetation removal. Within 2 weeks of the nesting bird survey, all vegetation cleared by the biologist shall be removed by the contractor.

A minimum 100 foot no-disturbance buffer shall be established around any active nest to limit the impacts of construction activities. The contractor shall immediately stop work in the nesting area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the project biologist and in coordination with wildlife agencies) in the buffer area until the project biologist determines the young have fledged.

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Appendix A Unofficial USFWS Planning Species List

U.S. Fish and Wildlife Service

Natural Resources of Concern

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

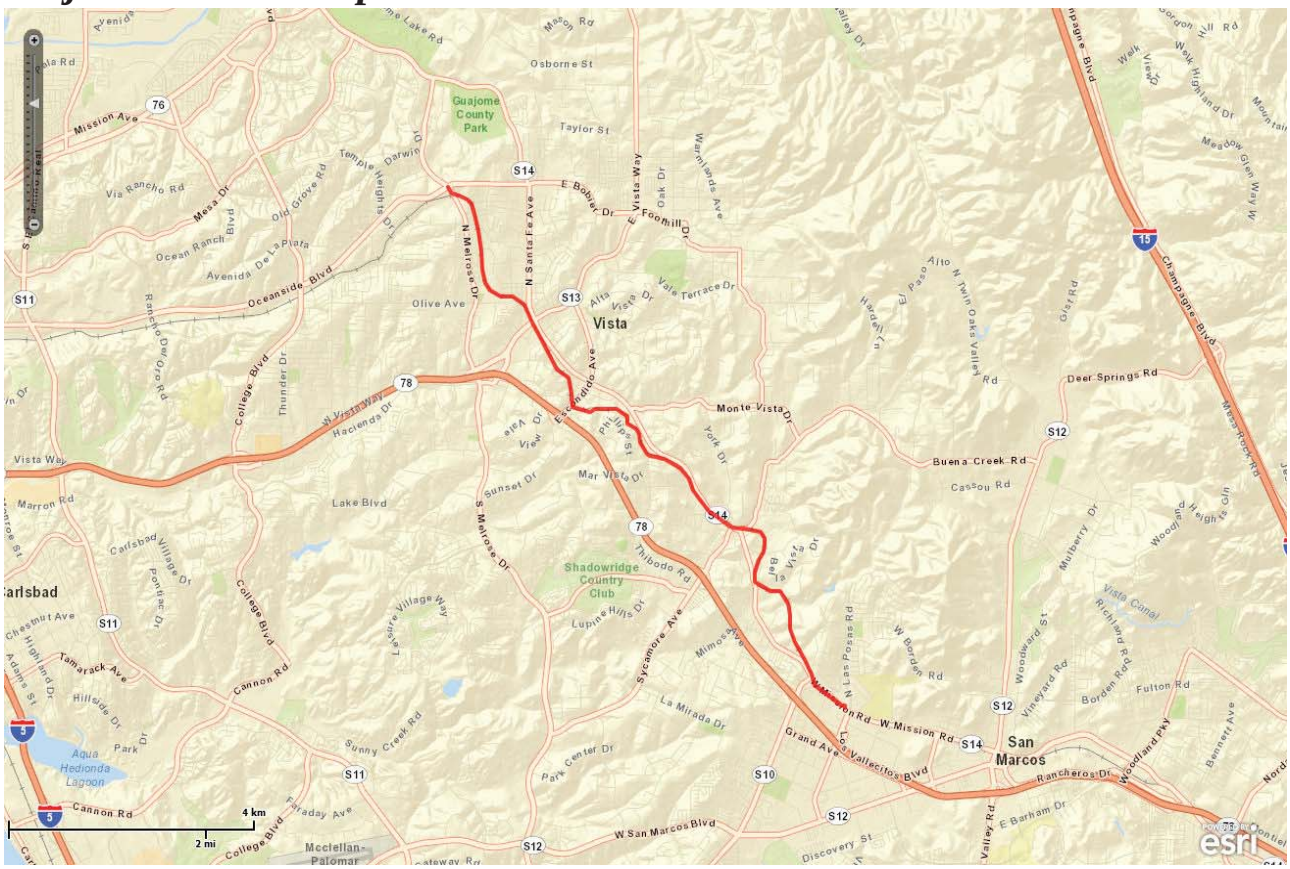
CARLSBAD FISH AND WILDLIFE OFFICE
6010 HIDDEN VALLEY ROAD, SUITE 101
CARLSBAD, CA 92011
(760) 431-9440
http://www.fws.gov/carlsbad/

Project Name:

Inland Rail Trail Project

Natural Resources of Concern

Project Location Map:



Project Counties:

San Diego, CA

Natural Resources of Concern

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-117.2583959 33.2198522, -117.2572011 33.2195667, -117.2571987 33.2195659, -117.2556538 33.2189915, -117.255648 33.2189881, -117.2549613 33.2184136, -117.2549553 33.2184051, -117.2544403 33.216969, -117.25444 33.216968, -117.2537448 33.214663, -117.2537442 33.2146609, -117.2532292 33.2119322, -117.2532289 33.2119298, -117.2530574 33.2093466, -117.2525471 33.2074881, -117.2516946 33.2064895, -117.2498143 33.2056314, -117.2477587 33.2056314, -117.247749 33.2056289, -117.245689 33.2044798, -117.2456813 33.2044721, -117.2443084 33.2020311, -117.242249 33.1990154, -117.2422487 33.199015, -117.2400198 33.1955716, -117.2379643 33.1944249, -117.2379581 33.1944195, -117.2379545 33.194412, -117.2374395 33.1922573, -117.2374391 33.1922545, -117.2372687 33.1904014, -117.2341999 33.189688, -117.2333481 33.1901158, -117.2333391 33.1901179, -117.2295625 33.1901179, -117.2295531 33.1901156, -117.2276649 33.18911, -117.2276593 33.1891055, -117.2276556 33.1890993, -117.2276543 33.1890922, -117.2276572 33.1880993, -117.2261238 33.1873864, -117.2261159 33.18738, -117.2256009 33.1866617, -117.2255974 33.186653, -117.2254266 33.1855087, -117.2242306 33.1839382, -117.2237225 33.1836548, -117.2226962 33.1835116, -117.2226953 33.1835115, -117.2211504 33.1832242, -117.2211456 33.1832226, -117.218399 33.1819296, -117.2183939 33.1819261, -117.2168489 33.1804894, -117.2168442 33.1804828, -117.2161589 33.1789055, -117.2149597 33.1776151, -117.213417 33.1760369, -117.2093036 33.1737416, -117.2070765 33.1735983, -117.2070747 33.1735981, -117.2043281 33.173167, -117.2043211 33.1731645, -117.2043156 33.1731597, -117.203629 33.1722976, -117.2036257 33.1722917, -117.2036246 33.1722851, -117.2036246 33.171423, -117.2036249 33.1714196, -117.2037966 33.1704138, -117.2038003 33.1704052, -117.204657 33.1692577, -117.2053412 33.1675395, -117.2053412 33.1662628, -117.2026101 33.1649768, -117.200898 33.1649768, -117.2008893 33.1649748, -117.2008824 33.1649693, -117.1995091 33.1632449, -117.1995052 33.1632366, -117.1991619 33.1616559, -117.1991614 33.1616517, -117.1991614 33.159788, -117.1983057 33.1579255, -117.1967618 33.1557714, -117.1967609 33.15577, -117.1953876 33.1534706, -117.195386 33.153467, -117.1948735 33.1520366, -117.1900778 33.1491687, -117.18974 33.1491687, -117.1895684 33.1491687, -117.1895607 33.1491672, -117.1895543 33.1491628, -117.1895499 33.1491564, -117.1895484 33.1491487, -117.1895499 33.149141, -117.1895543 33.1491346, -117.1895607 33.1491302, -117.1895684 33.1491287, -117.1897048 33.1491287, -117.189637 33.1490152, -117.1895512 33.1488715, -117.1895486 33.1488641, -117.189549 33.1488563, -117.1895524 33.1488493, -117.1895581 33.148844, -117.1895655 33.1488414, -117.1895733 33.1488418, -117.1895803 33.1488452, -117.1895856 33.1488509, -117.1896714 33.1489946, -117.1896714 33.1489947, -117.1897514 33.1491287, -117.1900833 33.1491287, -117.1900936 33.1491315, -117.1949002 33.1520059, -117.1949054 33.1520104, -117.1949087 33.1520164, -117.195423 33.1534517, -117.1967948 33.1557487, -117.1983394 33.1579037, -117.1983413 33.1579071, -117.1991996 33.1597753, -117.1992014 33.1597836, -117.1992014 33.1616496, -117.1995433 33.1632236, -117.2009076 33.1649368, -117.2026146 33.1649368, -117.2026231 33.1649387, -117.2053697 33.166232, -117.2053758 33.1662364, -117.2053798 33.1662427, -117.2053812 33.1662501, -117.2053812 33.1675433, -117.2053798 33.1675507, -117.2046932 33.169275, -117.2046906 33.1692796, -117.2038352 33.1704253, -117.2036646 33.1714247, -117.2036646 33.1722781, -117.204342 33.1731286, -117.20708 33.1735584, -117.2093107 33.1737019, -117.2093191 33.1737044, -117.213439 33.1760033, -117.2134436 33.1760068, -117.2149885 33.1775873, -117.2149889 33.1775877, -117.2161906 33.1788808, -117.2161942 33.1788864, -117.2168792 33.180463, -117.2184188 33.1818947, -117.2211603 33.1831853, -117.2227022 33.1834721, -117.2237318 33.1836157, -117.2237387 33.183618, -117.2242537 33.1839053, -117.2242599 33.1839107, -117.2254615 33.1854886, -117.2254654 33.1854977, -117.2256363 33.1866423, -117.2261454 33.1873524,

U.S. Fish and Wildlife Service

Natural Resources of Concern

Project Type:

Transportation

Endangered Species Act Species List

There are a total of **19** species in your species list

Species that may be affected by your project: (View all critical habitat on one map)

Amphibians				
Arroyo toad (*Bufo californicus*)	Endangered	species info		Carlsbad Fish And Wildlife Office
Birds				
California Least tern (*Sterna antillarum browni*)	Endangered	species info		Carlsbad Fish And Wildlife Office
Coastal California gnatcatcher (*Polioptila californica californica*)	Threatened	species info		Carlsbad Fish And Wildlife Office
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	species info		Carlsbad Fish And Wildlife Office
Light-Footed Clapper rail (*Rallus longirostris levipes*) Population: U.S.A. only	Endangered	species info		Carlsbad Fish And Wildlife Office

Natural Resources of Concern

Southwestern Willow flycatcher (*Empidonax traillii extimus*)	Endangered	species info		Carlsbad Fish And Wildlife Office
Western Snowy plover (*Charadrius alexandrinus nivosus*) Population: Pacific coastal pop.	Threatened	species info		Carlsbad Fish And Wildlife Office
Crustaceans				
Riverside fairy shrimp (*Streptocephalus woottoni*)	Endangered	species info		Carlsbad Fish And Wildlife Office
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	Endangered	species info		Carlsbad Fish And Wildlife Office
Fishes				
steelhead (*Oncorhynchus mykiss*) Population: southern CA coast	Endangered	species info		Carlsbad Fish And Wildlife Office
Tidewater goby (*Eucyclogobius newberryi*) Population: Entire	Endangered	species info		Carlsbad Fish And Wildlife Office
Flowering Plants				
Del Mar manzanita (*Arctostaphylos glandulosa ssp. crassifolia*)	Endangered	species info		Carlsbad Fish And Wildlife Office

Natural Resources of Concern

San Diego ambrosia (*Ambrosia pumila*)	Endangered	species info		Carlsbad Fish And Wildlife Office
San Diego button-celery (*Eryngium aristulatum var. parishii*)	Endangered	species info		Carlsbad Fish And Wildlife Office
San Diego thornmint (*Acanthomintha ilicifolia*)	Threatened	species info		Carlsbad Fish And Wildlife Office
Spreading navarretia (*Navarretia fossalis*)	Threatened	species info		Carlsbad Fish And Wildlife Office
Thread-Leaved brodiaea (*Brodiaea filifolia*)	Threatened	species info	Final designated critical habitat	Carlsbad Fish And Wildlife Office
Mammals				
Pacific Pocket mouse (*Perognathus longimembris pacificus*)	Endangered	species info		Carlsbad Fish And Wildlife Office
Stephens' kangaroo rat (*Dipodomys stephensi*)	Endangered	species info		Carlsbad Fish And Wildlife Office

FWS National Wildlife Refuges

There are no refuges found within the vicinity of your project.

U.S. Fish and Wildlife Service

Natural Resources of Concern

FWS Migratory Birds

Not yet available through IPaC.

FWS Delineated Wetlands

Not yet available through IPaC.

Appendix B CNDDB Summary Report

DEPARTMENT OF FISH AND GAME

Quad is (San Marcos (3311722) or Valley Center (3311721) or San Luis Rey (3311723) or Escondido (3311711) or Rancho Santa Fe (3311712) or Encinitas (3311713))

CNDDB Element Query Results

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
Acanthomintha ilicifolia	San Diego thorn-mint	PDLAM01010	82	G2	S2	Threatened	Endangered	1B.1	USFS_S-Sensitive	Chaparral | Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Accipiter cooperii	Cooper's hawk	ABNKC12040	102	G5	S3	None	None		DFG_WL-Watch List | IUCN_LC-Least Concern	Cismontane woodland | Riparian forest | Riparian woodland | Upper montane coniferous forest
Adolphia californica	California adolphia	PDRHA01010	84	G3G4	S2	None	None	2.1		Chaparral | Coastal scrub | Valley and foothill grassland
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	ABPBX91091	185	G5T2T4	S2S3	None	None		DFG_WL-Watch List	Chaparral | Coastal scrub
Ambrosia pumila	San Diego ambrosia	PDAST0C0M0	55	G1	S1	Endangered	None	1B.1		Chaparral | Coastal scrub | Valley and foothill grassland
Amphispiza belli belli	Bell's sage sparrow	ABPBX97021	57	G5T2T4	S2?	None	None		ABC_WLBCC-Watch List of Birds of Conservation Concern | DFG_WL-Watch List | USFWS_BCC-Birds of Conservation Concern	Chaparral | Coastal scrub
Antrozous pallidus	pallid bat	AMACC10010	402	G5	S3	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley and foothill grassland
Arctostaphylos glandulosa ssp. crassifolia	Del Mar manzanita	PDERI040E8	45	G5T2	S2	Endangered	None	1B.1		Chaparral | Closed-cone coniferous forest
Arctostaphylos rainbowensis	Rainbow manzanita	PDERI042T0	63	G2	S2.1	None	None	1B.1	USFS_S-Sensitive	Chaparral | Ultramafic
Artemisia palmeri	San Diego sagewort	PDAST0S160	36	G3	S3.2	None	None	4.2		Chaparral | Coastal scrub | Riparian forest | Riparian woodland
Aspidoscelis hyperythra	orangethroat whiptail	ARACJ02060	345	G5	S2	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern	Chaparral | Cismontane woodland | Coastal scrub
Aspidoscelis tigris stejnegeri	coastal whiptail	ARACJ02143	112	G5T3T4	S2S3	None	None			
Athene cunicularia	burrowing owl	ABNSB10010	1808	G4	S2	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern |	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub |

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
									USFWS_BCC-Birds of Conservation Concern	Valley and foothill grassland
Atriplex coulteri	Coulter's saltbush	PDCHE040E0	75	G2	S2.2	None	None	1B.2		Coastal bluff scrub | Coastal dunes | Coastal scrub | Valley and foothill grassland
Atriplex pacifica	South Coast saltscale	PDCHE041C0	36	G3G4	S2.2	None	None	1B.2		Chenopod scrub | Coastal bluff scrub | Coastal scrub
Atriplex serenana var. davidsonii	Davidson's saltscale	PDCHE041T1	23	G5T2?	S2?	None	None	1B.2		Coastal bluff scrub | Coastal scrub
Baccharis vanessae	Encinitas baccharis	PDAST0W0P0	25	G1	S1	Threatened	Endangered	1B.1	USFS_S-Sensitive	Chaparral
Bloomeria clevelandii	San Diego goldenstar	PMLIL1H010	68	G2	S2	None	None	1B.1	BLM_S-Sensitive	Chaparral | Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Branchinecta sandiegonensis	San Diego fairy shrimp	ICBRA03060	67	G1	S1	Endangered	None		IUCN_EN-Endangered	Chaparral | Coastal scrub | Vernal pool | Wetland
Brodiaea filifolia	thread-leaved brodiaea	PMLIL0C050	79	G1	S1	Threatened	Endangered	1B.1	USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Brodiaea orcuttii	Orcutt's brodiaea	PMLIL0C0B0	105	G1	S1	None	None	1B.1	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Closed-cone coniferous forest | Meadow and seep | Ultramafic | Valley and foothill grassland | Vernal pool | Wetland
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	ABPBG02095	150	G5T3Q	S3	None	None		DFG_SSC-Species of Special Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Coastal scrub
Ceanothus verrucosus	wart-stemmed ceanothus	PDRHA041J0	44	G3	S2.2	None	None	2.2		Chaparral
Centromadia parryi ssp. australis	southern tarplant	PDAST4R0P4	76	G4T2	S2	None	None	1B.1		Marsh and swamp | Salt marsh | Valley and foothill grassland | Wetland
Centromadia pungens ssp. laevis	smooth tarplant	PDAST4R0R4	104	G3G4T2	S2.1	None	None	1B.1		Alkali playa | Chenopod scrub | Meadow and seep | Riparian woodland | Valley and foothill grassland | Wetland
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	PDAST20095	23	G5T1	S1	None	None	1B.1		Coastal bluff scrub | Coastal dunes
Chaetodipus californicus femoralis	Dulzura pocket mouse	AMAFD05021	55	G5T3	S2?	None	None		DFG_SSC-Species of Special Concern	Chaparral | Coastal scrub | Valley and foothill grassland
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	AMAFD05031	94	G5T3	S2S3	None	None		DFG_SSC-Species of Special Concern	Chaparral | Coastal scrub
Charadrius alexandrinus nivosus	western snowy plover	ABNNB03031	116	G4T3	S2	Threatened	None		ABC_WLBCC-Watch List of Birds of Conservation Concern | DFG_SSC-Species of	Great Basin standing waters | Sand shore | Wetland

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
									Special Concern | USFWS_BCC-Birds of Conservation Concern	
Charina trivirgata	rosy boa	ARADA01020	48	G4G5	S3S4	None	None		IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Mojavean desert scrub | Sonoran desert scrub
Choeronycteris mexicana	Mexican long-tongued bat	AMACB02010	14	G4	S1	None	None		DFG_SSC-Species of Special Concern | IUCN_NT-Near Threatened | WBWG_H-High Priority	Pinon and juniper woodlands | Riparian scrub | Sonoran thorn woodland
Chorizanthe orcuttiana	Orcutt's spineflower	PDPGN040G0	14	G1	S1	Endangered	Endangered	1B.1		Chaparral | Closed-cone coniferous forest | Coastal scrub
Chorizanthe polygonoides var. longispina	long-spined spineflower	PDPGN040K1	99	G5T3	S3	None	None	1B.2	USFS_S-Sensitive	Chaparral | Coastal scrub | Meadow and seep | Ultramafic | Valley and foothill grassland
Cicindela senilis frosti	senile tiger beetle	IICOL02121	9	G4T1	S1	None	None			Mud shore/flats | Wetland
Circus cyaneus	northern harrier	ABNKC11010	43	G5	S3	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern	Coastal scrub | Great Basin grassland | Marsh and swamp | Riparian scrub | Valley and foothill grassland | Wetland
Clarkia delicata	delicate clarkia	PDONA050D0	31	G2	S2.2	None	None	1B.2	USFS_S-Sensitive	Chaparral | Cismontane woodland
Comarostaphylis diversifolia ssp. diversifolia	summer holly	PDERI0B011	87	G3T2	S2	None	None	1B.2		Chaparral
Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	PDAST2M027	30	G4T1	S1.1	None	None	1B.1		Chaparral | Coastal scrub
Crotalus ruber	red-diamond rattlesnake	ARADE02090	148	G4	S2?	None	None		DFG_SSC-Species of Special Concern	Chaparral | Mojavean desert scrub | Sonoran desert scrub
Danaus plexippus	monarch butterfly	IILEPP2010	334	G5	S3	None	None			Closed-cone coniferous forest
Dendroica petechia brewsteri	yellow warbler	ABPBX03018	48	G5T3?	S2	None	None		DFG_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Riparian woodland
Dipodomys stephensi	Stephens' kangaroo rat	AMAFD03100	214	G2	S2	Endangered	Threatened		IUCN_EN-Endangered	Coastal scrub | Valley and foothill grassland
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	PDCRA04051	41	G2T2	S2.1	None	None	1B.1		Coastal bluff scrub | Coastal scrub | Ultramafic | Valley and foothill grassland
Dudleya variegata	variegated dudleya	PDCRA040R0	59	G2	S2.2	None	None	1B.2	BLM_S-Sensitive	Chaparral | Cismontane woodland | Coastal scrub | Valley and foothill grassland
Dudleya viscida	sticky dudleya	PDCRA040T0	23	G2	S2.2	None	None	1B.2	USFS_S-Sensitive	Chaparral | Coastal bluff scrub | Coastal scrub
Elanus leucurus	white-tailed kite	ABNKC06010	157	G5	S3	None	None		BLM_S-Sensitive | DFG_FP-Fully Protected | IUCN_LC-	Cismontane woodland | Marsh and swamp | Riparian woodland | Valley

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
									Least Concern	and foothill grassland | Wetland
Empidonax traillii extimus	southwestern willow flycatcher	ABPAE33043	62	G5T1T2	S1	Endangered	Endangered		ABC_WLBCC-Watch List of Birds of Conservation Concern	Riparian woodland
Emys marmorata	western pond turtle	ARAAD02030	1134	G3G4	S3	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh and swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland
Eremophila alpestris actia	California horned lark	ABPAT02011	77	G5T3Q	S3	None	None		DFG_WL-Watch List | IUCN_LC-Least Concern	Marine intertidal and splash zone communities | Meadow and seep
Ericameria palmeri var. palmeri	Palmer's goldenbush	PDAST3L0C1	16	G4T2T3	S1	None	None	1B.1	BLM_S-Sensitive	Chaparral | Coastal scrub
Eryngium aristulatum var. parishii	San Diego button-celery	PDAPI0Z042	75	G5T1	S1	Endangered	Endangered	1B.1		Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Erysimum ammophilum	sand-loving wallflower	PDBRA16010	28	G2	S2.2	None	None	1B.2	BLM_S-Sensitive	Chaparral | Coastal dunes | Coastal scrub
Eucyclogobius newberryi	tidewater goby	AFCQN04010	117	G3	S2S3	Endangered	None		AFS_EN-Endangered | DFG_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Aquatic | Klamath/North coast flowing waters | Sacramento/San Joaquin flowing waters | South coast flowing waters
Eumops perotis californicus	western mastiff bat	AMACD02011	293	G5T4	S3?	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | WBWG_H-High Priority	Chaparral | Cismontane woodland | Coastal scrub | Valley and foothill grassland
Euphorbia misera	cliff spurge	PDEUP0Q1B0	34	G5	S1	None	None	2.2		Coastal bluff scrub | Coastal scrub | Mojavean desert scrub
Ferocactus viridescens	San Diego barrel cactus	PDCAC08060	154	G4	S2	None	None	2.1		Chaparral | Coastal scrub | Valley and foothill grassland
Harpagonella palmeri	Palmer's grapplinghook	PDBOR0H010	57	G4	S3.2	None	None	4.2		Chaparral | Coastal scrub | Valley and foothill grassland
Hazardia orcuttii	Orcutt's hazardia	PDAST4H070	1	G1	S1	Candidate	Threatened	1B.1	BLM_S-Sensitive	Chaparral | Coastal scrub
Heterotheca sessiliflora ssp. sessiliflora	beach goldenaster	PDAST4V0K2	13	G4T2T3	S2.1?	None	None	1B.1		Chaparral | Coastal dunes | Coastal scrub
Horkelia truncata	Ramona horkelia	PDROS0W0G0	31	G3	S2.3	None	None	1B.3	USFS_S-Sensitive	Chaparral | Cismontane woodland
Icteria virens	yellow-breasted chat	ABPBX24010	84	G5	S3	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern	Riparian forest | Riparian scrub | Riparian woodland
		PDAST57091	9	G3G5T2T3	S2.2	None	None	1B.2		Coastal scrub

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
Isocoma menziesii var. decumbens	decumbent goldenbush									
Iva hayesiana	San Diego marsh-elder	PDAST580A0	58	G3?	S2.2?	None	None	2.2		Alkali playa | Marsh and swamp | Wetland
Lasiurus cinereus	hoary bat	AMACC05030	235	G5	S4?	None	None		IUCN_LC-Least Concern | WBWG_M-Medium Priority	Broadleaved upland forest | Cismontane woodland | Lower montane coniferous forest | North coast coniferous forest
Lasiurus xanthinus	western yellow bat	AMACC05070	57	G5	S3	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Desert wash
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	PDAST5L0A1	87	G4T3	S2.1	None	None	1B.1	BLM_S-Sensitive	Alkali playa | Marsh and swamp | Salt marsh | Valley and foothill grassland | Vernal pool | Wetland
Laterallus jamaicensis coturniculus	California black rail	ABNME03041	236	G4T1	S1	None	Threatened		ABC_WLBCC-Watch List of Birds of Conservation Concern | BLM_S-Sensitive | DFG_FP-Fully Protected | IUCN_NT-Near Threatened | USFWS_BCC-Birds of Conservation Concern	Brackish marsh | Freshwater marsh | Marsh and swamp | Salt marsh | Wetland
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	PDBRA1M114	134	G5T3	S3	None	None	1B.2		Chaparral | Coastal scrub
Leptosyne maritima	sea dahlia	PDAST2L0L0	27	G3	S2.2	None	None	2.2		Coastal bluff scrub | Coastal scrub
Lepus californicus bennettii	San Diego black-tailed jackrabbit	AMAEB03051	96	G5T3?	S3?	None	None		DFG_SSC-Species of Special Concern	Coastal scrub
Lotus nuttallianus	Nuttall's lotus	PDFAB2A0V0	36	G1	S1.1	None	None	1B.1		Coastal dunes | Coastal scrub
Maritime Succulent Scrub	Maritime Succulent Scrub	CTT32400CA	10	G2	S1.1	None	None			Coastal scrub
Monardella hypoleuca ssp. lanata	felt-leaved monardella	PDLAM180A2	43	G4T2	S2.2	None	None	1B.2	USFS_S-Sensitive	Chaparral | Cismontane woodland
Myosurus minimus ssp. apus	little mousetail	PDRAN0H031	24	G5T2Q	S2.2	None	None	3.1		Vernal pool | Wetland
Myotis yumanensis	Yuma myotis	AMACC01020	256	G5	S4?	None	None		BLM_S-Sensitive | IUCN_LC-Least Concern | WBWG_LM-Low-Medium Priority	Lower montane coniferous forest | Riparian forest | Riparian woodland | Upper montane coniferous forest
Nama stenocarpum	mud nama	PDHYD0A0H0	22	G4G5	S1S2	None	None	2.2		Marsh and swamp | Wetland
Navarretia fossalis	spreading navarretia	PDPLM0C080	65	G1	S1	Threatened	None	1B.1		Alkali playa | Chenopod scrub | Marsh and swamp | Vernal pool | Wetland
Nemacaulis denudata var. denudata	coast woolly-heads	PDPGN0G011	23	G3G4T3?	S2.2	None	None	1B.2		Coastal dunes
	slender cottonheads	PDPGN0G012	20	G3G4T3?	S2	None	None	2.2		Coastal dunes | Desert dunes |

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Nemacaulis denudata var. gracilis										Sonoran desert scrub
Neotoma lepida intermedia	San Diego desert woodrat	AMAFF08041	115	G5T3?	S3?	None	None		DFG_SSC-Species of Special Concern	Coastal scrub
Nyctinomops femorosaccus	pocketed free-tailed bat	AMACD04010	90	G4	S2S3	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_M-Medium Priority	Joshua tree woodland | Pinon and juniper woodlands | Riparian scrub | Sonoran desert scrub
Nyctinomops macrotis	big free-tailed bat	AMACD04020	32	G5	S2	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_MH-Medium-High Priority	
Orcuttia californica	California Orcutt grass	PMPOA4G010	37	G1	S1	Endangered	Endangered	1B.1		Vernal pool | Wetland
Orobanche parishii ssp. brachyloba	short-lobed broomrape	PDORO040A2	26	G4?T3	S3.2	None	None	4.2		Coastal bluff scrub | Coastal dunes | Coastal scrub
Passerculus sandwichensis beldingi	Belding's savannah sparrow	ABPBX99015	36	G5T3	S3	None	Endangered			Marsh and swamp | Wetland
Perognathus longimembris pacificus	Pacific pocket mouse	AMAFD01042	13	G5T1	S1	Endangered	None		DFG_SSC-Species of Special Concern	Coastal scrub
Phrynosoma blainvillii	coast horned lizard	ARACF12100	660	G4G5	S3S4	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Chaparral | Cismontane woodland | Coastal bluff scrub | Coastal scrub | Desert wash | Pinon and juniper woodlands | Riparian scrub | Riparian woodland | Valley and foothill grassland
Plegadis chihi	white-faced ibis	ABNGE02020	20	G5	S1	None	None		DFG_WL-Watch List | IUCN_LC-Least Concern	Marsh and swamp | Wetland
Plestiodon skiltonianus interparietalis	Coronado Island skink	ARACH01114	33	G5T2T3Q	S1S2	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern	Chaparral | Cismontane woodland | Pinon and juniper woodlands
Polioptila californica californica	coastal California gnatcatcher	ABPBJ08081	804	G3T2	S2	Threatened	None		ABC_WLBCC-Watch List of Birds of Conservation Concern | DFG_SSC-Species of Special Concern	Coastal bluff scrub | Coastal scrub
Quercus dumosa	Nuttall's scrub oak	PDFAG050D0	97	G1G2	S1.1	None	None	1B.1	USFS_S-Sensitive	Chaparral | Closed-cone coniferous forest | Coastal scrub
Rallus longirostris levipes	light-footed clapper rail	ABNME05014	30	G5T1T2	S1	Endangered	Endangered		ABC_WLBCC-Watch List of Birds of Conservation Concern | DFG_FP-Fully Protected	Marsh and swamp | Salt marsh | Wetland
Riparia riparia	bank swallow	ABPAU08010	267	G5	S2S3	None	Threatened		BLM_S-Sensitive | IUCN_LC-	Riparian scrub | Riparian woodland

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									Least Concern	
Salvadora hexalepis virgultea	coast patch-nosed snake	ARADB30033	22	G5T3	S2S3	None	None		DFG_SSC-Species of Special Concern	Coastal scrub
San Diego Mesa Claypan Vernal Pool	San Diego Mesa Claypan Vernal Pool	CTT44322CA	19	G2	S2.1	None	None			Vernal pool | Wetland
San Diego Mesa Hardpan Vernal Pool	San Diego Mesa Hardpan Vernal Pool	CTT44321CA	38	G2	S2.1	None	None			Vernal pool | Wetland
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	CTT61310CA	246	G4	S4	None	None			Riparian forest
Southern Coastal Salt Marsh	Southern Coastal Salt Marsh	CTT52120CA	24	G2	S2.1	None	None			Marsh and swamp | Wetland
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	CTT61330CA	111	G3	S3.2	None	None			Riparian forest
Southern Maritime Chaparral	Southern Maritime Chaparral	CTT37C30CA	26	G1	S1.1	None	None			Chaparral
Southern Riparian Forest	Southern Riparian Forest	CTT61300CA	20	G4	S4	None	None			Riparian forest
Southern Riparian Scrub	Southern Riparian Scrub	CTT63300CA	56	G3	S3.2	None	None			Riparian scrub
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	CTT62400CA	230	G4	S4	None	None			Riparian woodland
Southern Willow Scrub	Southern Willow Scrub	CTT63320CA	45	G3	S2.1	None	None			Riparian scrub
Spea hammondii	western spadefoot	AAABF02020	414	G3	S3	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Cismontane woodland | Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Stemodia durantifolia	purple stemodia	PDSCR1U010	19	G5	S2.1?	None	None	2.1		Sonoran desert scrub
Sternula antillarum browni	California least tern	ABNNM08103	67	G4T2T3Q	S2S3	Endangered	Endangered		ABC_WLBCC-Watch List of Birds of Conservation Concern | DFG_FP-Fully Protected	Alkali playa | Wetland
Streptocephalus woottoni	Riverside fairy shrimp	ICBRA07010	25	G1	S1	Endangered	None		IUCN_EN-Endangered	Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Suaeda esteroa	estuary seablite	PDCHE0P0D0	23	G3	S2	None	None	1B.2		Marsh and swamp | Salt marsh | Wetland
Taxidea taxus	American badger	AMAJF04010	454	G5	S4	None	None		DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog and fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie | Coastal scrub | Desert dunes | Desert wash | Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | lone formation |

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										Joshua tree woodland | Limestone | Lower montane coniferous forest | Marsh and swamp | Meadow and seep | Mojavean desert scrub | Montane dwarf scrub | North coast coniferous forest | Oldgrowth | Pavement plain | Redwood | Riparian forest | Riparian scrub | Riparian woodland | Salt marsh | Sonoran desert scrub | Sonoran thorn woodland | Ultramafic | Upper montane coniferous forest | Upper Sonoran scrub | Valley and foothill grassland
Tetracoccus dioicus	Parry's tetracoccus	PDEUP1C010	46	G3	S2.2	None	None	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Coastal scrub | Ultramafic
Thamnophis hammondii	two-striped garter snake	ARADB36160	143	G3	S2	None	None		BLM_S-Sensitive | DFG_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Marsh and swamp | Riparian scrub | Riparian woodland | Wetland
Thamnophis sirtalis ssp.	south coast garter snake	ARADB3613F	3	G5T1T2	S1S2	None	None		DFG_SSC-Species of Special Concern	Artificial standing waters | Marsh and swamp | Riparian scrub | Riparian woodland | South coast flowing waters | South coast standing waters | Wetland
Tryonia imitator	mimic tryonia (=California brackishwater snail)	IMGASJ7040	34	G2G3	S2S3	None	None		IUCN_DD-Data Deficient	Aquatic | Brackish marsh | Estuary | Lagoon | Marsh and swamp | Salt marsh | Wetland
Vireo bellii pusillus	least Bell's vireo	ABPBW01114	248	G5T2	S2	Endangered	Endangered		ABC_WLBCC-Watch List of Birds of Conservation Concern | IUCN_NT-Near Threatened	Riparian forest | Riparian scrub | Riparian woodland

Appendix C Coastal California Gnatcatcher and Least Bell's Vireo Habitat Assessment Report

INLAND RAIL TRAIL HABITAT ASSESSMENT
For
Coastal California Gnatcatcher and Least Bell's Vireo

in
San Marcos and Vista, CA

Prepared For:

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July 2012

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

Kinsinger Environmental Consulting prepared this Habitat Assessment of the proposed North County Transit District (NCTD) Inland Rail Trail (IRT) bicycle path to submit to Caltrans District 11. It assesses the vegetation communities within and adjacent to the NCTD Right of Way (ROW) for the presence of vegetation types that indicate the potential to support two US Fish and Wildlife Service (USFWS) listed species: California gnatcatcher (*Polioptila californica californica*), listed as threatened and least Bell's vireo (*Vireo bellii pusillus*) listed as endangered and California state listed as endangered.

2.0 SITE PHYSICAL DESCRIPTION

2.1. Location and Topography

The project site is located between Melrose Station at the intersection of North Melrose Drive and Oceanside Boulevard in Vista, CA to the intersection of North Pacific Street and West Mission Road in San Marcos, CA (Figure 1. Vicinity and Location Map). From Interstate 5 at the Oceanside Boulevard exit, Melrose station is 6.6 miles to the northeast.

The IRT follows the route within the NCTD ROW of the "Sprinter" light rail transportation system that connects the coastal rail system to the inland communities to the east as far as Escondido. There is an existing bike pathway that runs westward from Escondido and terminates at North Pacific Street and West Mission Road and the proposed project will extend it as far as the Melrose Station.

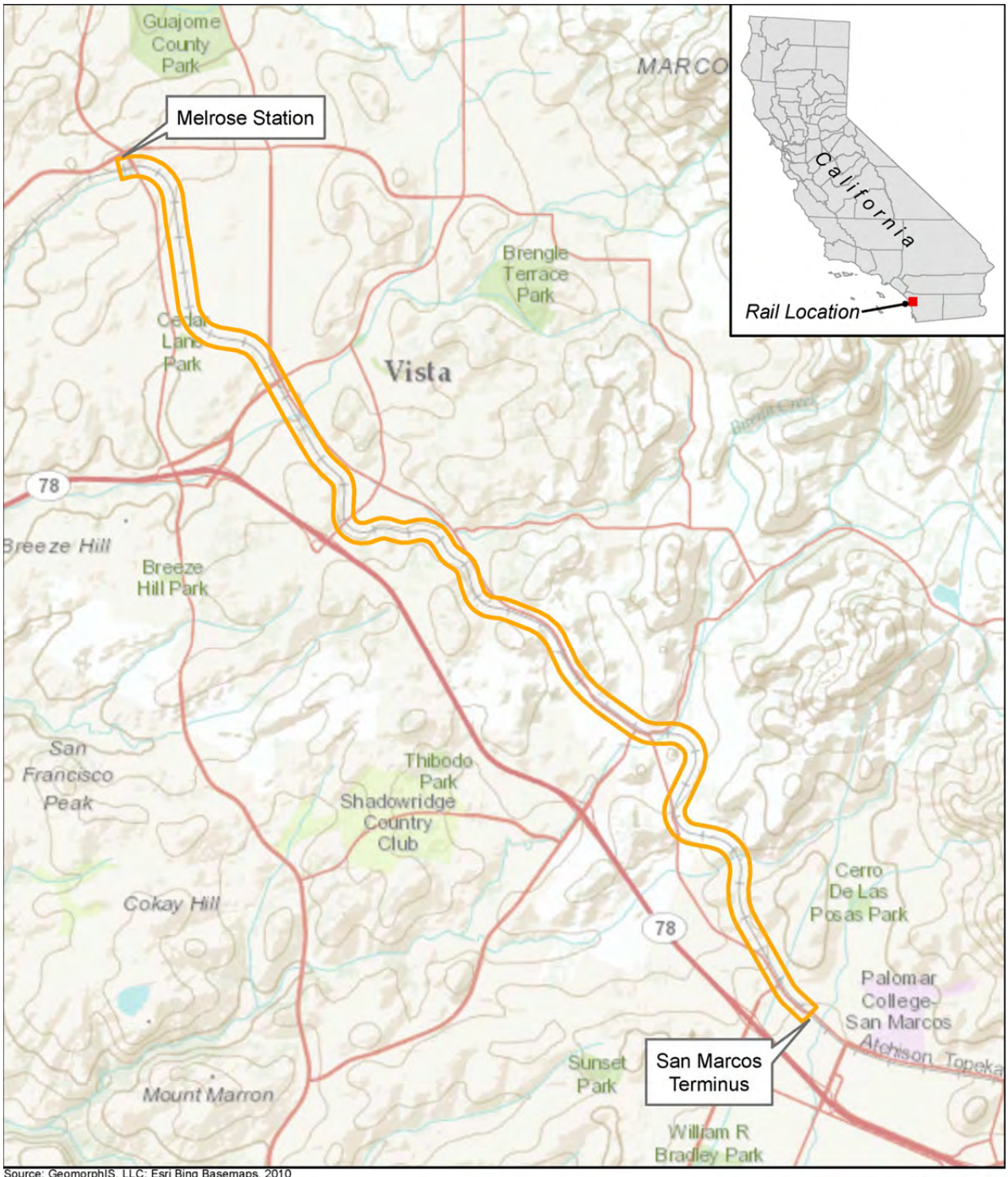
The project site is located in the cities of Vista and San Marcos. The portion of the project site planned for development is within the NCTD ROW and has gentle grades suitable for rail transportation. Elevation ranges from about 393 feet above mean sea level (AMSL) in the northwest corner of the project site to about 573 AMSL on the southeast corner of the project where it joins the existing IRT bike path in San Marcos.

3.0 SURVEY RESULTS AND EXISITING CONDITIONS

Debra Kinsinger, of Kinsinger Environmental Consulting, surveyed the project site for coastal California gnatcatcher and suitable Diegan Coastal Sage Scrub (DCSS) habitat on two days; March 16 from 10 A.M. to 6 P.M and on March 20, 2012 from 9:00 A.M. to 5:00 P.M. The sky was overcast in the morning becoming sunny in afternoons; winds were 0 to 5 miles per hour and the temperature ranged between 58 and 85 degrees Fahrenheit. Ms. Kinsinger surveyed for least Bell's vireo and suitable riparian willow habitat on June 24, 2012 from 8:44 to 13:00. The sky was sunny and temperature ranged between 65 and 73 degrees Fahrenheit with winds from 2 to 8 miles per hour. The survey route and photo locations have been transferred to the project base map using a Geographic Information System. Geo-reference of the habitat types was accomplished using a hand held GPS and aerial photo interpretation.

Figure 2-A through 2-E show numbered waypoints (WP) that correspond to photo points and detailed descriptions of the habitat components that occur at these locations. Significant natural habitats and corresponding photos are located in Appendix A; remaining habitats are detailed in the accompanying CD.

Figure 1. Vicinity and Location Map for Inland Rail Trail in San Marcos and Vista, California



Ms. Kinsinger mapped general habitat types observed on either side of the rail trail by walking and riding a bicycle outside the NCTD ROW along roads and trails that parallel it. She marked the limits of the few locations without visual access from roads and trails with the GPS and surveyed the general habitat at these locations by riding the Sprinter in both directions and taking video to document the habitat types as the train passed through. The potential for coastal California gnatcatcher to occur is based on the presence or absence of habitat components, plant associations, and plant community structure. Vegetation communities mapped are described in section 3.2 of this document.

No coastal California gnatcatchers were detected within the ROW or within the 300-foot buffer of the ROW centerline. Some marginal, potentially suitable Diegan Coastal Sage Scrub (DCSS) habitat occurs on Cherimoya Drive (Figure 2-D); however, since this habitat is on private land and is completely outside of the NCTD ROW, no focused surveys for coastal California gnatcatchers are required.

Ms. Kinsinger mapped the riparian habitat at Buena Creek Station in detail marking boundaries of vegetation transitions with GPS and taking photos. The potential for least Bell's vireo to occur is based on the presence or absence of habitat components, plant associations, and plant community structure. Vegetation communities mapped are described in section 3.2 of this document.

No least Bell's vireo were detected within the ROW or within the 300-buffer of the ROW centerline. Potentially suitable Southern Arroyo Willow Riparian Forest (SAWRF) habitat occurs within the ROW where the NCTD railway bridge crosses Buena Creek. However, this potentially suitable habitat is limited in its extent to the small area that was graded and restored during the development of the rail line in 2007. The riparian habitats north, south and east of the Buena Creek rail bridge are other riparian types that are not suitable for least Bell's vireo. Apparently the restoration effort focused more on replacing arroyo willow, rather than matching the surrounding habitats that also include red willow (*Salix laeviagata*) coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*) (Figure 3).

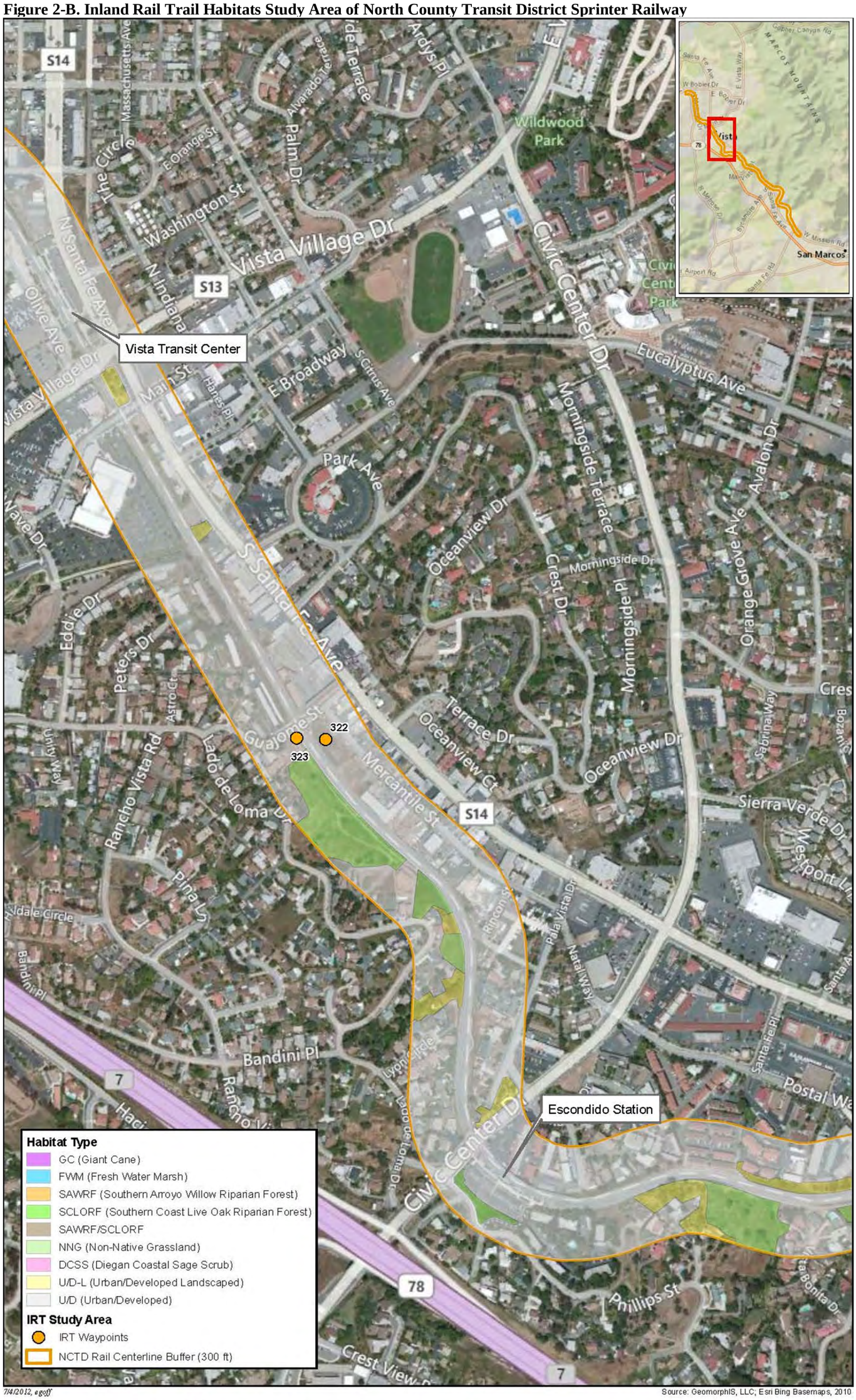
3.1. Vegetation Sensitivity

This habitat assessment identifies all the vegetation communities within the project extent and assesses DCSS and riparian communities for their ability to support coastal California gnatcatcher and least Bell's vireo, respectively, within the NCTD ROW and a 300-foot buffer from the centerline of the ROW. It also considers plant species clusters that have components of DCSS. It does not calculate the acres of habitat or plant communities within the ROW or determine compensation ratios for potential habitat loss.

One area within the 300-foot buffer of the ROW centerline was mapped as the sensitive DCSS (Figure 2-E). The other sensitive habitat that was mapped is SAWRF and is shown in Figure 2-D and has the potential to support nesting habitat for sensitive song birds, excluding least Bell's vireo. A restoration project for riparian habitat also occurs near Melrose Station but is very new with young widely spaced plants and was therefore not mapped out as a distinct habitat. Non-native Grasslands (NNG) occur throughout the project area and while not sensitive, they are an important part of the southern California plant community complex and support prey for sensitive raptors.

Figure 2-A. Inland Rail Trail Habitats Study Area of North County Transit District Sprinter Railway

Figure 2-B. Inland Rail Trail Habitats Study Area of North County Transit District Sprinter Railway



7/4/2012, egoff

Source: GeomorphIS, LLC; Esri Bing Basemaps, 2010

0 600 1,200 Feet

Scale1:7,200 1 inch = 600 feet

Figure 2-C. Inland Rail Trail Habitats Study Area of North County Transit District Sprinter Railway

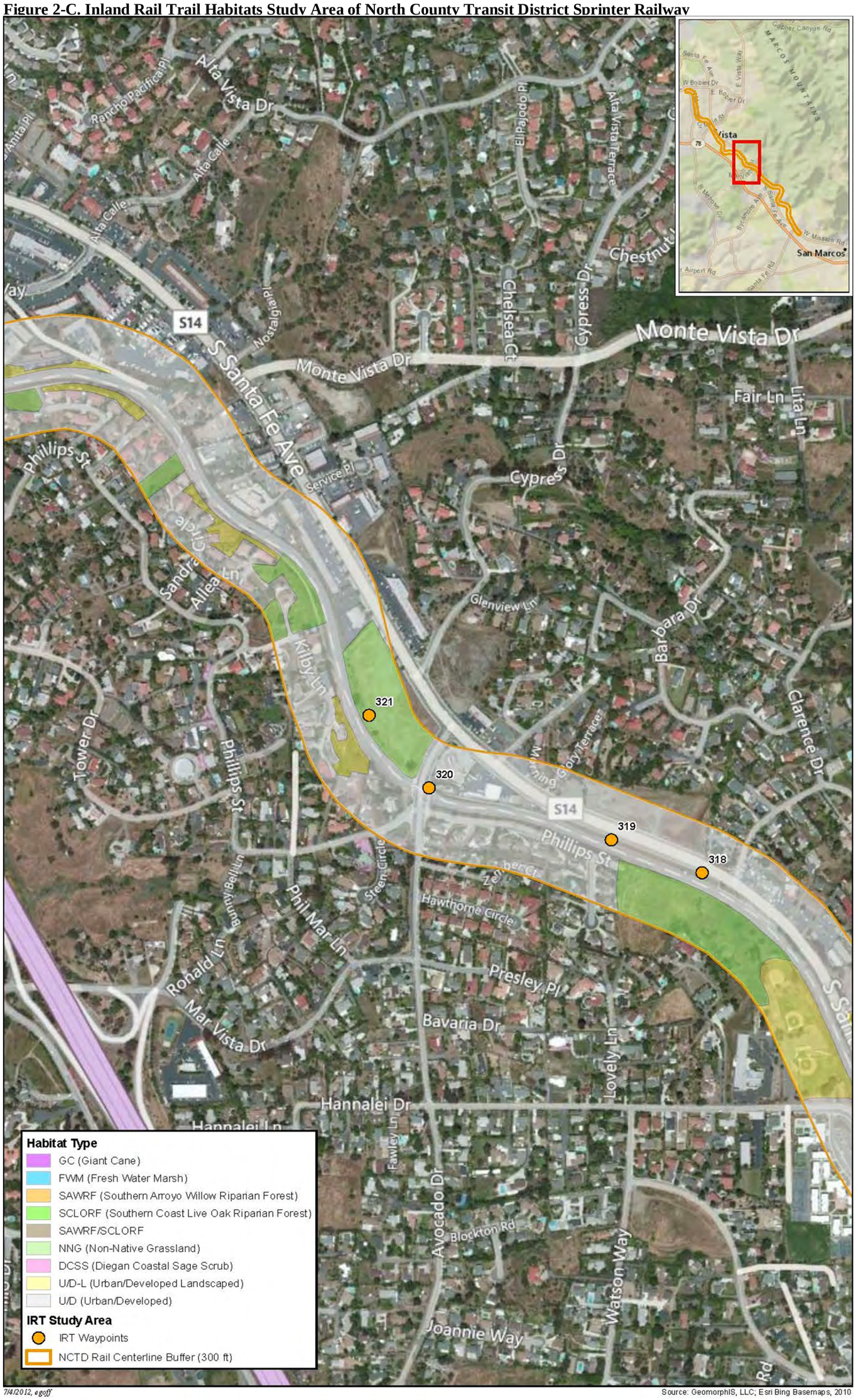


Figure 2-D. Inland Rail Trail Habitats Study Area of North County Transit District Sprinter Railway

Figure 2-E. Inland Rail Trail Habitats Study Area of North County Transit District Sprinter Railway

3.2. Vegetation Communities

The classification of vegetation communities in this document is based upon the life form of the dominant species within the communities and their associated flora. The vegetation communities in this document follow the Holland classification system based on Holland (1986 as updated by Oberbauer 2002) and the California Natural Diversity Database (CNDDB 2009). Scientific and common names follow that of Baldwin (2012). A summary of sensitive vegetation communities is listed below. All flora and fauna observed at the time of the field survey are listed in Table 1.

Vegetation communities are assemblages of plant species that usually coexist in the same area. The classification of plant communities is based upon the life form of the dominant species within that community and associated flora. The vegetation/habitat classifications within the study area in Figure 2-A through 2-E are: Southern Arroyo Willow Riparian Forest (SAWRF), Southern Coast Live Oak Riparian Forest (SCLORF), SCWRF/SCLORF Ecotone, Coastal and Valley Freshwater Marsh (FWM), DCSS, NNG, Urban/Developed (Urban) (U/D) and Urban/Developed (Landscaped) (U/D-L). Giant Cane (*Arundo donax*) is also mapped as a separate mapping unit in Figure 2-D. Although it is considered a "disturbed habitat" it has its own Holland classification, *Arundo donax Dominant/Southern Willow Scrub* ; the mapping unit acronym was simplified to GC for Giant Cane.

Riparian Forests

Riparian forests are tall, open forests dominated by western cottonwood (*Populus fremontii* ssp. *fremontii*), black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), arroyo willow (*Salix lasiolepis*), and narrow-leaved willow (*Salix exigua*). Understory species such as mule fat (*Baccharis salicifolia*), mugwort (*Artemisia douglasiana*), and stinging nettle (*Urtica dioica* ssp. *holosericea*), often are present (Beauchamp 1986).

Southern Arroyo Willow Riparian Forest (SAWRF Holland Code – 61320)

Riparian forests dominated almost exclusively by arroyo willow are classified as SAWRF (Oberbauer, 1992). The portion of the habitat within the NCTD ROW that can easily be accessed from the parking lot is at the Buena Creek Station is SAWRF. Initial inspection of the habitat revealed the SAWRF is very dense and multi-layered and preliminary results suggested the habitat could be suitable for least Bell's vireo. However there are no records for this species occurring at this location in the CNDDB data base (Appendix A, WP 315 and 317 photos 3a-4d, Figure 2-D). A more detailed survey was conducted to further assess this habitat for its potential to support the least Bell's vireo, a species that is federally and state listed as endangered.

During the detailed survey we discovered that the habitat initially identified as SAWRF is small, isolated and incongruous with adjacent riparian vegetation. The Google Earth photo of the site shows a bare rip rap bank on the northeast most corner of the parking lot Seen in Figure 3. The 2008 photo shows that all of the vegetation that is now a dense stand of SAWRF was part of the 2007 clearing of vegetation for development of the Buena Creek Station (Figure 3). The historical photo shows that after grading they placed a riprap revetment along the channel bottom and banks and most likely planted willow cuttings within it to restore the habitat. Revegetation was successful but the species mixture is different than the reference habitat that was not impacted by the development to the south and north which included coast live oak and red willow and a more open understory.

This revegetation project likely explains why all the visible access points, which were the areas impacted during construction of the station, are SAWRF but the areas beyond visible access points (and likely former temporary construction impacts) are Southern SCLORF or an ecotone of both types. Therefore the habitat as seen from the parking lot appears to be much more suited for least Bell's vireo than it actually is. The following sections on Wildlife Habitats and the species account for least Bell's vireo explain how the isolation of this area of SAWRF affects its suitability as least Bell's vireo habitat.

Figure 3 Google Earth 2008 Aerial Photo of Buena Creek Station

Note the area of rip rap within the polygon is the same shape as what is now SAWRF; Fresh Water is not shown here (See Figure 2-D).

Southern Coast Live Oak Riparian Forest (SCLORF Holland Code 61310)

Southern coast live oak riparian forest is an open to dense evergreen riparian forest that is dominated by coast live oak. This community occurs along the outer floodplains of canyons and valleys on fine textured alluvial soils (Holland, 1986). Associated species include: toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), poison oak (*Toxicodendron diversilobum*), and California blackberry (*Rubus ursinus*). The dominant habitat along Buena Creek is SCLORF from the headwaters to where it goes underground at the shopping centers at University Drive and Sycamore Drive and eventually joins Agua Hedionda Creek.

SAWRF/SCLORF Ecotone

Ecotones usually support a combination of the species from two or more adjoining habitats and generally increase the number and diversity of species within these areas. The SAWRF/SCLORF ecotone in the main channel of Buena Creek south of the track is dominated by an overstory of coast live oak with an understory of arroyo and/or red willow and broadleaf cattail (*Typha latifolia*), poison oak, California blackberry, Himalaya berry (*Rubus discolor*), mugwort and stinging nettle in the main drainage. The SAWRF/SCLORF habitat that runs east/west along the south side of the track is a dry depression that has a culvert underneath the surface so it lacks most of the riparian influence except for the presence of arroyo willow. It has more of the xeric tolerant shrubs like mulefat, hollyleaf redberry (*Rhamnus ilicifolia*) and laurel sumac (*Malosma laurina*). These ecotone habitat likely occur intermittently within the Buena Creek Channel both upstream and downstream of the mapped areas.

Arundo donax Dominant/Southern Willow Scrub "Giant Cane" (GC Holland Code 63321)

This is a disturbed wetland community type that is an ecotone of southern willow scrub habitat dominated by the invasive non-native giant cane. Disturbed wetlands are communities that are dominated by exotic wetland species. These species have invaded sites that had been previously disturbed or are periodically disturbed. This perturbation regime has resulted in the displacement of native wetland species and the subsequent colonization of these areas by exotics. Disturbed wetlands are often dominated by giant cane, tamarisk (*Tamarix* spp.), or other invasive non-natives.

Southern willow scrub is a dense, broad-leaved, winter deciduous riparian thicket dominated by several species of willows (*Salix* sp.) in association with mule fat. Scattered individuals of cottonwood (*Populus* sp.) and western sycamore may exist as canopy emergents. This is an early seral community that requires periodic flooding for its maintenance (Holland 1986). In the absence of periodic flooding, this community would develop into a riparian woodland or forest. Over time as individuals grow, intra- and interspecific competition increases as resources diminish, resulting in an increase in mortality. A small portion of individuals will survive by outcompeting others and will form the tree stratum. Those other individuals which do not die or become established in the upper stratum will exist as suppressed juveniles in the understory. In this habitat, the southern willow scrub components of the GC ecotone are closer to developing into riparian forest and are transitional to the SAWRF/SCLORF ecotone that lies directly adjacent to it.

Coastal and Valley Freshwater Marsh (FWM Holland Code - 52410)

Coastal and freshwater marsh is a community dominated by perennial, emergent monocots which grow in standing fresh water. This community occurs around lagoons and river mouths along the coast, and around lake margins at more inland locations (Beauchamp, 1986). Common species within this community include: cattails (*Typha* spp.), umbrella sedge (*Cyperus* spp.), sedge (*Carex* spp.), and spike sedge (*Eleocharis* spp.). Within the study area this habitat appears as an island of almost solid cattails south of the bridge and within the SAWRF polygon.

Diegan Coastal Sage Scrub (DCSS Holland Code – 32500)

Coastal sage scrub is one of the major shrub dominated (scrub) communities within California. This community occurs on xeric (dry moisture regime) sites with shallow soils. Sage scrub species are typically drought deciduous plants with shallow root systems, adaptations that allow for their survival on these xeric sites.

There are four floristic associations within the coastal sage scrub (CSS) formation, all occurring within distinct geographical ranges along the California coast. The Diegan association occurs from Orange County to northwestern coastal Baja, California (Hickman 1993). Oberbauer (1996) recognizes coastal and inland forms of this association. The coastal form, such as is found at the project site, is restricted to elevations under 1,000 feet.

DCSS may be dominated by a variety of different species depending upon site specific topographic, geographic and edaphic conditions. Within San Diego County, there are several recognized sub-associations of DCSS based upon the dominant species. Typical DCSS dominants include: California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac, black sage (*Salvia mellifera*), lemonade berry (*Rhus integrifolia*) and California encelia (*Encelia californica*). Lemonade berry is replaced by sugarbush (*Rhus ovata*) as an indicator species in the inland form and the mix of species is more evenly distributed whereas, the coastal form is primarily dominated by California sagebrush and California buckwheat (CNDDB 2009).

The elevation in the project vicinity is less than 534 feet and the coastal sage form is the DCSS coastal type; DCSS is patchy throughout the urban landscape in San Marcos and Vista. Within the study area east of Cherimoya Drive there is a large unbroken and undeveloped corridor of native habitat types to the northeast of the proposed IRT (Appendix A WP 306 and 307 photos 1a-2, Figure 2-E). The habitat east of Cherimoya Drive is outside of the NCTD ROW and is dominated by California encelia. Sub-dominant species, in order of dominance included black sage, San Diego sunflower (*Viguiera laciniata*), deer weed (*Acmispon glaber*) and California sage.

The habitat at WP 306 and 307 is divided by a fence that is bisected from east to west. North of the fence the habitat lacks the bare ground openings between shrubs that are typical of coastal California gnatcatcher habitat and is almost uniformly 5 feet high. Typical coastal California gnatcatcher habitat is three feet tall with some taller shrubs of mixed height (USFWS 2003). The extremely dense California encelia, tall shrub structure, and very few natural openings in addition to its small size and isolation from other suitable habitat make habitat north of the fence marginal for coastal California gnatcatcher. No potential habitat occurs within the NCTD ROW.

South of the fence line there is about 30 percent cover with suitable species and 70 percent with open gaps between shrubs with non-native grass and ruderal species. Habitat is a mix of CSS species with non-native species out-competing the CSS components. Most of the space between shrubs is occupied by non-native ruderal species such as Mediterranean mustard (*Hirschfeldia incana*) and non-native grasses. Openings between shrubs are wider than typical coastal California gnatcatcher habitat with most clusters of shrubs too small to provide adequate cover for nesting coastal California gnatcatchers here. These structural characteristics make the DCSS habitat south of the fence marginal as gnatcatcher habitat; no potential habitat occurs within the NCTD ROW.

DCSS species components may occur sporadically among grassland habitats but as individual DCSS component species, they lack the structure of a functioning DCSS habitat. Photos in Appendix A from WP 321 are an example where the structure of the patch appears like DCSS in the grassland habitat but it is dominated by coast goldenbush (*Isocoma menziesii*) and has almost none of the requisite California sage or California buckwheat. Details of other patches of DCSS components that did not qualify as DCSS not shown in Appendix A are described with the full photo set on the accompanying CD.

Non-native Grassland (NNG Holland Code – 42200)

Most of the grasslands in Southern California are dominated by exotic, annual grasses of Mediterranean origin. The factors that contributed to the replacement of native grasslands by NNG are many. The Mediterranean region has a maritime climate similar to cismontane California and has a similar history of agriculture and grazing activities supportive of disturbance adapted vegetation. In southern California, intensive grazing and agriculture, accidental and intentional species introductions, along with some severe droughts during the early Spanish Era, allowed for the successful invasion of these exotic species and the subsequent displacement and exclusion of native grasses. However, non-native grasses are an important habitat component for raptors and the burrowing mammals that they hunt.

NNG is mapped in the flat open fields bordering many portions of the NCTD ROW and is the most extensive plant community within the study area. Within the NCTD ROW NNG occur along urban developments as narrow bands bordering fences, roads, and the rail bed. In some cases these areas were mapped as "U/D-Urban" (see description below) and in other cases it was mapped as U/D-Landscaped simply due to the scale of the map. Larger grasslands were mapped distinctly as NNG. Details of vegetation and habitat features not shown in Appendix A are described with the full photo set on the accompanying CD.

Urban/Developed (Urban) U/D and U/D (Landscaped) U/D-L (Holland Code – 12000)

The Holland Urban and Developed classification applies to areas that have commercial residential use often with pavement, structures and landscaping. Roads, structures, paved or unpaved bare lots are mapped in Figures 2-A through 2-E as U/D and urban landscaped features are distinguished as U/D-L. The U/D-L designation was delineated to clearly distinguish it from native habitats on the aerial photos. This classification also includes narrow bands of grass that could be considered NNG but were not mapped as distinct entities due to the scale of the map. Details of vegetation and habitat features not shown in Appendix A are described with the full photo set on the accompanying CD.

3.3. Wildlife Habitats

Wildlife habitats differ from plant communities in that a wildlife habitat may contain several plant communities, which will be similar in structure but different in their plant species composition, location, and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat.

These wildlife habitat types are inclusive of the plant communities described above. In addition, the interaction of various wildlife species occurs between many different wildlife habitats. This becomes even more evident where these habitats overlap in ecotones.

Animals exhibit varying degrees of affinity for different habitat types. This affinity, either an obligate, partial obligate or facultative relationship, may change seasonally as the subject species' prey base and/or habitat requirements change. Many animals have extremely specific habitat needs during their breeding cycle. Loss of an animal's specific breeding habitat type usually results in reproductive failure and concomitant population reductions.

Wildlife Habitat Types

Riparian and Wetland

Riparian habitats occur along the banks of channels and waterbodies as well as marshes. Many of the species in a riparian habitat are found only where a consistent supply of water occurs, these are obligate species. Other riparian species may be found in wet or dry areas and these are referred to as facultative species. Both facultative and obligate riparian species may grow in an area that does not have perennial water flow. Obligate riparian plants are indicators of riparian areas even when water is not flowing.

Buena Creek is a perennial stream that flows from north to south under the rail bridge of the ROW where the habitat is almost exclusively arroyo willow, which meets the criteria for the SAWRF vegetation mapping unit (Figure 2-D inset). The habitat in the SAWRF is a dense tangle of arroyo willows except directly under the bridge where vegetation is almost absent. It is one of very few vegetation types specific to least Bell's vireo and southwestern Willow Flycatcher habitat. Other less habitat-specific riparian birds were detected here such as orange-crowned warbler (*Oreothlypis celata*) and common yellowthroat (*Geothlypis trichas*). In the middle of the SAWRF mapping unit is a patch of cattail, mapped as FWM. FWM typically attracts marsh wren (*Cistothorus palustris*) and red-winged blackbird (*Agelaius phoeniceus*). One marsh wren was heard here.

The bridge itself and the un-vegetated area under it is actually a unique habitat. The mud under the bridge had many raccoon tracks. Rock doves (*Columba livia*) were nesting under the bridge abutments. Bridges often provide nesting habitat for bats, cliff swallows (*Petrochelidon pyrrhonota*) and barn swallows (*Hirundo rustica*) but no evidence for these species was detected here.

The east boundary of the parking lot follows the curve of the Buena Creek stream course southward where the riparian vegetation becomes a nearly pure stand of giant cane (Appendix A, WP 317 photos 4a-4d) and is mapped as GC in Figure 2-D. Giant cane is an invasive species that excludes native plants where it becomes established and eliminates important habitat, food and structural elements that support riparian fauna. From the viewpoint at the parking lot, the giant cane obscures the riparian habitat in the creek behind it where coast live oaks occupy the upper banks (mapped SCLORF) with an open grass and forb understory.

An "ecotone" or blend of SCLORF and SAWRF occupy the stream channel which has a shrub understory but is open enough to walk through. This riparian habitat attracts riparian specific neotropical migrant songbirds such as yellow warbler (*Setophaga petechia*) and orange-crowned warbler as well as the common resident species; song sparrow (*Melospiza melodia*), lesser goldfinch (*Spinus psaltria*), and common yellowthroat. All of these species, except the yellow warbler, a San Diego MSHCP covered species, occurred in this habitat. A green heron (*Butorides virescens*) was also seen here, which is a very secretive and less common species.

The SCLORF vegetation type north of the rail bridge has a tall canopy of ancient oaks with an understory dominated by poison oak and could be expected to support common birds such the orange-crowned warbler and common yellowthroat, and/or the acorn woodpecker (*Melanerpes formicivorus*) and Nuttall's woodpecker (*Picoides nuttallii*) which are common oak habitat species.

The SCLORF/SAWRF ecotone that runs east/west on the south side of the railway track is a dry swale with vegetation only 15 feet wide and abuts an apartment complex so very little terrestrial wildlife was attracted to it. This SCLORF/SAWRF habitat strip could be expected to support common birds such as Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), house finch (*Carpodacus mexicanus*) and lesser goldfinch that use a wide variety of habitat types.

The two-striped garter snake (*Thamnophis hammondii*) is a riparian dependent species in decline that has potential to occur in the riparian habitat. It requires a mat of fallen leaves near a stream edge, and has potential to occur here. The two-striped garter snake has a "NatureServe" global status of "apparently secure" but is a CNDDB sensitive species.

Sage Scrub Habitats

The quality of sage scrub habitats is dependent on the age, spacing and vertical structure within the vegetation community. Characteristic of scrub communities capable of supporting sensitive species is the somewhat open spacing between shrubs and bare ground. Bare ground is an important component for some species such as burrowing rodents, snakes, lizards and the coastal California gnatcatcher. The coastal California gnatcatcher has declined in range and abundance, largely due to habitat loss and fragmentation by urban/residential development. The area designated as critical habitat for coastal California gnatcatcher is more than a mile south of the NCTD ROW. Birds that are typical of DCSS habitat in addition to coastal California gnatcatcher include: Bewick's wren (*Thryomanes bewickii*), California thrasher (*Toxostoma redivivum*), California towhee (*Melozone crissalis),* spotted towhee (*Psaltriparus minimus*), and wrentit (*Chamaea fasciata*). Of these, only California towhee was observed.

Non-native grasslands

Most raptors have a moderate to high potential to forage over grassland as well as DCSS habitat depending on its proximity to other primary habitat. A pair of American kestrels (*Falco sparverius*) foraged over the grasslands at WP 300 and used the light poles on Las Flores bridge as a foraging perch. NNG is an important habitat for prey species including rabbits, ground squirrels, lizards and mice.

Habitat Evaluations

The potentially suitable habitat adjacent to the NCTD ROW between WP 304 and 307 on Figure 2-E was evaluated during the field survey to determine the potential for sensitive species to occur on the NCTD ROW. A detailed description of the habitat criterion and the condition of the habitat with respect to this species is given along with the species accounts below.

Coastal California gnatcatcher

The coastal California gnatcatcher is a small insect eating resident bird of San Diego County. It is a very small bird with blue-gray back and wings with a light gray breast and abdomen. Males have a black crown, narrow white eye ring and the long tail is mostly black. The two outer feathers under the tail are white (NatureServe 2012). Its song is a soft kitten-like mew. It builds its nests in shrubs about three feet off the ground (USFWS 2003). It was federally listed as threatened on 3/30/93. Its range is restricted to coastal southern California and northwestern Baja California, Mexico, from Los Angeles County (formerly Ventura and San Bernardino Counties) south to El Rosario, where CSS habitat terminates and desert habitat begins (USFWS 1993).

The coastal California gnatcatcher occurs almost exclusively in the CSS plant community where California sagebrush is the dominant plant species and where California sagebrush, coyote brush, and wild buckwheat cover over 50 percent of the ground; the species prefers bare ground between shrubs. A study to determine the range of the species showed that 87 percent of the gnatcatchers surveyed occurred below 984 feet in elevation (USFWS 1993).

Although the potentially suitable habitat outside the ROW and mapped in Figure 2-E meets some of coastal California gnatcatcher habitat criteria, not all of the requisite criteria is met. For instance, areas dominated by DCSS vegetation lack the 50 percent open space and wild buckwheat. In areas with a good mix of DCSS, vegetative species are not DCSS dominants and the spaces between shrubs are dominated by tall grasses and weeds rather than open. However, the mapped area is within the elevation range for the species and it is connected to a large unbroken and undeveloped corridor of native habitat types to the northeast of the proposed IRT. Those factors make it reasonable that coastal California gnatcatchers could find their way to this location but the marginal habitat quality would reduce the potential for them to nest in this location. The potential for these birds to use this site for breeding, nesting and rearing fledges is low to moderate. No focused surveys are recommended because this habitat does not occur within the IRT ROW.

Least Bell's Vireo

Least Bell's Vireo was federally listed as endangered on May 2, 1986 and by the state of California on October 2, 1980. It is an insectivore and its active breeding period occurs mostly between April 10 and July 31. It is a small drab grey bird with a light abdomen and has a distinctive raspy "call and answer" song that it broadcasts frequently (USFWS 1998).

In San Diego County breeding pairs are managed and protected at the following locations: Tijuana river, Dulzura Creek/Jamul Creek/Otay River, Sweetwater River, San Diego River, San Luis Rey River, and Camp Pendleton/Santa Margarita River. The least Bell's vireo winters in Baja California and breeds in California and Baja. Two factors contribute significantly to the bird's endangered status, loss of riparian habitat and nest predation by the brown-headed cowbird (USFWS 1998).

The quality of riparian habitats to support this species is dependent on the vertical structure and density of willow species and the presence of year round water. Least Bell's vireo needs dense cover within 3 to 6 feet of the ground where it builds its nests. It also needs a dense, stratified canopy for foraging (UFWS 1998). Early seral willow habitat types such as SWS and SARWF, such as the willow riparian habitats at this site satisfy these structural requirements.

Typical breeding territory sizes are from 0.5 to 4.2 acres (NatureServe 2012). The area mapped as SAWRF shown in Figure 2-D inset is dominated by arroyo willow with between 80 to 100 percent cover where it crosses the NCTD ROW. In total, the SAWRF within and adjacent to the study area is approximately 0.22 acres and not quite large enough to support a suitable least Bell's vireo breeding and rearing territory. Furthermore, it is isolated from occupied dispersal habitat both upstream and downstream.

Buena Creek connects to Agua Hedionda Creek downstream (presumably) after emerging from an underground conveyance that likely begins at the shopping center at University Drive and Sycamore Drive. There is a CNDDB record for least Bell's vireo near the mouth of Agua Hedionda Creek at

Agua Hedionda lagoon, approximately seven miles from the SAWRF habitat in the IRT study area. The nearest occurrence is a record from San Marcos Creek about 3 miles to the south of Buena Creek within the project area (CNDDB 2009).

Although the species may be found in fragmented or isolated habitats within San Diego County those habitats are often connected either up or down stream to other more suitable habitats (USFWS 1998). Initially the surveyor of this site thought that the habitat at Buena Creek station was representative of the habitat of Buena Creek. A drive of the length of Buena Creek as far north and east as could be accessed from Buena Creek Road showed habitat that was dominantly SCLORF. One other area of SAWRF was detected but it was confined to a bridge crossing of the creek where the riparian "restoration" for the recent housing development changed the vegetation type of the original habitat in the same manner as the riparian habitat restoration completed to mitigate for development of Buena Creek Station. This habitat appears in the CNDDB record as Southern Willow Scrub but the record is from 1986. The current habitat is limited to the immediate bridge area and does not extend further upstream or downstream as is shown in the Figure 2-D.

In addition to lack of dispersal habitat, and isolation from other suitable habitats or known population centers, the brown-headed cowbird has been identified within the study area. This nest predator is considered responsible for recent declines in the species populations (USFWS 1998). For all these reasons the potential for least Bell's vireo to occur in the habitat at Buena Creek Station is not anticipated and focused surveys are not recommended.

Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) was federally listed as endangered on March 29, 1995 and state listed as endangered in January 2, 1991. It breeds from June to mid-July within breeding territories approximating 1.5 acres in size. The southwestern willow flycatcher is an insectivore with a grayish-green back and wings, whitish throat, light grey-olive breast, pale yellowish belly and two visible wingbars; the eye ring is faint or absent. The upper mandible is dark, the lower is light with a yellowish tone; the song is a sneezy "fitz-bew," the call a repeated "whitt" (USFWS 2002).

The southwestern willow flycatcher has much the same habitat requirements as the least Bell's vireo but is rarer in San Diego County than least Bell's vireo and occurs on the San Luis Rey River and the Santa Margarita. Other populations, "most of which number fewer than five territories, occur at scattered sites along drainages that have changed little during the past 15 years" (USFWS 2002). There are CNDDB records for this species near the mouth of Buena Vista Creek (not to be confused with Buena Creek) where it drains into Buena Vista Lagoon. It is approximately 6 miles west of the riparian habitat at Buena Creek which drains into Agua Hedionda Lagoon via Agua Hedionda Creek (CNDDB 2009).

The southwestern willow flycatcher is imperiled by habitat loss and predation by the brown-headed cowbird as well as other factors (USFWS 2002). A habitat such as Buena Creek which is small, isolated from dispersal habitat and surrounded by urban development, has no current potential to support breeding, nesting and rearing for southwestern willow flycatchers and no focused surveys are recommended.

3.4. Flora and Fauna Observed On Site

This habitat assessment was conducted in the spring and includes dominant components of the mapped habitats. Habitats mapped within the NCTD ROW were either NNG or Urban and Developed with the exception of the one small area of WRF where the rail line crosses Buena Creek (Figure 2-D). Some of the NNG habitat within the ROW, was mostly mapped as "Urban" or "Urban Landscape" and contained scattered CSS species components in fragmented patches too small and isolated to be considered DCSS. Within the NCTD ROW no habitats indicated a potential for sensitive plant species to occur and no assessment for sensitive plant species was made.

Animal species present on the site were identified by direct observation or observation of sign (tracks, scat, burrows, pellets, etc.). Some of the more common species observed are listed in alphabetical order according to their Scientific name in Table 1 below.

Table 1 Flora and Fauna Observed on the Project Site

Common Name	Scientific Name	Comments
Flora		
Golden wattle*	*Acacia pycnantha*	Decumbent shrub
Deer weed	*Acmispon glaber*	Common low shrub of DCSS habitats
California sagebrush	*Artemisia californica*	Dominant shrub in DCSS
Giant cane*	*Arundo donax*	Grass
Spearscale	*Atriplex triangularis*	Forb (riparian)
Wild oat	*Avena fatua*	Grass
Coyote bush	*Baccharis pilularis*	Common shrub of DCSS habitats
Mulefat	*Baccharis salicifolia*	Facultative r riparian shrub
Broom baccharis	*Baccharis sarothroides*	Common shrub of DCSS habitats
Black mustard*	*Brassica nigra*	Forb
Ripgut brome*	*Bromus diandrus*	Grass
Foxtail brome*	*Bromus madritensis*	Grass
Cheat grass*	*Bromus tectorum*	Grass
Maltese star-thistle*	*Centaurea melitensis*	Forb
Crown daisy*	*Chrysanthemum coronarium*	Forb
Poison hemlock	*Conium maculatum*	Forb - Riparian
Asthma weed*	*Conyza bonariensis*	Forb
Artichoke thistle*	*Cynara cardunculus*	Invasive thistle
Western jimson weed	*Datura wrightii*	Common prostrate sub-shrub in disturbed areas
Bush sunflower	*Encelia californica*	Common flowering shrub
Dove weed	*Eremocarpus setigerus*	Common low herb in disturbed areas
California buckwheat	*Eriogonum fasciculatum*	Sub-shrub component of DCSS habitat
Longbeak stork's bill	*Erodium botrys*	Forb
Red-stem stork's bill*	*Erodium cicutarium*	Forb
Musky stork's bill	*Erodium moschatum*	Forb
California poppy	*Eschscholzia californica*	Forb
Eucalyptus*	*Eucalyptus* sp.	Tree
Fennel	*Foeniculum vulgare*	Shrub

Common Name	Scientific Name	Comments
Sawtooth goldenbush	*Hazardia squarrosa*	Common low shrub of DCSS habitats
Rock rose	*Helianthemum scoparium*	Common low shrub of DCSS habitats
Our Lord's candle	*Hesperoyucca whipplei*	Common yucca of DCSS and chaparral
Telegraph weed*	*Heterotheca grandiflora*	Common ruderal aster
Toyon	*Heteromeles arbutifolia*	Shrub - DCSS
Mediterranean mustard*	*Hirschfeldia incana*	Common herb especially in disturbed areas
Coast goldenbush	*Isocoma menziesii*	Low shrub
Bladderpod	*Isomeris arborea*	Shrub
Bushmallow	*Malacothamnus fasciculatus*	Shrub
Laurel sumac	*Malosma laurina*	Large shrub (10 – 15 feet) common to DCSS habitats
Indian sweet-clover*	*Melilotus indicus*	Forb
Tree tobacco	*Nicotiana glauca*	Shrub
London plane tree	*Platanus × acerifolia*	Tree - Often in riparian habitats
California sycamore	*Platanus racemosa*	Tree – Often in riparian habitats
Coast live oak	*Quercus agrifolia*	Tree
Scrub oak	*Quercus berberidifolia*	Shrub - DCSS habitats
Wild radish	*Raphanus sativus*	Forb
Hollyleaf redberry	*Rhamnus ilicifolia*	Shrub – DCSS habitats
Lemonadeberry	*Rhus integrifolia*	Shrub - DCSS habitats
Castor bean*	*Ricinus communis*	Common poisonous shrub of disturbed areas
Himalaya berry	*Rubus discolor*	Shrub - Riparian
California blackberry	*Rubus ursinus*	Vine - Riparian
Mexican elderberry	*Sambucus mexicana*	Tree - Riparian
Arroyo willow	*Salix lasiolepis*	Tree - Riparian
Red willow	*Salix laeviagata*	Tree - Riparian
White sage	*Salvia apiana*	Common fragrant shrub of DCSS habitats
Black sage	*Salvia mellifera*	Common fragrant shrub of DCSS habitats
Brazilian pepper*	*Schinus molle*	Tree
San Diego wreath plant	*Stephanomeria diegensis*	Common wiry shrub in DCSS habitats
Tamarisk*	*Tamrix* sp.	Tree - Riparian
Poison oak	*Toxicodendron diversilobum*	Shrub - Riparian
Broadleaf cattail	*Typha latifolia*	Monocot - Riparian
Stinging nettle	*Urtica dioica*	Herb
San Diego sunflower	*Viguiera laciniata*	Low flowering shrub, common in south San Diego county
Fescue	*Vulpia* sp.	Grass - Riparian
Mammals		
Domestic dog	*Canis familiaris*	Prints, scat
Coyote	*Canis latrans*	Common, scat

Common Name	Scientific Name	Comments
Raccoon	*Procyon lotor*	Prints, observed
California ground squirrel	*Spermophilus beecheyi*	Common, burrows and observed
Desert cottontail rabbit	*Sylvilagus audubonii*	Common, scat and observed
Birds		
Cooper's hawk	*Accipiter cooperii*	Heard/observed
Western scrubjay	*Aphelocoma californica*	Heard/observed
Red-tailed hawk	*Buteo jamaicensis*	Heard/observed
Red-shouldered hawk	*Buteo lineatus*	Heard/observed
Green heron	*Butorides virescens*	Observed
Anna's hummingbird	*Calypte anna*	Observed
Costa's hummingbird	*Calypte costae*	Heard/observed
Marsh wren	*Cistothorus palustris*	Heard – riparian bird
House finch	*Carpodacus mexicanus*	Heard/observed
Turkey vulture	*Cathartes aura*	Observed
Killdeer	*Charadrius vociferus*	Heard/observed
Rock dove	*Columba livia*	Heard/observed
American crow	*Corvus brachyrhynchos*	Observed
Common raven	*Corvus corax*	Observed
American kestrel	*Falco sparverius*	Heard/Observed pair
Common yellowthroat	*Geothlypis trichas*	Heard/observed – riparian bird
Acorn woodpecker	*Melanerpes formicivorus*	Heard/observed
Song sparrow	*Melospiza melodia*	Heard/observed – riparian bird
California towhee	*Melozone crissalis*	Heard/observed – DCSS species
Northern mocking bird	*Mimus polyglottos*	Heard/observed
Brown-headed cowbird	*Molothrus ater*	Heard/observed – nest predator
Orange-crowned warbler	*Oreothlypis celata*	Heard/observed – riparian bird
Nuttall's woodpecker	*Picoides nuttallii*	Heard/observed
Bushtit	*Psaltriparus minimus*	Heard/observed
Black phoebe	*Sayornis nigricans*	Heard/observed
Lesser goldfinch	*Spinus psaltria*	Heard/observed
Western meadowlark	*Sturnella neglecta*	Heard/observed
European starling	*Sturnus vulgaris*	Heard/observed
Western kingbird	*Tyrannus verticalis*	Heard/observed
Cassin's kingbird	*Tyrannus vociferans*	Heard/observed
Mourning dove	*Zenaida macroura*	Heard/observed
Reptiles		
Granite spiny lizard	*Sceloporus orcuttii*	Observed
Western fence lizard	*Sceloporus occidentalis*	Observed
Southern alligator lizard	*Elgaria multicarinata webii*	Observed

* = Non-Native Species

4.0 CONCLUSIONS AND RECOMMENDATIONS

Potential for DCSS near the NCTD ROW has a low to moderate potential to support the coastal California gnatcatcher, federally listed as threatened. No DCSS occurs within the NCTD ROW and there is no potential for coastal California gnatcatcher to nest or raise fledges within the ROW although it is possible that a transient bird could enter the ROW from marginal habitat adjacent to the ROW. No focused surveys for this species are recommended.

The NCTD ROW passes across a small area of SAWF east of the Buena Creek Station. The vertical structure and density of willows at this location does not indicate a potential to support the least Bell's vireo or the southwestern willow flycatcher that are federally and state listed as endangered. No focused surveys for these species are recommended.

Potential impacts to jurisdictional waters may occur where the IRT crosses Buena Creek and further investigation may be warranted.

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6.0 CERTIFICATION

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

Date: 07-02-2012 **SIGNED:** 

If you have any question regarding this biological habitat assessment, please contact Debra Kinsinger at (877)-593-6275.

APPENDIX A

Field Notes With Photos

Photo 1a. WP 307: Looking east from Cherimoya Drive, north of the IRT. View of potentially suitable coastal California gnatcatcher DCSS habitat from fence on Cherimoya Drive.

Photo 1b. WP 307: Looking north from CSS field east of IRT and Cherimoya Drive. Zoomed in from fence on Cherimoya Street looking north. See coastal sage (green), encelia (grey), laurel sumac (large bush).

Photo 1c. WP 307: Looking north from CSS field east of IRT and Cherimoya Drive. Panning toward northeast from same location.

Photo 2. WP 306: Looking north from CSS field east of IRT and Cherimoya Drive. Potentially suitable coastal California gnatcatcher CSS habitat, extremely dense with Encelia and very few natural openings. Marginal coastal California gnatcatcher habitat due to its small size, lack of sufficient openings, and isolation from other suitable habitat.

Photo 3a. WP 315: Looking west. Willows in distant left on south of track. Eucalyptus grove right. Narrow strips of non-native grasses and weeds along housing are mapped as urban landscape and along the road and rail bed are mapped as urban.

Photo 3b. WP 315: Looking west. Willows on south side of track extending east along housing but adjoining Buena Creek which runs north/south where it crosses the track at Buena Creek Station.

Photo 3c. WP 315: Looking southeast. Willows on south side of track extending east along from Buena Creek which runs north/south where it crosses the track at Buena Creek Station to the west.

Photo 3d. WP 315: Looking southwest. Willows on south side of track extending east along housing, from Buena Creek which runs north/south where it crosses the track at Buena Creek Station to the west.

Photo 4a. WP 317: Buena Creek SAWRF east of parking lot at Buena Creek station.

Photo 4b. WP 317: Arroyo willows along Buena Creek at Buena Creek Station parking lot.

Photo 4c. WP 317: Looking south. Giant cane infestation along Buena Creek at south of parking lot.

Photo 4d. WP 317: Looking southwest in Buena Creek parking lot (south of track). WRF far left, giant cane in background.

Photo 4e. Looking southeast from north side of track. SARWF/SCLORF ecotone only 15 feet wide might be better described as a scrub habitat now but live oaks will mature into large trees whereas scrub oaks will not. Forest is distinguished from scrub by a higher percent overstory cover.

Photo 4f. Looking north from south side of tracks in SAWRF/SCLORF. Note the coast live oak on the left and arroyo willows in the background.

Photo 4g. Photo looking north from north side of tracks on east side of bridge. Note the western sycamore on the foreground and oaks in the background.

Photo 4h. South of the tracks in the SAWRF/SCLORF ecotone. Mixture of oak and willow.

Photo 4i. Looking southwest from north side of track on the east side of the bridge at the SAWRF. Note there are no oaks in this habitat at the bridge and the habitat is dense to the floor of the drainage.

Photo 4j. Looking west from northeast side of bridge. Vegetation is SAWRF on the north and too dense to see all the SCLORF habitat that begins only about 50 feet north of the bridge.

Photo 5a. WP 321: Looking east toward gas station from non-native grassland. Rail is to the right of the gas station.

Photo 5b. WP 321: Looking west from non-native grassland. Rail is to left at cement retaining wall. Isolated CSS habitat components, coast goldenbush, on slope do not provide suitable CSS habitat for gnatcatchers.

Photo 5c. WP 321: Looking west at slope beneath rail retaining wall. Low shrubs are coast goldenbush.

Photo 5d. WP 321: Looking west at slope beneath rail retaining wall. Low shrubs are coast goldenbush with laurel sumac in the background.

Photo 6a.WP 300: Zoomed in view of distant vegetation; vegetation is not suitable coastal California gnatcatcher habitat.

Photo 6b. WP 300: Vacant land south of ROW and west of Las Flores bridge lacking coastal California gnatcatcher habitat. North side of ROW is landscaped.

Photo 6c. WP 300: Zoomed in view of distant vegetation is not coastal California gnatcatcher habitat.

Photo 7. WP 326: Looking south from Melrose Station at willow riparian restoration project south of ROW fence with NNG on either side of the drainage.

Appendix D Stephen's Kangaroo Rat Site Assessment Report

NATURAL RESOURCES ASSESSMENT, INC.

3415 Valencia Hill Drive
Riverside, California 92507

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nrainc@earthlink.net

July 29, 2012

Sarah Holm
Dokken Engineering
2365 Iron Point Road
Suite 200
Folsom, CA 95630

Subject: Stephen's kangaroo rat (*Dipodomys stephensi*) site assessment for the Inland Rail Trail Project

Dear Ms. Holm:

Dokken Engineering contracted with Natural Resources Assessment, Inc. (NRA, Inc.) to conduct a habitat evaluation on portions of the Inland Rail Trail project (Figures 1 and 2). The evaluation was focused on determining whether suitable habitat exists for the Stephens kangaroo rat (*Dipodomys stephensi*) along the Inland Rail Trail route. The work was required as part of the environmental assessment of the project.

Due to staffing workloads, NRA, Inc. contracted with Mr. Philippe Vergne of ENVIRA to conduct the habitat evaluation and determine if trapping surveys would be required to substantiate the findings on the Stephens kangaroo rat (SKR).

Qualifications

Mr. Philippe Vergne of ENVIRA holds U.S. Fish and Wildlife Service (USFWS) permit No. TE-831207-3 to trap and handle Stephens kangaroo rat (SKR), San Bernardino kangaroo rats (*Dipodomys merriami parvus*), and Pacific pocket mouse (*Perognathus longimembris pacificus*) and conduct field studies of sensitive small mammals in Southern California.

Mr. Vergne holds a California Department of Fish and Game Memorandum of Understanding for the above-mentioned species as well as the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), the Palm Springs pocket mouse (*Perognathus longimembris bangsi*), the Palm Springs ground squirrel (*Spermophilus tereticaudus chlorus*), the white-eared pocket mouse (*Perognathus alticola alticola*), the Jacumba pocket mouse (*Perognathus longimembris internationalis*), the northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and the Dulzura pocket mouse (*Chaetodipus californicus femoralis*). Mr. Vergne also holds a California Department of Fish and Game Scientific Collection permit.

Habitat Evaluation

On July 27, 2012, Mr. Vergne surveyed nine locations along the proposed Inland Rail Trail project that had been identified by Dokken Engineering as having potentially suitable habitat for occupancy by SKR (Figure 3 - 9).

Mr. Vergne conducted walking surveys from eight in the morning until three in the afternoon. Winds were moderate at less than three miles per hour, temperatures in the mid-seventies at the beginning of the survey, and skies were clear. The surveys covered one hundred percent of the potential SKR habitat within the nine locations along the Inland Rail Trail project.

No evidence of kangaroo rat was observed at any of the locations surveyed. Although some marginally questionable burrows were observed, no scat attributable to kangaroo rat was observed at any of the locations. No sign of tracks, tail drags or similar kangaroo rat sign was observed.

Findings

Mr. Vergne observed a number of factors along the Inland Rail Trail that have probably affected use of these areas by SKR:

- Past and current disturbances (mowing, disking, irrigation, etc.). SKR and most other native rodents typically do not persist in areas of ongoing human disturbance.
- Marginal quality soils with clay components found within the loams. SKR and similar-sized native rodents prefer loose soils for burrow excavation. Clay soils are generally too compact for easy digging.
- Dense grasses and forbs. SKR and other kangaroo rat species usually move by hopping, rather than running. Dense cover makes locomotion by hopping difficult, and can also inhibit burrow construction.
- Proximity to residential and commercial development, roads, and railway lines. SKR, along with nearly all native rodent species, are sensitive to the presence of humans and generally move away from human habitation. Pets also present a problem for native rodent species, especially outdoor and feral cats. In addition, linear developments such as railway lines and roads inhibit or prevent wildlife movement between habitats.
- Lack of connectivity to known SKR populations. Unoccupied habitat near known populations areas are sometimes reoccupied by individuals from the off-site populations. No known populations are near the Inland Rail Trail project alignment.
- Isolation and fragmentation of parcels. In addition to the reduction or loss of movement of wildlife from occupied to unoccupied areas for isolated parcels, the fragmentation of habitats such as that found along the Inland Rail Trail project affect wildlife in a number of other ways. Less contiguous habitat areas mean smaller amounts of habitat, or patches, are available to native wildlife, resulting in smaller populations of wildlife species in a given area. Smaller population size increases the potential for populations becoming diminished or lost from genetic inbreeding and/or catastrophic events (such as fire or flood erosion).

Based on the site observations and these findings, it is our expert opinion that kangaroo rats are not present on any of the parcels surveyed. If kangaroo rats were historically present on one or more of these sites, they have been extirpated from the surveyed areas.

Please let me know if there is additional information you require. Please feel free to contact me at 951 686 1141 or by email at nrainc@earthlink.net.

Sincerely,

Karen Kirtland
President

Attachments: Figures 1 through 9

FIGURE 1
Project Vicinity
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California

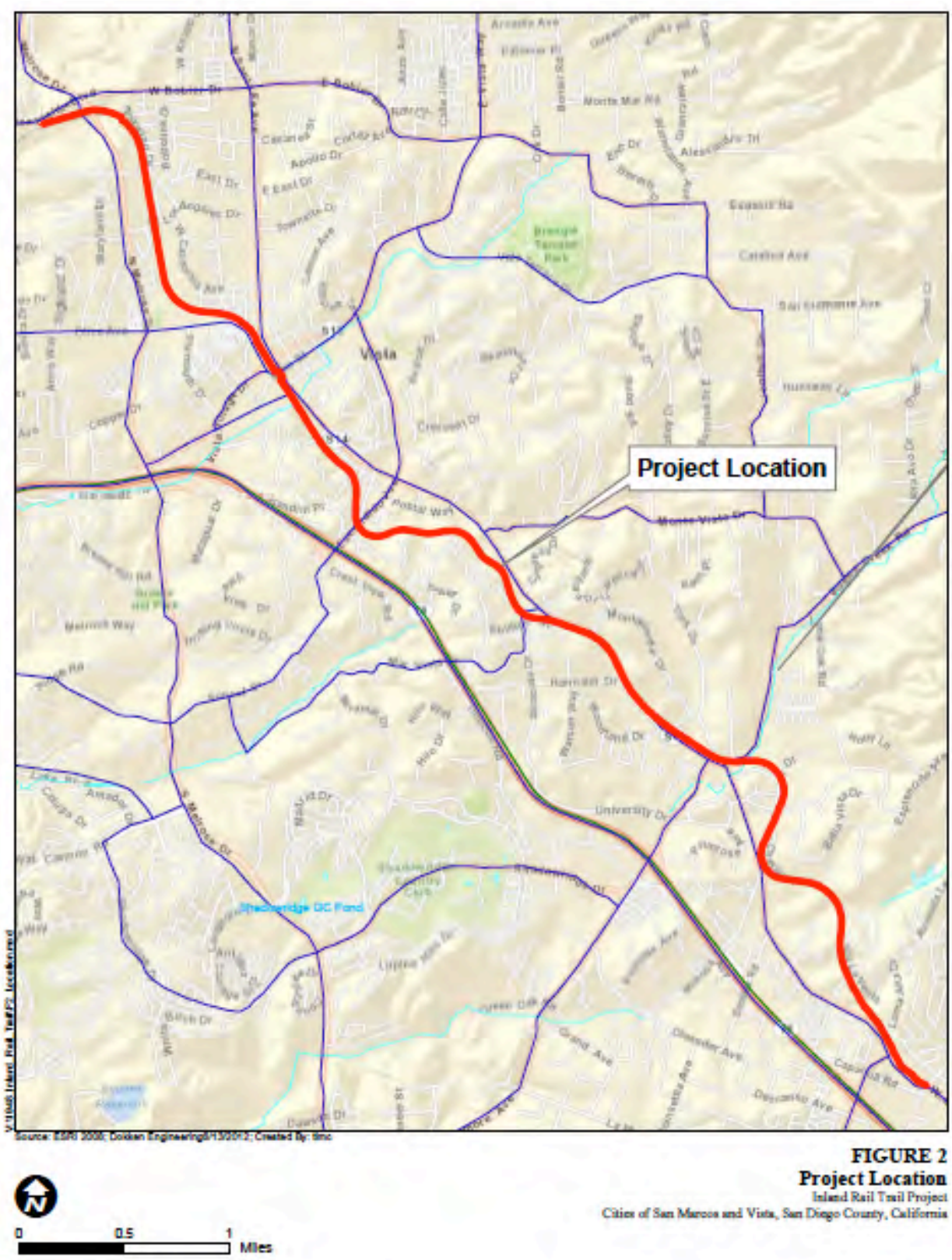


FIGURE 2
Project Location
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California

FIGURE 3
SKR Survey Location
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California

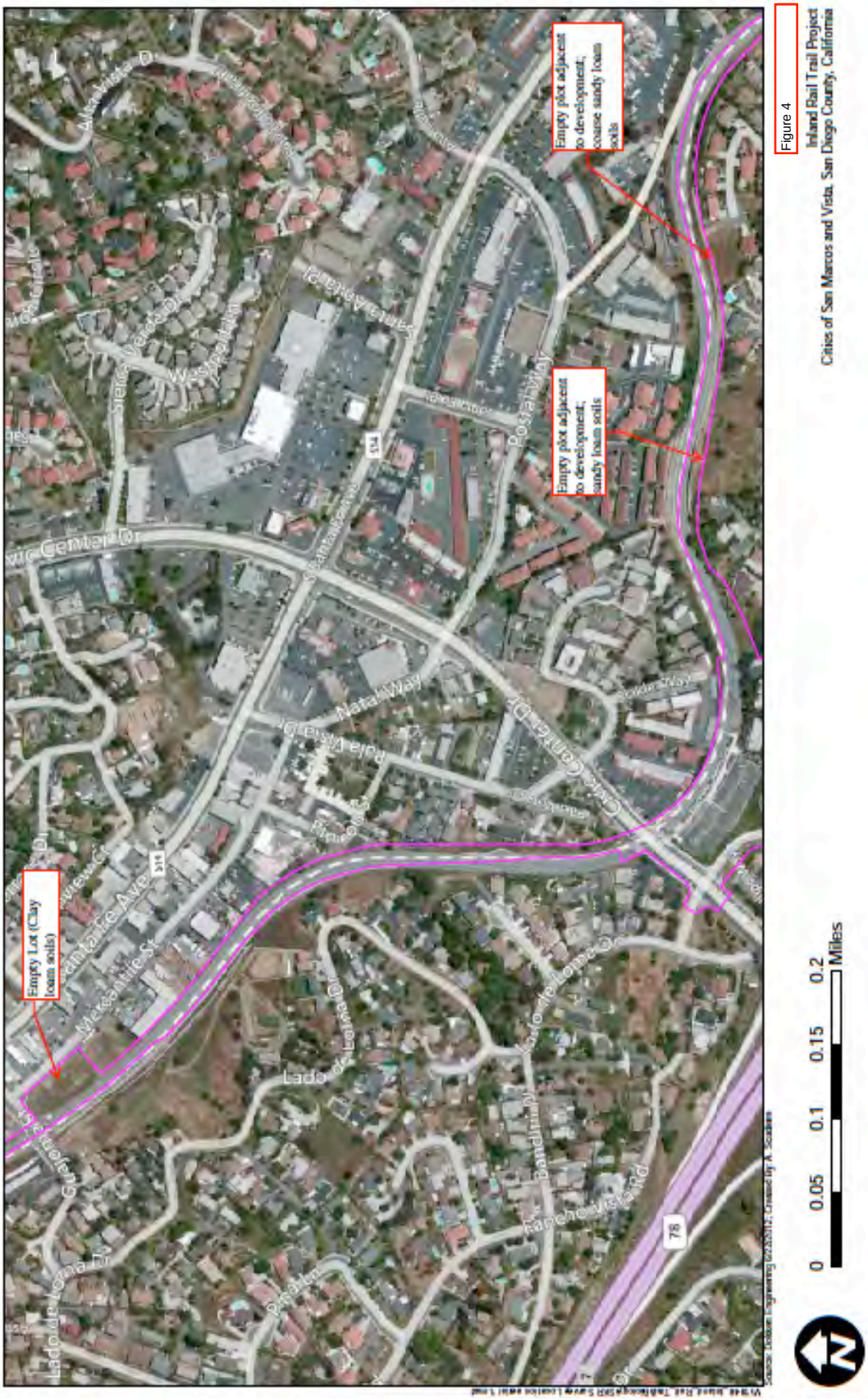

Empty plot adjacent to development; coarse sandy loam soils
Empty plot adjacent to development; sandy loam soils
Empty Lot (Clay loam soils)
Figure 4
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California
0
0.05
0.1
0.15
0.2
Miles


Figure 5
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California
Buena Creek
Empty plot adjacent to development; sandy loam soils
Empty plot adjacent to development; sandy loam soils
S Santa Fe Ave
York Dr
Montgomery Dr
Phillips St
0
0.05
0.1
0.15
0.2
Miles

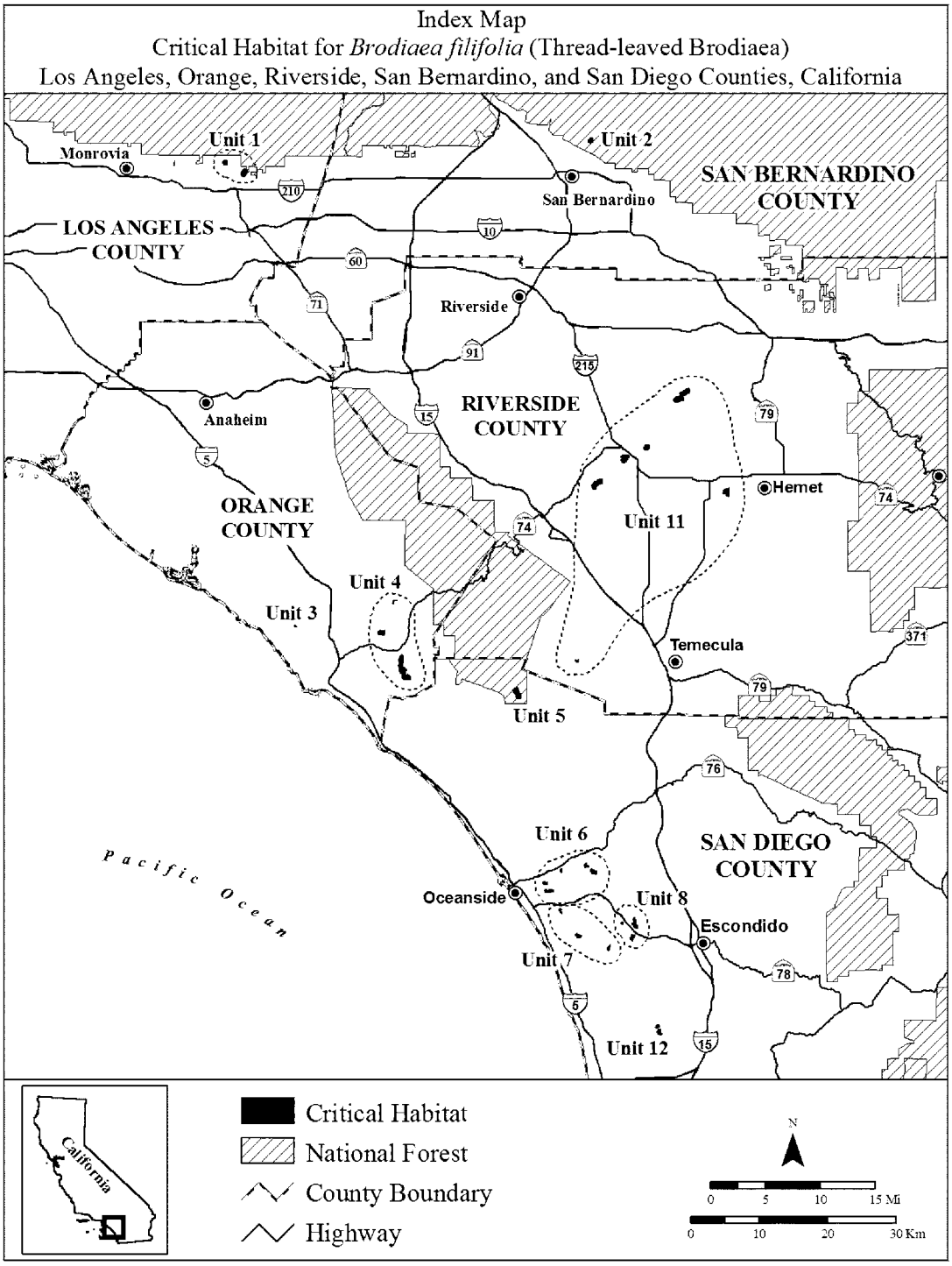
NATURAL RESOURCES ASSESSMENT, INC.


Figure 7
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California
landscaped; clay soils
Empty plot adjacent to development; clay soils
Via Santalina
Avenida Regina
Cherimoya Dr
El Corto Dr
0
0.05
0.1
0.15
0.2
Miles


Figure 8
Inland Rail Trail Project
Cities of San Marcos and Vista, San Diego County, California
N. Las Posas Rd
W. Borden Rd
Corte Reguer
Avenida Cerdubon
Via Santa Lara
Via Lata
Via Tenderia
Via Rancho Parkway
Avenida Del Oro
Avenida Vista Grande
Calle Amanda
Calle Arcadia
Corte Bravo
Corte Cristobal
Corte Lucinda
Corte Rosa Blanca
Avenida Aguila
Avenida Anal
Avenida Cerdubon
Via Tenderia
Via Rancho Parkway
Via Santa Lara
Via Lata
Avenida Del Oro
Avenida Vista Grande
Calle Arcadia
Corte Bravo
Corte Cristobal
Corte Lucinda
Corte Rosa Blanca
Avenida Aguila
Avenida Anal
clay soils
landscaped above; clay soils
Grassy below; clay soils
514
0
0.05
0.1
0.15
0.2
Miles

NATURAL RESOURCES ASSESSMENT, INC.

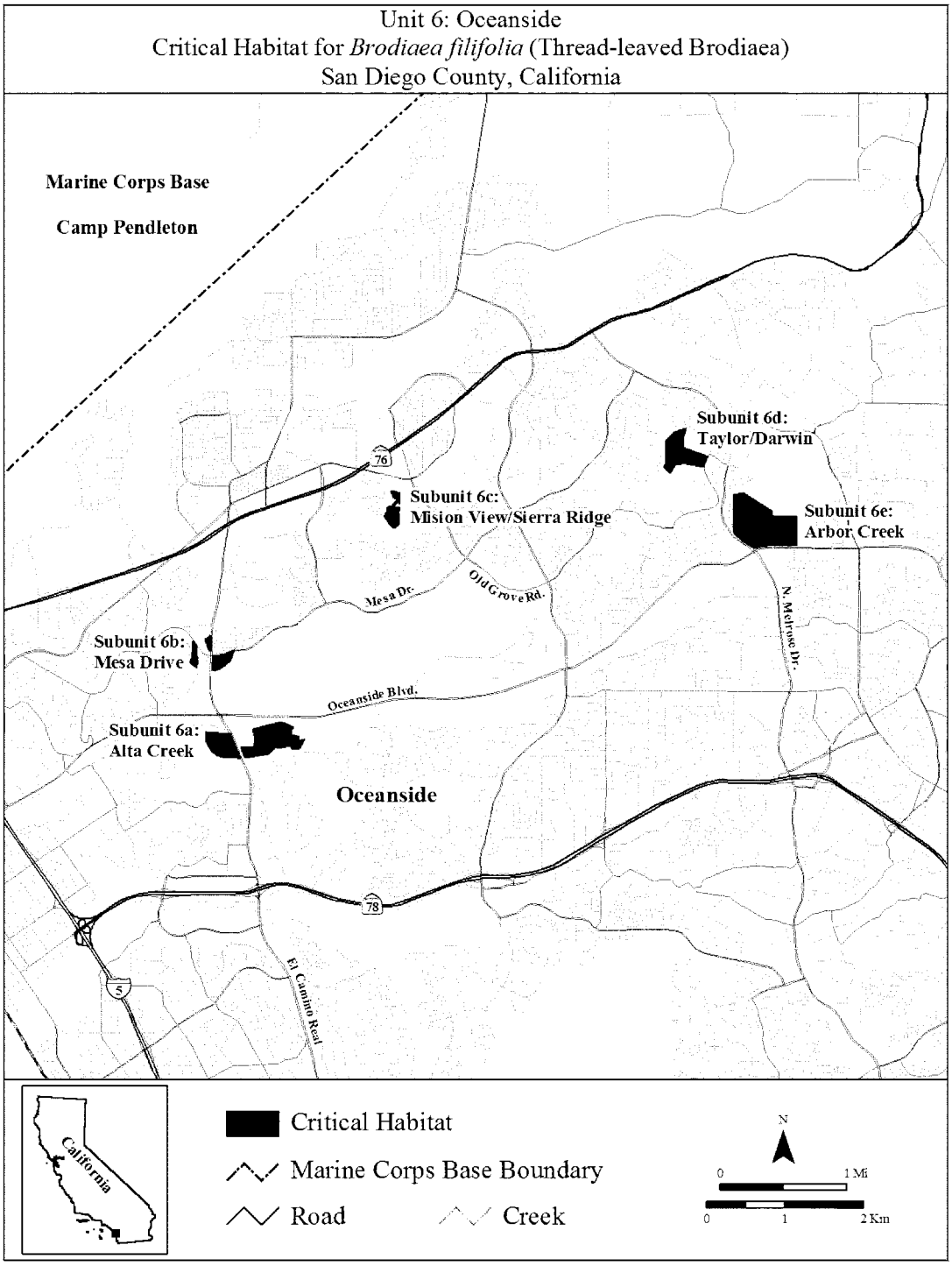
Appendix E Thread-leaved Brodiaea Critical Habitat Federal Register Excerpts



(6) Unit 1: Los Angeles County. From USGS 1:24,000 quadrangle map Glendora, Los Angeles County, California.

(i) Subunit 1a: Glendora. Land bounded by the following Universal Transverse Mercator (UTM) Zone 11, North American Datum of 1983 (NAD83) coordinates (E, N): 422408, 3779882; 422462, 3779764; 422424, 3779771; 422405, 3779809; 422356, 3779811; 422323, 3779723; 422353, 3779662; 422391, 3779567; 422397, 3779509; 422224, 3779417; 422051, 3779401; 422039, 3779437; 422008, 3779452; 421977, 3779480; 421925, 3779519; 421920, 3779598; 421883, 3779624; 421826, 3779599; 421803, 3779670; 421860, 3779684; 421896, 3779720; 421919, 3779713; 421945, 3779727; 421896, 3779760; 421809, 3779730; 421815, 3779760; 421829, 3779825; 421899, 3779920; 422002, 3779999; 422139, 3780025; 422294, 3779985; thence returning to 422408, 3779882.

(ii) Subunit 1b: San Dimas. Land bounded by the following UTM NAD83 coordinates (E, N): 425325, 3778572; 425359, 3778490; 425367, 3778364; 425315, 3778234; 425284, 3778164; 425246, 3778076; 425149, 3777990; 425092, 3777884; 425044, 3777802; 424905, 3777719; 424787, 3777708; 424656, 3777764; 424662, 3777823; 424647, 3777849; 424590, 3777886;



(12) Unit 7: Carlsbad, San Diego County, California.

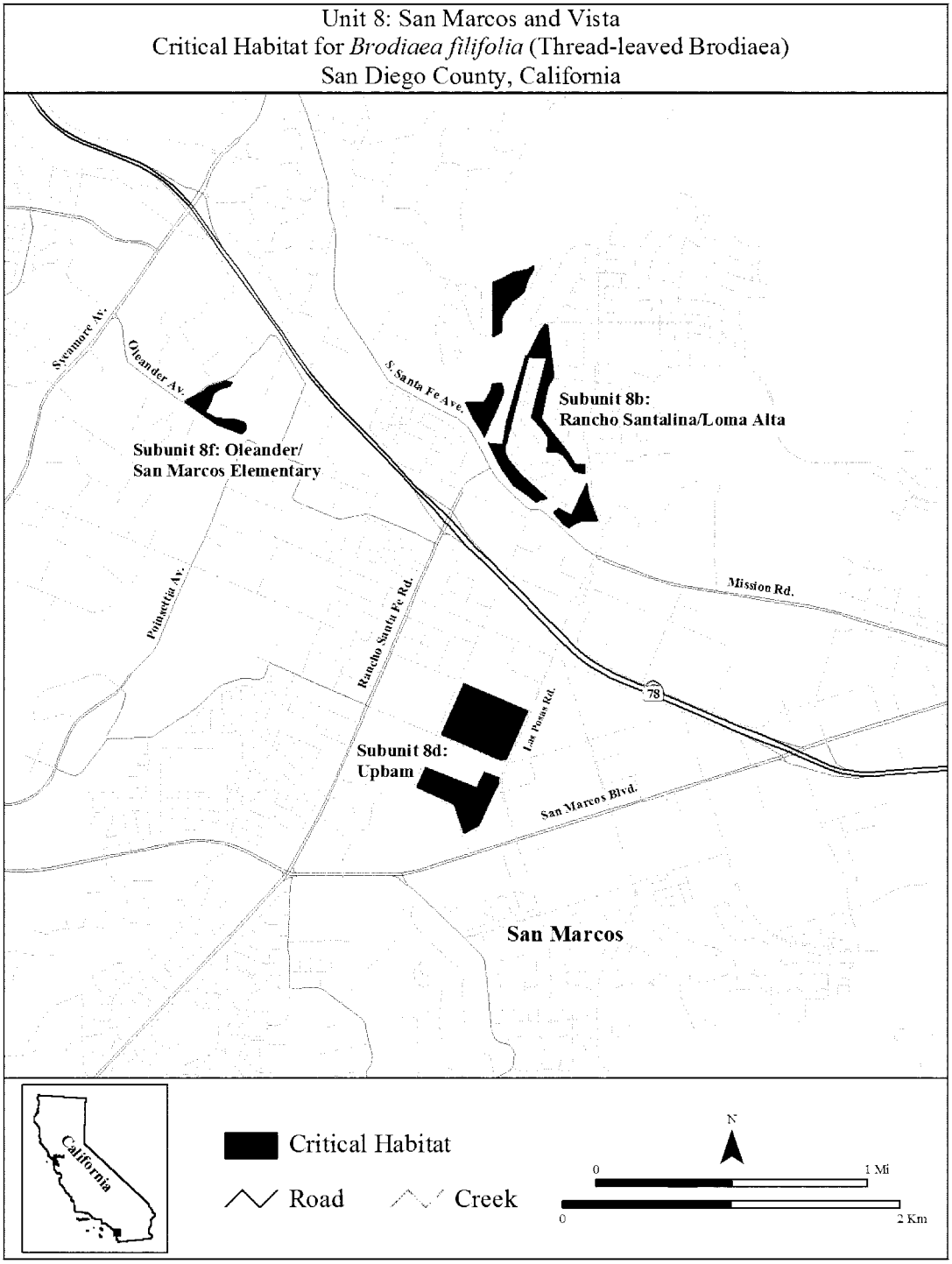
(i) Subunit 7a: Letterbox Canyon. From USGS 1:24,000 quadrangle map San Luis Rey, land bounded by the following UTM NAD83 coordinates (E, N): 473516, 3667072; 473504, 3666941; 473516, 3666839; 473519, 3666765; 473558, 3666762; 473635, 3666758; 473759, 3666758; 473782, 3666785; 473756, 3666880; 473761, 3666926; 473777, 3666940; 473845, 3666935; 473846, 3666935; 473847, 3666778; 473848, 3666778; 473849, 3666778; 473850, 3666781; 473860, 3666822; 473904, 3666832; 473971, 3666844; 473968, 3666840; 473973, 3666838; 473978, 3666836; 474005, 3666824; 474011, 3666821; 474033, 3666818; 474036, 3666817; 474081, 3666811; 474121, 3666781; 474134, 3666779; 474136, 3666779; 474149, 3666777; 474151, 3666777; 474156, 3666777; 474159, 3666776; 474161, 3666776; 474167, 3666775; 474173, 3666774; 474160, 3666727; 474159, 3666726; 474159, 3666724; 474155, 3666721; 474153, 3666720; 474120, 3666699; 474118, 3666698; 474112, 3666694; 474100, 3666695; 474099, 3666695; 474098, 3666695; 474095, 3666695; 474090, 3666695; 474087, 3666695; 474061, 3666696; 473920, 3666753; 473848, 3666694; 473861, 3666635; 473890, 3666593; 473952, 3666506; 473930, 3666483; 473810, 3666500;

473706, 3666498; 473599, 3666515; 473533, 3666593; 473539, 3666667; 473480, 3666686; 473474, 3666798; 473441, 3666848; 473394, 3666880; 473370, 3666918; 473297, 3666974; 473330, 3667034; 473360, 3667013; 473404, 3667041; 473441, 3667031; 473480, 3667085; thence returning to 473516, 3667072.

(ii) Subunit 7b: Rancho Carrillo. From USGS 1:24,000 quadrangle maps Rancho Santa Fe and San Marcos, land bounded by the following UTM NAD83 coordinates (E, N): 478285, 3664797; 478307, 3664759; 478307, 3664749; 478251, 3664772; 478244, 3664745; 478200, 3664753; 478146, 3664747; 478085, 3664702; 478076, 3664774; 477946, 3664862; 477994, 3664920; 478066, 3664996; 478104, 3665067; 478117, 3665119; 478147, 3665221; 478249, 3665297; 478278, 3665368; 478339, 3665400; 478409, 3665501; 478419, 3665498; 478419, 3665496; 478419, 3665309; 478383, 3665244; 478345, 3665196; 478327, 3665137; 478319, 3665051; 478304, 3665021; 478303, 3664935; 478270, 3664821; thence returning to 478285, 3664797.

(iii) Subunit 7c: Calavera Hills Village H. From USGS 1:24,000 quadrangle map San Luis Rey, land bounded by the following UTM NAD83 coordinates (E, N): 471354, 3670039; 471355, 3670036; 471357, 3670032; 471361, 3670025; 471364, 3670018; 471374, 3669997; 471361, 3669999; 471345, 3669999; 471310, 3670039; 471282, 3670039; 471271, 3670102; 471257, 3670129; 471225, 3670198; 471181, 3670281; 471131, 3670366; 471109, 3670410; 471099, 3670466; 471068, 3670472; 471018, 3670480; 470999, 3670495; 470982, 3670510; 470940, 3670542; 470876, 3670576; 470871, 3670578; 470893, 3670639; 470935, 3670684; 471000, 3670729; 471009, 3670731; 471066, 3670749; 471099, 3670749; 471119, 3670749; 471188, 3670741; 471258, 3670710; 471348, 3670646; 471362, 3670634; 471362, 3670629; 471351, 3670626; 471252, 3670590; 471219, 3670578; 471107, 3670536; 471141, 3670460; 471150, 3670442; 471154, 3670434; 471156, 3670431; 471158, 3670429; 471161, 3670426; 471163, 3670423; 471165, 3670421; 471168, 3670418; 471170, 3670416; 471172, 3670413; 471174, 3670410; 471176, 3670408; 471178, 3670405; 471180, 3670402; 471182, 3670399; 471183, 3670396; 471185, 3670393; 471187, 3670390; 471189, 3670387; 471190, 3670384; 471192, 3670381; 471193, 3670378; 471195, 3670375; 471262, 3670230; 471322, 3670100; 471325, 3670092; 471328, 3670086; 471332, 3670079; 471335, 3670072; 471339, 3670065; 471344, 3670056; 471350, 3670046; thence returning to 471354, 3670039.

(iv) *Note:* Map of Unit 7, Carlsbad, follows:



(14) Unit 11: Western Riverside County, Riverside County, California.

(i) Subunit 11a: San Jacinto Wildlife Area. From USGS 1:24,000 quadrangle maps Lakeview and Perris, land bounded by the following UTM NAD83 coordinates (E, N): 488983, 3745493; 489065, 3745348; 489100, 3745144; 489088, 3745019; 489008, 3744998; 488955, 3744984; 488940, 3744982; 488834, 3744968; 488827, 3744966; 488803, 3744959; 488696, 3744929; 488626, 3744907; 488610, 3744902; 488565, 3744888; 488532, 3744878; 488500, 3744869; 488441, 3744853; 488363, 3744831; 488314, 3744794; 488285, 3744772; 488171, 3744760; 487999, 3744760; 487873, 3744819; 487818, 3744885; 487811, 3744894; 487796, 3744916; 487773, 3744954; 487767, 3744964; 487765, 3744983; 487756, 3745058; 487756, 3745172; 487783, 3745258; 487846, 3745333; 487948, 3745395; 487978, 3745412; 488042, 3745450; 488050, 3745454; 488159, 3745489; 488289, 3745470; 488336, 3745470; 488438, 3745517; 488563, 3745603; 488728, 3745658; 488786, 3745693; 488724, 3745740; 488677, 3745854; 488669, 3745964; 488692, 3746105; 488739, 3746179; 488783, 3746226; 488785, 3746227; 488803, 3746231; 488885, 3746250; 488990, 3746269; 489131, 3746336; 489273, 3746420; 489374, 3746481; 489511, 3746574; 489547, 3746598;

489652, 3746637; 489668, 3746643; 489719, 3746661; 489876, 3746657; 489895, 3746633; 489982, 3746517; 490025, 3746461; 490033, 3746371; 490018, 3746275; 490013, 3746242; 489983, 3746214; 489951, 3746183; 489637, 3745987; 489425, 3745858; 489198, 3745787; 489096, 3745677; 488998, 3745634; thence returning to 488983, 3745493.

(ii) Subunit 11b: San Jacinto Avenue/Dawson Road. From USGS 1:24,000 quadrangle map Perris, land bounded by the following UTM NAD83 coordinates (E, N): 483682, 3737705; 483570, 3737705; 483524, 3737712; 483463, 3737755; 483380, 3737824; 483344, 3737895; 483344, 3737975; 483366, 3738075; 483387, 3738129; 483423, 3738183; 483470, 3738269; 483491, 3738345; 483538, 3738434; 483621, 3738506; 483983, 3738506; 484059, 3738445; 484127, 3738348; 484145, 3738186; 484116, 3738104; 484023, 3738021; 483965, 3737949; 483922, 3737867; 483865, 3737777; 483789, 3737741; thence returning to 483682, 3737705.

(iii) Subunit 11c: Case Road. From USGS 1:24,000 quadrangle map Perris, land bounded by the following UTM NAD83 coordinates (E, N): 481228, 3736775; 480714, 3736203; 480100, 3736631; 480093, 3736652; 480100, 3736807; 480139, 3736897; 481124, 3736908; 481192, 3736854; thence returning to 481228, 3736775. Continue to 480689, 3736146; 480416, 3735873; 480258, 3735905; 480121, 3736024; 480082, 3736139; 480100, 3736315; 480172, 3736390; 480157, 3736473; 480150, 3736548; thence returning to 480689, 3736146.

(iv) Subunit 11d: Railroad Canyon. From USGS 1:24,000 quadrangle maps Lake Elsinore and Romoland, land bounded by the following UTM NAD83 coordinates (E, N): 476192, 3732071; 476177, 3732058; 476095, 3732067; 476092, 3732068; 476075, 3732070; 475968, 3732083; 475828, 3732198; 475767, 3732413; 475789, 3732650; 475922, 3732859; 475949, 3732877; 476026, 3732931; 476086, 3732989; 476141, 3733042; 476417, 3733214; 476590, 3733286; 476816, 3733401; 476878, 3733419; 476891, 3733423; 476983, 3733450; 477099, 3733465; 477223, 3733446; 477305, 3733326; 477300, 3733201; 477280, 3733049; 477274, 3733042; 477252, 3733009; 477230, 3732975; 477227, 3732972; 477210, 3732947; 477204, 3732938; 477090, 3732890; 477055, 3732876; 476892, 3732809; 476888, 3732808; 476755, 3732787; 476694, 3732744; 476583, 3732650; 476410, 3732510; 476367, 3732352; 476342, 3732230; 476335, 3732194; 476265, 3732134; 476216, 3732091; thence returning to 476192, 3732071.

(v) Subunit 11e: Upper Salt Creek (Stowe Pool). From USGS 1:24,000 quadrangle map Winchester, land bounded by the following UTM NAD83 coordinates (E, N): 495693, 3731707; 495719, 3731126; 495375, 3730970; 495372, 3731340; 494997, 3731340; 494979, 3731381; 494982, 3731490; 495018, 3731613; 495074, 3731735; 495112, 3731898; 495260, 3732003; 495334, 3732070; 495421, 3732105; 495811, 3732113; thence returning to 495693, 3731707.

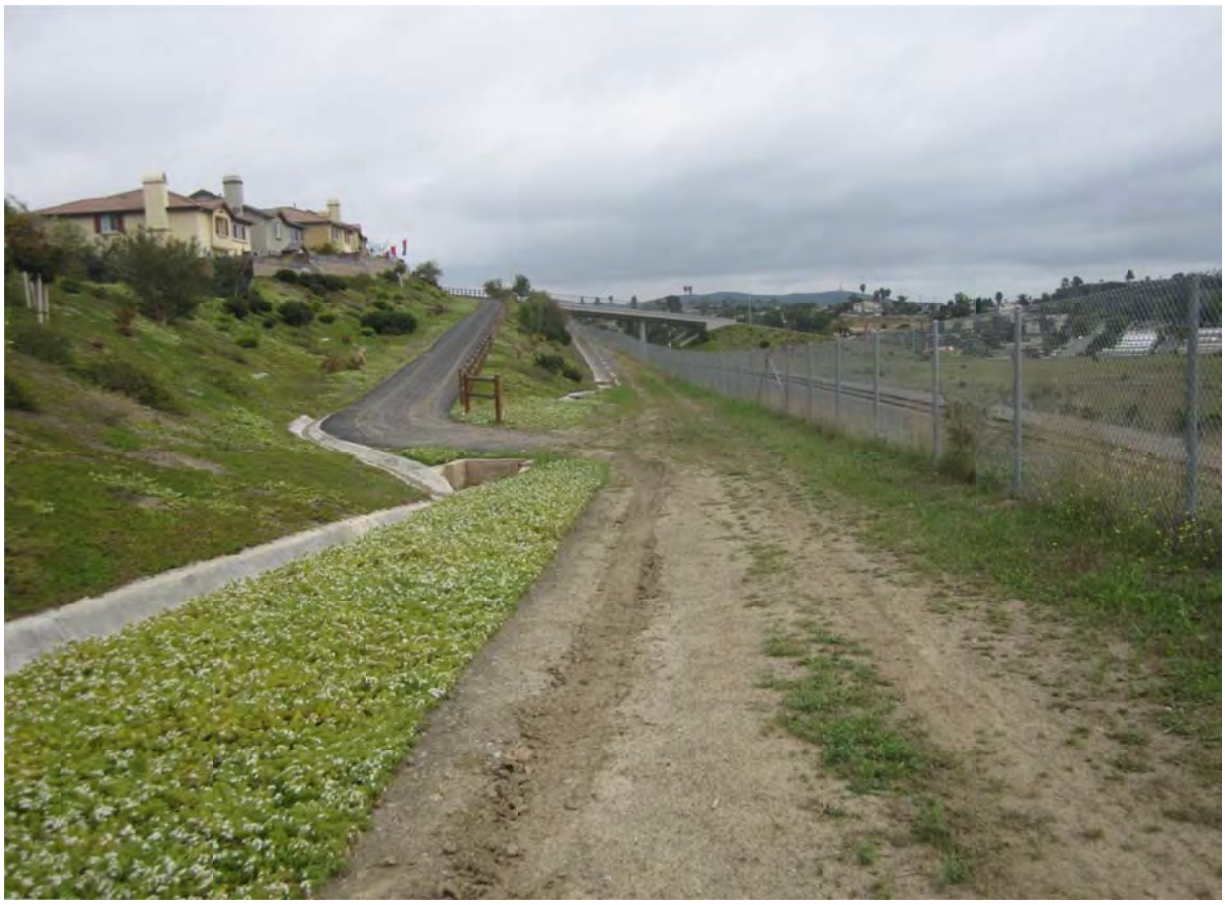
(vi) *Note:* Map of Unit 11, Western Riverside County, Subunits a, b, c, d, and e, follows:

Appendix F Representative Photographs

Photograph 1. Representative non-native vegetation within the NCTD ROW.

Photograph 2. Representative decomposed granite and compacted soils within the NCTD ROW.

Photograph 3. Representative ruderal and non-native landscaping vegetation.



Photograph 4. Representative landscaping associated with the housing development east of Santa Fe Avenue.

Photograph 5. Representative Southwestern Willow Riparian Forest vegetation north of the NCTD rail Buena Creek crossing.

Photograph 6. Representative South Coast Live Oak Riparian Forest southeast of the Buena Creek in the NCTD ROW.

Photograph 7. Representative Freshwater Marsh vegetation south of the NCTD rail Buena Creek crossing.

Photograph 8. Representative Freshwater Marsh and Southwestern Willow Riparian vegetation south of the NCTD rail Buena Creek crossing.

Photograph 9. Representative ruderal and non-native grass vegetation.

Photograph 10. North of the NCTD rail, representative natural bottomed, perennial Buena Creek.

Photograph 11. Representative concrete lined Buena Vista Creek.

Photograph 12. Representative concrete lined drainages within the NCTD ROW.

Photograph 13. North of the NCTD rail, representative proposed jurisdictional concrete lined drainage ditch; ditch drains to Buena Creek.

Photograph 14. Representative thread-leaved brodiaea Critical Habitat adjacent to the NCTD ROW; northern parcel fenced as a restoration area.

Photograph 15. Representative killdeer (*Charadrius vociferous*) observed displaying nesting behavior within the NCTD ROW.

Appendix G Oceanside – Escondido Bikeway Project Mitigation Bank Credit Purchase

Development Services-Engineering
1 Civic Center Drive
San Marcos, CA 92069-2918

Telephone
760.744.1050
FAX: 760.591.4135

2001 JAN -4 AM 10:32

January 4, 2001

Mr. Richard G. Chavez
San Diego Association of Governments
401 B Street, Suite 800
San Diego, CA 92101-4231

Re: Purchase of Pilgrim Creek Mitigation Bank Credits for the Oceanside - Escondido Bikeway Project

Dear Richard:

As the lead agency representing the Cities of Escondido, Vista, Oceanside, San Marcos and the County of San Diego, this is a follow-up to purchase 0.90 acre of credit from Caltrans' Pilgrim Creek Mitigation Bank for the Oceanside - Escondido Bikeway Project.

As it was defined in your letter to the City dated October 11, 2000, enclosed please find a check for $108,000 for the purchase of the referenced credit at Pilgrim Creek Mitigation Bank.

Please give me a call if you have questions or need additional information. I can be reached at (760) 744-1050 x3255 or odayani@ci.san-marcos.ca.us. Your prompt attention to this issue would be greatly appreciated.

Sincerely,

Omar Dayani
Project Manager
City of San Marcos

OD:rl

c: Alan Schuler, City Engineer
Gena Franco, Deputy City Engineer
Stephan Vance, SANDAG
Richalene Kelsay, Caltrans
Christine Carrington, Caltrans

2001 JAN -4 AM 10:32

Dayani\projects\rail trail\sandag\Pilgrim Creek Credit purchase cover letter

FOR SECURITY PURPOSES, THE BORDER OF THIS DOCUMENT CONTAINS MICROPRINTING

UNION BANK OF CALIFORNIA
669 S. Rancho Santa Fe Road
San Marcos, CA 92069

16-49
1220

City of San Marcos

1 Civic Center Drive
San Marcos, CA 92069-2918
(760) 744-1050

VOID IF NOT CASHED WITHIN 90 DAYS

CHECK DATE	CHECK NO.	CHECK AMOUNT
01/02/01	007113	****108,000.00

PAY One-Hundred-Eight-Thousand Dollars and No Cents

TO THE ORDER OF
SANDAG(SAN DIEGO ASSOC/GOV'TS)
401 B STREET SUITE #800
SAN DIEGO CA 92101

⑈007113⑈ ⑆122000496⑆ 08600 20084⑈

THE REVERSE SIDE OF THIS DOCUMENT INCLUDES AN ARTIFICIAL WATERMARK - HOLD AT AN ANGLE TO VIEW

VENDOR NO. 447

VENDOR NAME SANDAG(SAN DIEGO ASSOC/GOV'TS)

DATE	INVOICE NO.	DESCRIPTION	PO NO.	ACCOUNT NO.	AMOUNT
10/11/00	101100	OCEANSIDE/ESCONDIDO BIKEWAY PROJECT RIPARIAN HABITAT PURCHASE		401-00-600006-8049	108,000.00

CHECK DATE	CHECK NUMBER				CHECK AMOUNT
01/02/01	007113				108,000.00

REORDER FROM YOUR LOCAL SAFEGUARD DISTRIBUTOR. IF UNKNOWN, CALL 800-523-2422

M98SF007757M 9/99

San Diego
ASSOCIATION OF
GOVERNMENTS

401 B Street, Suite 800
San Diego, CA 92101-4231
(619) 595-5300 • Fax (619) 595-5305
www.sandag.org

January 8, 2001

Omar Dayani
Project Manager
City of San Marcos
1 Civic Center Drive
San Marcos, CA 92069

Dear Mr. Dayani:

This correspondence acknowledges receipt of Check Number 007113 dated January 2, 2001 in the amount of $108,000. This payment is for the purchase of 0.90 acres of mitigation credits from the Pilgrim Creek Mitigation Bank to satisfy an offsite mitigation requirement for your Oceanside – Escondido Bikeway Project.

The approved Banking Instrument governs the sale of these mitigation credits. I am, by copy of this correspondence, notifying the U.S. Army Corps of Engineers and the California Department of Fish and Game of this transaction, as required under the Accounting Procedure in the Banking Instrument.

Attached is the updated Pilgrim Creek Mitigation Bank Acreage Summary further documenting your mitigation credit purchase and thank you for your participation in this *TransNet* program.

Sincerely,

RICHARD G. CHAVEZ
Senior Engineer

RC/jdk

Attachment

cc: John P. Carroll, U.S. Army Corps of Engineers
Mark Tucker, U.S. Army Corps of Engineers
Fari Tabatabai, U.S. Army Corps of Engineers
C. F. Raysbrook, California Department of Fish and Game
Michelle McCartt, Caltrans District 11
TransNet Program Files
Administration & Finance Files

TransNet Pilgrim Creek Mitigation Bank

Acreage Summary

Beginning Balance	49.80 (acres)

Acres Used

Agency/Company	Project	Debit	Balance	Invoice	Payment
Caltrans	76-West Expressway	27.80	22.00		
Caltrans	76-West (Additional Guajome Impact)	1.20	20.80		
City of Oceanside	North Avenue Extension	1.60	19.20		02/25/1998
Kaufman & Broad	Residential (Olive Drive/Emerald Ave)	0.25	18.95		07/08/1999
City of Oceanside	Rancho Del Oro Road Extension	1.41	17.54		07/26/1999
Castello Inc.	Industrial/Commercial (Mission Rd/Rancheros Dr)	0.69	16.85		09/12/2000
Caltrans	Various Maintenance Projects	1.00	15.85	12/06/2000	
San Marcos	Oceanside - Escondido Bikeway	0.90	14.95		01/04/2001

Acres Available for Sale

Date Cleared/Used	Acres Cleared	Acres Used	Total Cleared	Total Used	Acres for Sale
01/01/1995	30.60	27.80	30.60	27.80	2.80
01/01/1996	0.00	1.20	30.60	29.00	1.60
02/25/1998	0.00	1.60	30.60	30.60	0.00
08/10/1999	7.68	0.00	38.28	30.60	7.68
07/08/1999	0.00	0.25	38.28	30.85	7.43
07/26/1999	0.00	1.41	38.28	32.26	6.02
09/12/1999	0.00	0.69	38.28	32.95	5.33
12/06/2000	0.00	1.00	38.28	33.95	4.33
01/04/2001	0.00	0.90	38.28	34.85	3.43

Letters of Interest

Agency/Company	Project	Letter Dated	Acres	Total Acres
SD Co. Water Authority	Emergency Storage	12/13/2000	6.00	6.00