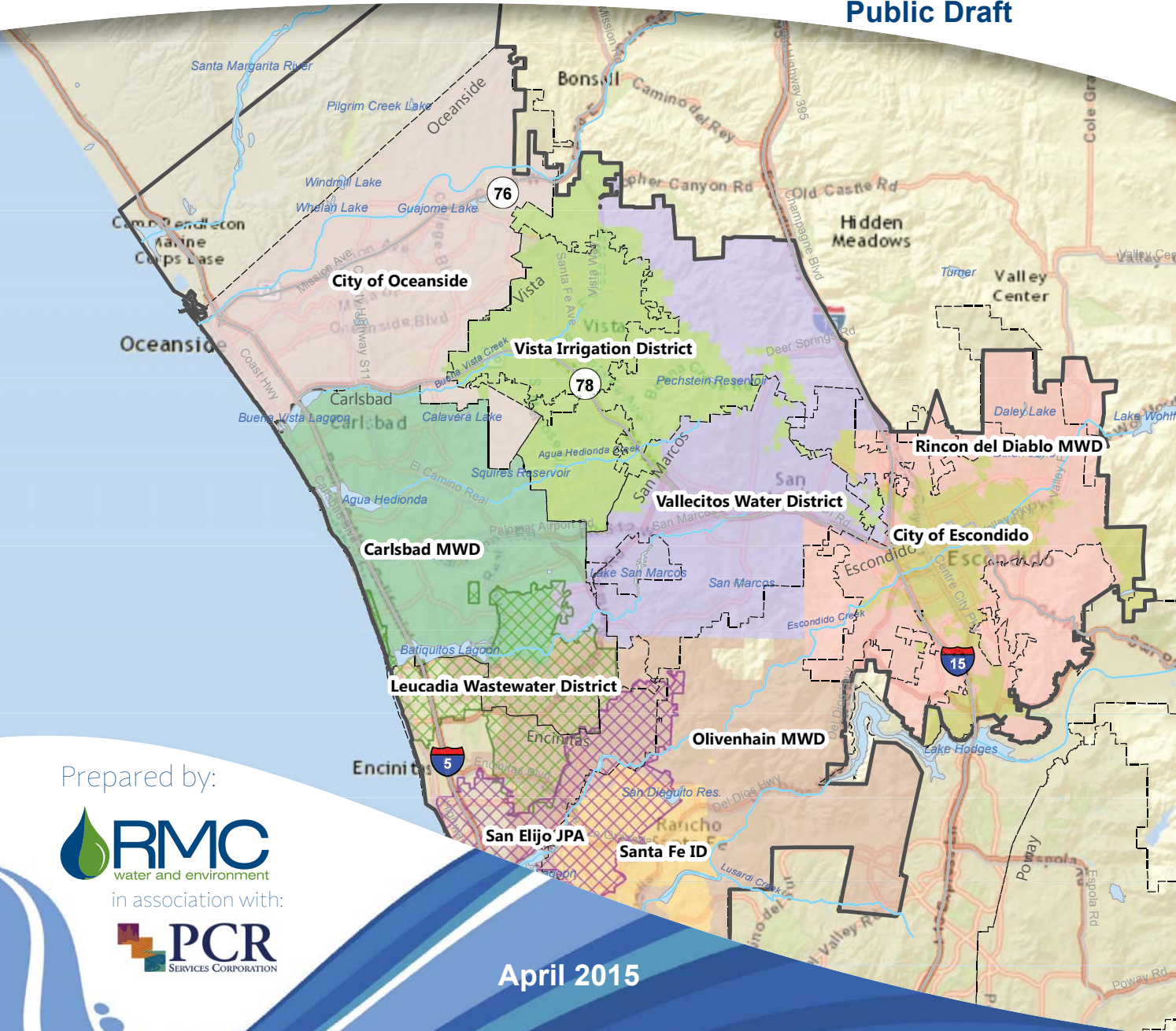




**NORTH SAN DIEGO  
WATER REUSE  
coalition**

# North San Diego Water Reuse Coalition **Regional Recycled Water Project** Program Environmental Impact Report

**Public Draft**



Prepared by:



April 2015





# North San Diego Water Reuse Coalition Regional Recycled Water Project Program Environmental Impact Report Public Draft

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## Table of Contents and Abbreviations and Acronyms

### Table of Contents

<b>Executive Summary</b> .....	<b>ES-1</b>
ES.1 Introduction.....	ES-1
ES.2 Overview of the Proposed Project .....	ES-1
ES.3 Proposed Project Objectives .....	ES-3
ES.4 Purpose of this Document .....	ES-3
ES.5 Alternatives.....	ES-3
ES.6 Areas of Known Controversy .....	ES-4
ES.7 Summary of Potential Environmental Impacts .....	ES-4
<b>1. Introduction</b> .....	<b>1-1</b>
1.1 Background .....	1-1
1.2 Environmental Document .....	1-2
1.3 Environmental Review Process .....	1-2
1.4 Draft PEIR Content and Organization .....	1-3
<b>2. Project Description</b> .....	<b>2-1</b>
2.1 Proposed Project Objectives .....	2-2
2.2 Project Location.....	2-2
2.3 Background .....	2-3
2.4 Proposed Recycled and Potable Reuse System Expansion .....	2-11
2.5 Construction Considerations.....	2-45
2.6 Responsible Agencies, Permits, and Approvals.....	2-49
<b>3. Environmental Analysis</b> .....	<b>3-1</b>
3.1 Aesthetics.....	3.1-1
3.2 Agriculture and Forestry Resources.....	3.2-1
3.3 Air Quality.....	3.3-1
3.4 Biological Resources .....	3.4-1
3.5 Cultural Resources .....	3.5-1
3.6 Geology and Soils .....	3.6-1
3.7 Greenhouse Gas Emissions .....	3.7-1
3.8 Hazards and Hazardous Materials.....	3.8-1
3.9 Hydrology and Water Quality .....	3.9-1
3.10 Land Use and Planning .....	3.10-1
3.11 Mineral Resources.....	3.11-1
3.12 Noise .....	3.12-1
3.13 Population and Housing.....	3.13-1
3.14 Public Services .....	3.14-1
3.15 Recreation .....	3.15-1
3.16 Transportation and Traffic.....	3.16-1
3.17 Utilities and Service Systems.....	3.17-1

<b>4.</b>	<b>Alternatives Analysis .....</b>	<b>4-1</b>
4.1	Proposed Project Objectives .....	4-1
4.2	Alternative Development Process .....	4-1
4.3	Alternatives Evaluation .....	4-2
4.4	Potential Impacts from Project Alternatives.....	4-3
4.5	Environmentally Superior Alternative .....	4-11
<b>5.</b>	<b>Other Environmental Considerations .....</b>	<b>5-1</b>
5.1	Environmental Justice .....	5-1
5.2	Cumulative Impacts .....	5-5
5.3	Mandatory Findings of Significance .....	5-19
5.4	Significant Unavoidable Adverse Environmental Impacts .....	5-24
5.5	Irreversible Environmental Changes .....	5-25
<b>6.</b>	<b>Preparers and Contributors .....</b>	<b>6-1</b>
<b>7.</b>	<b>References.....</b>	<b>7-1</b>
	Executive Summary .....	7-1
	Introduction .....	7-1
	Project Description.....	7-1
	Environmental Analysis.....	7-1
7.1.	Aesthetics.....	7-1
7.2.	Agriculture and Forestry Resources.....	7-3
7.3.	Air Quality.....	7-4
7.4.	Biological Resources .....	7-6
7.5.	Cultural Resources .....	7-7
7.6.	Geology and Soils .....	7-8
7.7.	Greenhouse Gases .....	7-9
7.8.	Hazards and Hazardous Materials.....	7-10
7.9.	Hydrology and Water Quality .....	7-12
7.10.	Land Use and Planning .....	7-16
7.11.	Mineral Resources.....	7-17
7.12.	Noise .....	7-18
7.13.	Population and Housing.....	7-19
7.14.	Public Services .....	7-20
7.15.	Recreation.....	7-22
7.16.	Transportation and Traffic.....	7-24
7.17.	Utilities and Service Systems.....	7-24
	Alternatives Analysis .....	7-26
	Other Environmental Considerations.....	7-26

**List of Tables**

Table ES-1: Summary of Potentially Significant Impacts and Mitigation Measures for the Proposed Project..... ES-5

Table 2-1: Coalition Agency Roles and Responsibilities..... 2-2

Table 2-2: Coalition Members and Non-Coalition Agencies within Study Area ..... 2-3

Table 2-3: Existing Recycled Water Supplies for the Proposed Project..... 2-6

Table 2-4: Potable Reuse Summary ..... 2-12

Table 2-5: Existing and Future Average Demands for the Proposed Project..... 2-17

Table 2-6: Group A, Carlsbad MWD Facilities – Carlsbad WRF/Gafner WRF ..... 2-19

Table 2-7: Group C and D, City of Escondido Facilities..... 2-20

Table 2-8: Group E, San Elijo JPA Facilities ..... 2-22

Table 2-9: Group G, City of Oceanside Facilities..... 2-23

Table 2-10: Group H, Olivenhain MWD Facilities – San Elijo WRF/Gafner WRF..... 2-25

Table 2-11: Group I and J, Rincon del Diablo MWD Facilities ..... 2-26

Table 2-12: Group K, Santa Fe ID Facilities – San Elijo WRF/Gafner WRF ..... 2-28

Table 2-13: Group M, Vallecitos Water District Facilities – HARRF ..... 2-29

Table 2-14: Group O, Vista Irrigation District Facilities – San Luis Rey WWTP/Carlsbad WRF..... 2-31

Table 2-15: Short-Term Water Treatment Plant Expansions ..... 2-34

Table 2-16: Long-Term Water Treatment Plant Expansions..... 2-38

Table 2-17: Potable Reuse Summary ..... 2-39

Table 2-18: Anticipated Construction Schedule for the Short-Term Recycled Water Components of the Proposed Project..... 2-45

Table 2-19: Responsible Agencies and Coordination..... 2-49

Table 3.1-1: Designated County Scenic Highways in the Study Area..... 3.1-1

Table 3.1-2: Eligible State Scenic Highways in the Region ..... 3.1-4

Table 3.1-3: Relevant Goals, Objectives, and/or Policies from General Plans..... 3.1-18

Table 3.2-1: Relevant Goals, Objectives, and/or Policies from General Plans..... 3.2-9

Table 3.3-1: Pollutant Standards for San Diego County and Ambient Air Quality Data from the Escondido Monitoring Station..... 3.3-4

Table 3.3-2: State and Federal Ambient Air Quality Standards and Attainment Status..... 3.3-6

Table 3.3-3: Short-Term Pipeline Construction Time Frame and Emissions..... 3.3-9

Table 3.3-4: Pipeline Construction Maximum Daily Emissions for the Limiting Pollutants NOx and PM10..... 3.3-10

Table 3.3-5: Pump Station Construction Maximum Daily Emissions for the Limiting Pollutants NOx and PM10 ..... 3.3-11

Table 3.3-6: Other Wastewater Treatment Plant Projects Used for Emissions Estimates... 3.3-12

Table 3.3-7: Significance Thresholds and Emissions Factors for Construction of the Proposed Project..... 3.3-13

Table 3.3-8: Operational Emissions from Mobile Sources for New Pump Stations and Treatment Plants ..... 3.3-13

Table 3.3-9: Increase in Indirect Operational Emissions for New Pump Stations and Treatment Plants ..... 3.3-14

Table 3.3-10: Current Ambient Air Quality Standards and Health Effects..... 3.3-15

Table 3.3-11: SDAPCD Pollutant Significance Thresholds for Stationary Sources ..... 3.3-16

Table 3.3-12: General Conformity *De Minimis* Levels for the San Diego Air Basin (tons/year)..... 3.3-17

Table 3.3-13: Operational Emissions for the Proposed Project Compared to SDAPCD Thresholds (lbs/day).....	3.3-19
Table 3.3-14: Operational Emissions for the Proposed Project Compared to Federal General Conformity Thresholds (tons/year) .....	3.3-19
Table 3.3-15: Criteria Pollutant Emissions from Construction of the Proposed Project (by 2025).....	3.3-20
Table 3.3-16: Short Term Project Compliance with Federal General Conformity Rule.....	3.3-21
Table 3.3-17: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.3-25
Table 3.4-1: Biological Areas with Sensitive Plant Communities .....	3.4-7
Table 3.4-2: Biological Areas with Potential Drainages, Riparian, and Wetland Habitat .....	3.4-8
Table 3.4-3: Biological Areas with Potential for Sensitive Plants .....	3.4-9
Table 3.4-4: Biological Areas with Potential for Sensitive Wildlife.....	3.4-11
Table 3.4-5: Relationship between Proposed Project Groups and MSCP .....	3.4-18
Table 3.4-6: Relationship between Proposed Project Groups and MHCP .....	3.4-19
Table 3.4-7: Sensitive Wildlife Species Potentially Affected by Proposed Project.....	3.4-24
Table 3.4-8: Local Policies and Ordinances Subject to Proposed Project.....	3.4-38
Table 3.4-9: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.4-40
Table 3.5-1: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.5-18
Table 3.6-1: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.6-9
Table 3.7-1: GHG Emissions from Pipeline and Pump Station Construction .....	3.7-6
Table 3.7-2: GHG Emissions from Construction of Treatment Facilities and Facility Upgrades .....	3.7-7
Table 3.7-3: GHG Operational Emissions from Treatment Facilities and Pump Stations.....	3.7-7
Table 3.7-4: Increases in Greenhouse Gas Emissions from the Proposed Project.....	3.7-9
Table 3.7-5: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.7-12
Table 3.8-1 – Licensed Hazardous Material Sites within Coalition Member Jurisdictions and Hazardous Incident Response Team Responses .....	3.8-2
Table 3.8-2 –Hazardous Materials and Substances Sites within Study Area Zip Codes Listed in GeoTracker Database .....	3.8-3
Table 3.8-3: Hazardous Materials and Substances Sites within Study Area Zip Codes List in EnviroStor Database .....	3.8-4
Table 3.8-4: Public Schools Located within Groups in the Study Area .....	3.8-13
Table 3.8-5: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.8-17
Table 3.9-1 – Watersheds and Major Water Features within the Study Area.....	3.9-1
Table 3.9-2: Existing and Proposed Treatment Plant Characteristics and NPDES Permits	3.9-19
Table 3.9-3: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.9-31
Table 3.10-1: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.10-11
Table 3.11-1: Mineral Resource Zone (MRZ) Definitions.....	3.11-1
Table 3.11-2: Groups Containing MRZ-2 Zones.....	3.11-2
Table 3.11-3: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.11-6
Table 3.12-1: City of Oceanside Municipal Code Sound Limits by Land Use .....	3.12-5
Table 3.12-2: City of Escondido Municipal Code Sound Limits by Land Use.....	3.12-6
Table 3.12-3: City of Vista Municipal Code Sound Limits by Land Use .....	3.12-7
Table 3.12-4: City of Solana Beach Municipal Code Sound Limits by Land Use .....	3.12-8
Table 3.12-5: County of San Diego Municipal Code Sound Limits by Land Use.....	3.12-8
Table 3.12-6: Typical Noise Levels for Construction Equipment.....	3.12-10
Table 3.12-7: Caltrans Guidelines for Vibration Damage Potential .....	3.12-13
Table 3.12-8: Construction Equipment Vibration Levels .....	3.12-14



Table 3.12-9: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.12-17
Table 3.13-1: Populations of Cities within the Study Area .....	3.13-1
Table 3.13-2: Populations Served by Water Supply Coalition Members.....	3.13-2
Table 3.14-1: Providers of Public Services in the Study Area.....	3.14-2
Table 3.14-2: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.14-8
Table 3.15-1: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.15-6
Table 3.16-1: Major and Arterial Roads.....	3.16-2
Table 3.16-2: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.16-8
Table 3.17-1: Coalition Member Water Supply Sources .....	3.17-1
Table 3.17-2: Coalition Member Wastewater Treatment Facilities.....	3.17-2
Table 3.17-3: Relevant Goals, Objectives, and/or Policies from General Plans.....	3.17-8
Table 4-1: Comparison of Alternatives to Proposed Project .....	4-4
Table 5-1: Projects Considered by the Cumulative Impacts Analysis .....	5-7
Table 5-2: Summary of Mitigation Measures for Biological Resources .....	5-20
Table 5-3: Summary of Mitigation Measures for Cultural Resources .....	5-22

### **List of Figures**

Figure ES-1: Project Location .....	ES-2
Figure 2-1: Coalition Partners .....	2-4
Figure 2-2: Hydrologic Units.....	2-5
Figure 2-3: Proposed Project Short Term Project Components.....	2-15
Figure 2-4: Potential Short Term and Long Term Project Components .....	2-16
Figure 3.2-1: Farmland.....	3.2-2
Figure 3.4-1: Overview of Biological Areas.....	3.4-3
Figure 3.4-2: U.S. Fish and Wildlife Service Critical Habitats .....	3.4-4
Figure 3.4-3: Multiple Habitat Conservation Program and Multiple Species Conservation Plan.....	3.4-21
Figure 3.9-1: Hydrologic Features.....	3.9-2
Figure 3.10-1: Land Use .....	3.10-3
Figure 5-1: Environmental Justice .....	5-3

### **Appendices**

- Appendix A - Notice of Preparation and Scoping Materials**
- Appendix B - Proposed Project Supply and Demand Tables**
- Appendix C - General Conformity Report and Air Quality Analysis**
- Appendix D - Biological Resources Analysis**
- Appendix E - Cultural Resources Analysis**

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## Abbreviations and Acronyms

AQMP	Air Quality Management Plan
AAQNP	Ambient Air Quality Network Plan
AB 32	Assembly Bill 32, California Global Warming Solutions Act
AB 939	Assembly Bill 939, California Integrated Waste Management Act
AB 2588	Assembly Bill 2588, California Air Toxics “Hot Spots” Information and Assessment Act
ACS	American Community Survey
AF	Acre-feet
AFY	Acre-feet per year
Ag	Agricultural
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APCD	Air Pollution Control District
APS	Alternative Planning Strategy
ASTR	Aquifer Storage and Transport Recovery
AT&SF	Atchison, Topeka and Santa Fe
Ave.	Avenue
AWT	Advanced Water Treatment
AWTF	Advanced Water Treatment Facility
Basin Plan	Water Quality Control Plan
BAT	Best Available Technology
Blvd.	Boulevard
BMP	Best management practice
BO	Biological Opinion
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standard
CAGN	Coastal California Gnatcatcher
CalFire	California Department of Forestry and Fire Protection
Cal/OSHA	Division of Occupational Safety and Health
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation

CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
Carlsbad MWD	Carlsbad Municipal Water District
CBC	California Building Code
CGS	California Geological Survey
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDF	California Department of Forestry
CDFW	California Department of Fish and Wildlife
CDMG	California Division of Mines and Geology
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH <sub>4</sub>	Methane
CHRIS-SCIC	California Historical Resources Information System-South Coastal Information Center
CIP	Capital Improvement Plan
CIWMP	San Diego County Integrated Waste Management Plan
CNDDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide-equivalents
Coalition	North San Diego Water Reuse Coalition
Commission	California Fish and Game Commission
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank

CS	Conveyance System Project
CSD	Community Services District
CWA	Clean Water Act
DAC	Disadvantaged Community
dB	Decibel
dBA	A-weighted dB
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DDWEM	Division of Drinking Water and Environmental Management
DTSC	California Department of Toxic Substances Control
DV	Development Project
DWR	California Department of Water Resources
DWSAP	Drinking Water Source Assessment and Protection
EDTA	Ethylenediaminetetraacetic acid
EIR	Environmental Impact Report
EPCRA	Emergency Planning and Community Right-to-Know Act
ERC	Emission Reduction Credit
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
°F	Degrees Fahrenheit
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
FPA	Focused Planning Area
FPPA	Farmland Protection Policy Act
FRAP	Fire and Resources Assessment Program
FTA	Federal Transit Administration
GHG	Greenhouse gas
GRRP	Groundwater Replenishment Reuse Program
GWP	Global warming potential
H <sub>2</sub> O	Water vapor

HA	Hydrologic Area
HAER	Historic American Engineering Record
HARRF	Hale Avenue Resource Recovery Facility
HCP	Habitat Conservation Plan
HDD	Horizontal Directional Drilling
HIRT	Hazardous Incident Response Team
HMMP	Habitat Mitigation and Monitoring Plan
HOZ	Hillside Overlay Zone
HP	Horsepower
HVAC	Heating, ventilating, and air conditioning
Hz	hertz
IID	Imperial Irrigation District
IPCC	Intergovernmental Panel on Climate Change
IRWM	Integrated Regional Water Management
IS-MND	Initial Study-Mitigated Negative Declaration
kWh	Kilowatt hour
L <sub>dn</sub>	Day-Night Noise Level
L <sub>eq</sub>	Equivalent Noise Level
L <sub>max</sub>	Maximum Noise Level
L <sub>min</sub>	Minimum Noise Level
L <sub>x</sub>	Statistical Descriptor: noise level exceeded X percent of specific period of time
lb	pound
LCFS	Low-Carbon Fuel Standard
LCP	Local Coastal Program
LEA	Local Enforcement Agency
Leucadia WWD	Leucadia Wastewater District
LF	Linear foot
LID	Low Impact Development
LLAD	Landscaping and Lighting Assessment Districts
LRA	Local Responsibility Area
MBAS	Methylene blue-activated substances
MBTA	Migratory Bird Treaty Act

MCL	Maximum Contaminate Levels
mg/l	Milligrams per liter
MG	Million gallons
MGD	million gallons per day
MHCP	Multiple Habitat Conservation Program
MHI	Median Household Income
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
MLD	Most Likely Descendent
MM	Mitigation measure
MMP	Mitigation and Monitoring Plan
MMT	Million metric tons
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MSCP	Multiple Species Conservation Program
MSDS	Material Safety Data Sheet
MT	Metric tons
MWD	Metropolitan Waste District of Southern California
MWh	Megawatt hour
NAAQS	National Ambient Air Quality Standard
NAHC	California Native American Heritage Commission
National Register	National Register of Historic Places
NCCP	Natural Community Conservation Plan
NCTD	North County Transportation District
ND	No date available (used in citations)
NEPA	National Environmental Policy Act
NFPA	National Fires Protection Association
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO	Nitric oxide
NO <sub>2</sub>	Nitrogen dioxide
NOI	Notice of Intent
NO <sub>x</sub>	Nitrogen oxides

NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRPA	National Recreation and Parks Association
NSDWRC	North San Diego Water Reuse Coalition
O	Other Project
O3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	California Office of Historic Preservation
Olivenhain MWD	Olivenhain Municipal Water District Office of Planning and Research
OPR	
OSH Act	Occupational Safety and Health Act
OSHA	Occupational Safety and Health Administration
PAMA	Pre-Approved Mitigation Areas
Pb	Lead
PCA	Potential contaminating activities
PCC	Portland cement concrete
PEIR	Programmatic Environmental Impact Report
PM2.5	Particulate matter 2.5 microns or smaller
PM10	Particulate matter 10 microns or smaller
POTW	Publically Owned Treatment Work
ppb	Parts per billion
ppm	Parts per million
PPV	Peak particle velocity
PRC	California Public Resources Code
RAQS	Regional Air Quality Strategy
RB	Rehabilitation Project
RCRA	Resource Conservation and Recovery Act
RCS	Resource Conservation and Sustainability
RD	Roadway Work Project
RHNA	Regional Housing Needs Assessment



Rincon del Diablo MWD	Rincon del Diablo Municipal Water District
ROG	Reactive organic gases
ROW	Right-of-way
ROZ	Ridgeline Overlay Zone
RTP	Regional Transportation Plan
RWP	Recycled Water Plant
RWQCB	Regional Water Quality Control Board
San Elijo JPA	San Elijo Joint Powers Authority
SANDAG	San Diego Association of Governments
San Dieguito WD	San Dieguito Water District
Santa Fe ID	Santa Fe Irrigation District
SCAQMD	Southern California Air Quality Management District
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCALUC	San Diego County Airport Land Use Commission
SDCRAA	San Diego County Regional Airport Authority
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric
SDRWMG	San Diego Regional Water Management Group
SDWA	Safe Drinking Water Act
SEL	Single-Event Noise Level
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act of 1975
SNMP	Salt and Nutrient Management Plan
SO <sub>2</sub>	Sulfur dioxide
SRA	State Responsibility Areas
SRTTP	Southern Regional Tertiary Treatment Plant
ST	Storage Project
STP	Sewage Treatment Plant
SVOC	Semi volatile organic compound

SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TDS	Total dissolved solids
TMDL	Total Maximum Daily Load
TRT	Treatment Plant
UBC	Uniform Building Code
UCR	Uniform Crime Reporting Program
UFC	Uniform Fire Code
UNFCC	United Nations Framework Convention for Climate Change
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMC	U.S. Marine Corps
UWI	Urban-wildland interface
$\mu\text{g}/\text{m}^3$	Micrograms per cubic meter
Vallecitos WD	Vallecitos Water District
VHFHSZ	Very High Fire Hazard Severity Zone
Vista ID	Vista Irrigation District
VOC	Volatile organic compound
WDR	Waste Discharge Requirement
WPCF	Water Pollution Control Facility
WQIP	Water Quality Improvement Plan
WQO	Water quality objective
WRF	Water Reclamation Facility
WRP	Water Reclamation Plant
WWTP	Wastewater Treatment Plant
YBP	Years before present
yr	Year

## Executive Summary

### ES.1 Introduction

This Program Environmental Impact Report (PEIR) was prepared by a coalition of ten North San Diego County agencies known as the North San Diego Water Reuse Coalition (NSDWRC or Coalition) that was formed to investigate expansion of water reuse within north San Diego County. The Coalition consists of the following agencies:

1. Carlsbad Municipal Water District (Carlsbad MWD)
2. City of Escondido
3. City of Oceanside
4. Leucadia Wastewater District (Leucadia WWD)
5. Olivenhain Municipal Water District (Olivenhain MWD)
6. Rincon del Diablo Municipal Water District (Rincon del Diablo MWD)
7. San Elijo Joint Powers Authority (San Elijo JPA)
8. Santa Fe Irrigation District (Santa Fe ID)
9. Vallecitos Water District (Vallecitos WD)
10. Vista Irrigation District (Vista ID)

A map of the Coalition's collective service areas, which is the Study Area for this PEIR, and the Study Area's location within northern San Diego County is presented in **Figure ES-1**. This figure also demonstrates the location of local imported water conveyance facilities (First Aqueduct and Second Aqueduct) with respect to the Study Area.

### ES.2 Overview of the Proposed Project

The proposed *Regional Recycled Water Project* (Proposed Project) would involve development of regional recycled water infrastructure to increase the capacity and connectivity of the recycled water storage and distribution systems of the Coalition members and maximize reuse of available wastewater supplies. The Proposed Project includes replacing potable water uses with recycled water components, converting facilities to recycled water service, connecting discrete recycled water systems to one another, increasing recycled water storage capacity, distributing recycled water to effectively meet recycled water demands, and implementing advanced water treatment to produce and use potable reuse water within the Study Area.

The Proposed Project is based upon information from the Coalition's *Regional Recycled Water Facilities Plan* (Facilities Plan; RMC 2012). However, the Facilities Plan is currently being updated and repackaged for submission to both U.S. Bureau of Reclamation and U.S. Army Corps of Engineers for federal funding consideration. *Chapter 2, Project Description* contains an updated suite of new local and regional recycled water facilities that can provide additional recycled water supplies to the Coalition agencies at a level beyond what they could supply and utilize individually.

The recycled water system expansion and water reuse system that constitutes the Proposed Project is described in detail in *Chapter 2, Project Description*. The facilities included within the Proposed Project include construction of infrastructure and operations necessary to connect projected water reuse supplies with demands in a manner that maximizes beneficial reuse of available supplies within the Study Area. As such, the Proposed Project is organized and discussed throughout this document based upon various groupings, which connect available supplies from existing and future reclamation and advanced water treatment facilities to anticipated demands within the service areas of the Coalition members.



## ES.3 Proposed Project Objectives

As required by State of California CEQA Guidelines, a PEIR must include a statement of objectives. Defining the objectives for the Proposed Project will assist the Coalition members in evaluating the Proposed Project and its potential alternatives, and will therefore help decision makers to select a preferred alternative. The objectives of the Proposed Project are to:

- Optimize reuse of available wastewater resources to reduce ocean discharges and offset demands for potable water supplies that are generally imported into the region;
- Proactively plan for facilities that would be needed to meet and offset projected non-potable and potable demands for existing and planned growth within the Coalition members' service areas;
- Combine resources and work together to maximize water reuse for the Coalition members at a level beyond what each member could supply and utilize individually; and
- Increase water supply availability and reliability, and sustainability beyond existing conditions.

## ES.4 Purpose of this Document

The Proposed Project represents a proactive approach to water management as it supports long-term planning efforts among multiple agencies in a manner that maximizes available supplies to serve planned demands. Similarly, this PEIR is proactive in that it was prepared to disclose potential impacts that could occur as a result of the Proposed Project and provide the basis for any additional project-level environmental analysis that may be required on specific components of the Proposed Project. The ultimate purpose of this document is to analyze and disclose potential environmental effects of the Proposed Project on a larger, more cumulative basis than would be practical in an EIR on an individual action and by individual agencies.

Once finalized, this document will be compliant with requirements of the California Environmental Quality Act (CEQA) and address federal cross-cutting standards for the National Environmental Policy Act (NEPA), which will assist the Coalition with obtaining State and federal funding to further support implementation of the Proposed Project.

## ES.5 Alternatives

There are three alternatives to the Proposed Project, which are discussed in details in *Chapter 4, Alternatives*: No Project Alternative, No Coalition Alternative, and No Potable Reuse Alternative. Per CEQA requirements, the purpose of an alternatives' analysis is to describe a range of reasonable alternatives to the project that could feasibly attain the objectives of the project and evaluate the comparative merits of the alternatives. The alternatives that were analyzed for the Proposed Project are described briefly below:

- *No Project Alternative*: the No Project Alternative is the "business as usual" alternative. Under this alternative there would be no expansion of recycled water production or distribution systems and no potable reuse within the Coalition members' service areas. Anticipated future growth would be served with potable water, and agencies would need to increase their water purchases, develop alternative supplies, implement other conservation programs, or complete other recycled water projects to free potable demand.
- *No Coalition Alternative*: under the No Coalition Alternative, the Coalition members would expand their recycled water systems on an individual agency basis, but such expansions would not include cross-connections or cooperative agreements beyond those that already exist.
- *No Potable Reuse Alternative*: this alternative would include construction and operation of recycled water distribution systems and treatment plant expansions as described for the Proposed

Project, but would not include any potable reuse components. As such, Partners who would have received potable water through the potable reuse portions of the Proposed Project would instead continue to rely on imported water to meet those potable demands.

## ES.6 Areas of Known Controversy

Section 15123 of the CEQA Guidelines requires an EIR to include areas of known controversy. For this Draft PEIR, a Notice of Preparation (NOP) was prepared and released on August 11, 2014 for a 30-day review period that ended on September 9, 2014. During the NOP public comment period, the Coalition held a Scoping Meeting to present information about the Proposed Project and further solicit input from interested parties. The NOP was circulated to the public, local, State, and Federal agencies, and other interested parties to solicit comments and identify potential issues of controversy associated with the Proposed Project. The NOP and comment letters received during the public comment period, which identified potential issues addressed in this PEIR, is included as **Appendix A**.

## ES.7 Summary of Potential Environmental Impacts

The environmental analysis for each potential environmental impact associated with the Proposed Project is provided in *Chapter 3, Environmental Analysis*. **Table ES-1** includes a summary of potentially significant impacts associated with the Proposed Project, organized by resource area in accordance with the organization for Chapter 3. There are no potentially significant impacts to Agricultural and Forestry Resources, Mineral Resources, or Population and Housing; as such, there is no information in **Table ES-1** regarding potential impacts to those resources. For each potentially significant impact, at least one mitigation measure has been identified to reduce the significance of the environmental impact where feasible. **Table ES-1** indicates the groupings to which each mitigation measure shall apply; the mitigation measures shall be implemented by the individual Coalition members that will serve as lead agencies for the individual groupings as applicable and discussed in *Chapter 2, Project Description*. Nomenclature within **Table ES-1** is as follows: PS refers to impacts that are potentially significant, LTS refers to impacts that are less than significant, and SU refers to impacts that are significant and unavoidable. Within the column that demonstrates the relevant groupings, an asterisk (\*) indicates that the mitigation measures only apply to facilities with above-ground features.

With implementation of the mitigation measures listed in **Table ES-1**, potential impacts associated with the Proposed Project would be reduced to less-than-significant levels with the exception of impacts to Air Quality, Greenhouse Gas Emissions, and Mandatory Findings of Significance. This program-level analysis is not intended to describe or address impacts in detail; rather, this PEIR will serve as the basis for future project-level evaluations of the impacts of specific components of the Proposed Project and allows for cumulative analysis of the Proposed Project as a whole.

Table ES-1: Summary of Potentially Significant Impacts and Mitigation Measures for the Proposed Project

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Section 3.1: Aesthetics</b>					
<b>Aesthetic Impact 1:</b> Potential to have substantial adverse effect on a scenic vista or scenic resources.	PS	<ul style="list-style-type: none"> <li><b>MM 3.1-1a Restoration to Pre-construction Conditions.</b> Requires restoration of construction sites to pre-construction conditions to avoid long-term visual impacts.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	Applies to below-ground facilities only	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.1-1b Screening Analysis and Mitigation for Protection of Scenic Resources.</b> Requires compliance with local regulations regarding scenic resources to avoid short-term and long-term visual impacts.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O *	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
		<ul style="list-style-type: none"> <li>Implement Mitigation Measure 3.15-1 (see below).</li> </ul>	See below	See below	
<b>Aesthetic Impact 2:</b> Potential for substantial degradation of existing visual character or quality of the project site and surrounding areas.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM3.1-1a and 3.1-1b (see above).</li> </ul>	See above	See above	LTS
<b>Aesthetic Impact 3:</b> Potential for new source of light or glare that would adversely affect views in the area.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.1-1b (see above).</li> </ul>	See above	See above	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.1-3 Minimize Light and Glare.</b> Requires assurance that all permanent exterior lighting is directed downward and oriented to insure that no light source is directly visible from neighboring residential areas. Highly reflective building materials and/or finishes shall not be used in the designs for proposed structures, unless required by law or for public safety.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O *	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Section 3.3: Air Quality</b>					
<b>Air Quality Impact 2:</b> Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation	PS	<ul style="list-style-type: none"> <li><b>MM 3.3-2 Implementation of Practicable Air Pollution Control Measures.</b> Complete an air quality assessment that determines project-level air emissions and identifies measures that could be incorporated into project design (operation) and construction to minimize emissions to the extent practicable. All project components shall implement air quality control measures to the extent practicable, even where such components do not individually violate air quality standards, due to the cumulative impact on air quality from the Proposed Project.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	SU
<b>Air Quality Impact 3:</b> Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable ambient air quality standard	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.3-2 (see above).</li> </ul>	See above	See above	SU
<b>Air Quality Impact 4:</b> Potential to expose sensitive receptors to substantial pollutant concentrations	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.3-2 (see above).</li> </ul>	See above	See above	SU

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Air Quality Impact 5:</b> Potential to create objectionable odors affecting a substantial number of people		<ul style="list-style-type: none"> <li><b>MM 3.3-5 Incorporate Odor Control into Facility Design.</b> Requires that consideration of objectionable odors be incorporated into the design of treatment facilities and treatment facility expansions, and that appropriate odor control measures be implemented.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Section 3.4: Biological Resources</b>					
<b>Biological Resources Impact 1:</b> Potential to have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species.	PS	<ul style="list-style-type: none"> <li><b>MM 3.4-1a Surveys and Mitigation for Sensitive Plant Species.</b> Requires habitat assessments for sensitive plant species prior to the initiation of construction. If the surveys determine the absence of sensitive plant species habitats or individuals, no further surveys or mitigation is required. In the event that any sensitive plant species are found on site and it is infeasible to avoid impacts that are determined to be significant, mitigation would be required.</li> </ul>	A, C, G, H, I, J, K, O	HARRF, El Corazon Site, San Luis Rey WWTP and AWT, San Elijo WRF, Harmony Grove WRF, Carlsbad WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.4-1b Surveys and Mitigation for Sensitive Wildlife Species.</b> Requires surveys for sensitive wildlife species prior to the initiation of construction, with focused surveys in areas where potentially suitable habitat for any species is identified. If the surveys determine the absence of sensitive wildlife species habitats or individuals, no further surveys or mitigation is required. If surveys determine the potential to impact sensitive wildlife species, further consultant and mitigation would be required.</li> </ul>	A, C, G, H, I, J, K, O	El Corazon Site, San Luis Rey WWTP and AWT, San Elijo WRF, HARRF, Carlsbad WRF	
<b>Biological Resources Impact 2:</b> Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community.	PS	<ul style="list-style-type: none"> <li><b>MM 3.4-2 Native Habitat Compensation.</b> Requires a field assessment to confirm the presence or absence of communities prior to the issuance of any grading permit in areas determined to support sensitive habitat communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Mitigation and Monitoring Plan (MMP) shall be prepared to offset impacts to those sensitive plant communities.</li> </ul>	A, C, D, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Biological Resources Impact 3:</b> Potential to have a substantial adverse effect on federally protected wetlands.	PS	<ul style="list-style-type: none"> <li><b>MM 3.4-3 Complete Jurisdictional Determination and Mitigation as Applicable.</b> Requires a formal jurisdictional delineation to be conducted prior to any ground disturbing activities to confirm the presence and extent of features regulated by the U.S. Army Corp of Engineers, the Regional Water Quality Control Board and/or California Department of Fish and Wildlife. If implementation of the project results in unavoidable impacts to jurisdictional waters, the responsible agency shall obtain a CWA Section 404 permit from the USACE, a CWA Section 401 permit from the RWQCB, and Streambed Alteration Agreement permit under Section 1602 of the California Fish and Game Code from the CDFW. Mitigation shall be incorporated into the permitting, subject to approval by the regulatory agencies.</li> </ul>	C, G, H, I, K, O	El Corazon Site, San Luis Rey WWTP and AWT, San Elijo WRF, HARRF, Carlsbad WRF	LTS
<b>Biological Resources Impact 4:</b> Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.	PS	<ul style="list-style-type: none"> <li><b>MM 3.4-4 Avoid Migratory Bird Nesting Season or Complete Surveys Before Construction Activities.</b> Requires construction within or adjacent to vegetation suitable for migratory birds outside the nesting season (i.e., September 1 through January 14), if feasible, to avoid potential direct and indirect impacts to nesting birds. If vegetation removal is required during the nesting season, a qualified biologist shall survey all suitable habitats for the presence of nesting birds before commencement of clearing. If any active nests are detected, additional mitigation will be required.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS



Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Biological Resources Impact 5:</b> Potential to conflict with local policies or ordinances protecting biological resources	PS	<ul style="list-style-type: none"> <li><b>MM 3.4-5 Conduct Inventory of Trees Having the Potential to Be Impacted, Prepare Tree Protection Plans and Acquire Permits as Required by Applicable Municipality or Jurisdiction.</b> Requires a tree inventory of any regulated trees within the Study Area prior to any ground disturbing activities, in accordance with Tree Protection Ordinances of the applicable municipality or jurisdiction. Permits shall be obtained, as needed, for tree removal.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Biological Resources Impact 6:</b> Potential to conflict with an adopted or approved habitat conservation plan	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.4-2 (see above).</li> </ul>	See above	See above	LTS
<b>Section 3.5: Cultural Resources</b>					
<b>Cultural Resources Impact 1:</b> Potential to cause a substantial adverse change in the significance of a historical resource.	PS	<ul style="list-style-type: none"> <li><b>MM 3.5-1a Conduct a Phase I Historical Resources Assessment.</b> Requires conducting a Phase I Historical Resources Assessment of unevaluated potentially eligible historical resources that may be impacted by the Proposed Project. If adverse impacts/effects are identified, the project may be redesigned to avoid or reduce potential impacts/effects to less than significant, in accordance with the Standards, or mitigation measures would be required.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O*	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.5-1b Conduct Historical Resources Monitoring for First San Diego Aqueduct.</b> Requires the Coalition members to retain a qualified architectural historian who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity in the vicinity of the First San Diego Aqueduct.</li> </ul>	C	HARRF	
		<ul style="list-style-type: none"> <li><b>MM 3.5-1c: Conduct Plan Review and Evaluation of Historical Resources – Olivenhain MWD and Santa Fe ID.</b> Requires that improvements on or adjacent to Rancho Santa Fe be designed to comply with the Secretary of the Interior's Standards for California State Historic Landmarks.</li> </ul>	H, K	San Elijo WRF	
		<ul style="list-style-type: none"> <li><b>MM 3.5-1d: Conduct Plan Review and Evaluation of Historical Resources – City of Oceanside.</b> Requires the City of Oceanside to consult a qualified historic preservation consultant to determine historical resources and review potential project impacts. Project must conform to recommendations and meet the <i>Secretary of the Interior's Standards for Rehabilitation</i>.</li> </ul>	G	San Luis Rey WWTP and AWT	
<b>Cultural Resources Impact 2:</b> Potential to cause a substantial adverse change in the significance of an archaeological resource	PS	<ul style="list-style-type: none"> <li><b>MM 3.5-2a Conduct a Phase I Archaeological Resources Assessment.</b> Requires that a Phase I Archaeological Resources Assessment be conducted of improvement footprints to identify any archaeological resources within the footprint or immediate vicinity to support the project-level CEQA environmental document. Additional mitigation measures will be required to reduce impacts if archaeological resources are discovered.</li> </ul>	A, C, D, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.5-2b Conduct a Phase II Archaeological Resources Assessment and Mitigation.</b> Requires that a Phase II Archaeological Resources Evaluation be conducted if resources are identified during the Phase I assessment, and impacts from the improvements cannot be avoided. Additional mitigation measures will be required, if necessary, to reduce the significance of impacts.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
		<ul style="list-style-type: none"> <li><b>MM 3.5-2c Conduct Archaeological Sensitivity Training for Construction Personnel.</b> Requires that a qualified archaeologist be retained to conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
		<ul style="list-style-type: none"> <li><b>MM 3.5-2d Monitor and Report Construction Excavations for Archeological Resources.</b> Requires that a qualified archaeological monitor be retained who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the proposed improvement.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
		<ul style="list-style-type: none"> <li><b>MM 3.5-2e Cease Ground-Disturbing Activities and Report if Archeological Resources are Encountered.</b> Requires that, if archaeological resources are encountered by construction personnel during implementation of the Project, ground-disturbing activities should temporarily be redirected from the vicinity of the find and applicable notification and mitigation avoidance methods to take place.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Cultural Resources Impact 3:</b> Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	PS	<ul style="list-style-type: none"> <li><b>MM 3.5-3a Conduct Paleontological Sensitivity Training for Construction Personnel.</b> Requires that a qualified paleontologist be retained, who shall conduct a Paleontological Sensitivity Training for construction personnel prior to commencement of excavation activities.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.5-3b Monitor and Report Construction Excavations for Paleontological Resources.</b> Requires that a qualified paleontologist be retained, who shall monitor excavation activities in certain areas of the project that would encounter fossiliferous geologic units that have been assigned “moderate”, “moderate to high”, and “high” potential as detailed in this report.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Cultural Resources Impact 4:</b> Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	PS	<ul style="list-style-type: none"> <li><b>MM 3.5-4 Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered.</b> Requires that if human remains are unearthed during implementation of the Proposed Project, the landowner must complete actions to comply with State Health and Safety Code Section 7050.5.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Section 3.6: Geology and Soils</b>					
<b>Geology and Soils Impact 1:</b> Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.	PS	<ul style="list-style-type: none"> <li><b>MM 3.6-1a Assess potential for liquefaction and incorporate protective measures.</b> Requires an assessment of the potential for liquefaction through soils testing in areas shown as at risk for liquefaction. Additional mitigation measures shall be required if liquefaction potential is determined.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.6-1b Stabilize slopes during construction.</b> Requires that, for facilities located within landslide risk areas, slopes be stabilized prior to and during construction activities.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Geology and Soils Impact 2:</b> Potential for on- or off-side landslide, lateral spreading, subsidence, liquefaction, or collapse.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.6-1a and 3.6-1b (see above).</li> </ul>	See above	See above	LTS
<b>Geology and Soils Impact 3:</b> Risks to life or property from expansive soil.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.6-1a and 3.6-1b (see above).</li> </ul>	See above	See above	LTS
<b>Section 3.7: Greenhouse Gas Emissions</b>					
<b>Greenhouse Gas Impact 1:</b> Potential to generate greenhouse gas emissions that may have a significant impact on the environment.	PS	<ul style="list-style-type: none"> <li>Implement Air Quality Mitigation Measure MM 3.3-2</li> </ul>	See above	See above	SU

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Greenhouse Gas Impact 2:</b> Potential to conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions.	PS	<ul style="list-style-type: none"> <li>Implement Air Quality Mitigation Measure MM 3.3-2(see above).</li> </ul>	See above	See above	SU
<b>Greenhouse Gas Impact 3:</b> Potential to generate greenhouse gas emissions that may have a significant impact on the environment.	PS	<ul style="list-style-type: none"> <li>Implement Air Quality Mitigation Measure MM 3.3-2(see above).</li> </ul>	See above	See above	SU
<b>Section 3.8: Hazards and Hazardous Materials</b>					
<b>Hazards and Hazardous Impact 1:</b> Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	PS	<ul style="list-style-type: none"> <li><b>MM 3.8-1 Preparation of Hazardous Materials Business Plan.</b> Requires that a Hazardous Materials Business Plan be prepared for all treatment facilities using hazardous materials and chemicals, as well as for pump stations that store hazardous materials and chemicals.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O*	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Hazards and Hazardous Impact 2:</b> Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	PS	<ul style="list-style-type: none"> <li><b>MM 3.8-2a Identification of Potential Hazardous Materials Exposure.</b> Requires hazardous sites databases to be consulted during project design to identify potential hazardous sites and avoid them where possible. During the design phase for each facility a Phase I Environmental Site Assessment shall be performed by a qualified environmental professional to identify all known hazardous materials cases in the vicinity of the project construction area.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.8-2b Hazardous Materials Management and Spill Prevention and Control Plan.</b> Requires that before construction, contractors must be required to develop and implement a Hazardous Materials Management and Spill Prevention and Control Plan that includes project-specific contingency plan for hazardous materials and waste operations.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
		<ul style="list-style-type: none"> <li><b>MM 3.8-2c Contaminated Soil Contingency Plan.</b> Requires that, if contaminated soil is encountered during project construction, work must halt and an assessment made to determine the extent of contamination. A contingency plan shall be implemented to handle treatment and/or disposal of contaminated soils.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Hazards and Hazardous Impact 3:</b> Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.8-1, 3.8-2b, and 3.8-2c (see above).</li> </ul>	See above	See above	LTS
<b>Hazards and Hazardous Impact 4:</b> Location on a site which is included on a list of hazardous materials sites, which would create a significant hazard to the public or the environment.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.8-2a, 3.8-2b, and 3.8-2c (see above).</li> </ul>	See above	See above	LTS
<b>Hazards and Hazardous Impact 7:</b> Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	PS	<ul style="list-style-type: none"> <li><b>MM 3.8-7 Develop and Maintain Emergency Response Strategies.</b> Requires that strategies for emergency response be developed prior to construction and in coordination with local emergency services.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Hazards and Hazardous Impact 8:</b> Potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	PS	<ul style="list-style-type: none"> <li><b>MM 3.8-8 Prevention of Fire Hazards.</b> Requires that construction equipment staging areas be cleared of dried vegetation or other material that could ignite, and that materials are available to extinguish fires if necessary.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Section 3.9: Hydrology and Water Quality</b>					
<b>Hydrology and Water Quality Impact 1:</b> Potential to violate water quality standards or waste discharge requirements, or otherwise degrade water quality (e.g., such as by altering the drainage pattern of site or area that would result in erosion/siltation).	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.8-1 (see above).</li> </ul>	See above	See above	LTS
<b>Hydrology and Water Quality Impact 3:</b> Potential for the potable-reuse component of the Proposed Project to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, or result in groundwater quality impacts.	PS	<ul style="list-style-type: none"> <li><b>MM 3.9-3 Conduct Potable Reuse Technical Investigations and Environmental Compliance.</b> Requires that necessary technical studies and modeling be conducted to characterize the existing condition of the groundwater aquifer(s) and the anticipated effects from potable reuse operation, on both volume and water quality.</li> </ul>	D, G, H, I, K, N	Escondido AWTF, San Luis Rey WWTP and AWT, San Elijo WRF, HARRF, Meadowlark WRF and AWT	LTS
<b>Hydrology and Water Quality Impact 4:</b> Potential to substantially alter the existing drainage pattern of the site or area, contribute runoff that exceeds the capacity of existing or planned stormwater drainage systems, place structures within a 100-year flood hazard area, which result in flooding and thereby expose people and structures to the risk of injury or loss.	PS	<ul style="list-style-type: none"> <li><b>MM 3.9-4 Stormwater Capacity at Above-Ground Facilities.</b> Requires installation or improvement of existing stormwater facilities to accommodate runoff from above-ground facilities such that flooding does not occur.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O*	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Hydrology and Water Quality Impact 5:</b> Potential for inundation by seiche, tsunami, or mudflow.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.6-1a and 3.6-1b (see above).</li> </ul>	See above	See above	LTS
<b>Section 3.10: Land Use and Planning</b>					
<b>Land Use and Planning Impact 1:</b> Potential to conflict with applicable land use plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.1-1b (see above).</li> </ul>	A, E, G, H, K	Carlsbad WRF, Encina WRF, Gafner WRF, San Elijo WRF	LTS
<b>Land Use and Planning Impact 2:</b> Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.1-1a (see above).</li> </ul>	A, C, D, E, G, H, I, K, M, N, O	See above	LTS
		<ul style="list-style-type: none"> <li>Implement Mitigation Measure MM 3.4-2 (see above).</li> </ul>	See above	See above	

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Section 3.12: Noise</b>					
<b>Noise Impact 1:</b> Potential to expose persons to or generate noise levels in excess of standards established in local general plan or noise ordinances or applicable standards of other agencies.	PS	<ul style="list-style-type: none"> <li><b>MM 3.12-1a Noise and Vibration Control During Construction.</b> Requires incorporation of noise control measures into contract specifications for all proposed components.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.12-1b Pre-Construction Notification.</b> Requires written notification to residents within 500 feet of the proposed facilities undergoing construction prior to construction.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
		<ul style="list-style-type: none"> <li><b>MM 3.12-1c Noise and Vibration Minimization during Operation.</b> Requires that design of the proposed pumps and mechanic, noise-generating equipment at treatment plants be done in a manner that ensures that operational noise levels at the property line do not exceed the affected jurisdictions' noise ordinance standards.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Noise Impact 2:</b> Potential to expose persons to or generation of excessive groundborne vibration or groundborne noise levels.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.12-1a and 3.12-1c (see above).</li> </ul>	<i>See above</i>	<i>See above</i>	LTS
		<ul style="list-style-type: none"> <li><b>MM 3.12-2 Geotechnical Evaluation and Mitigation.</b> Requires that licensed geotechnical engineer(s) prepare design-level geotechnical evaluations to include verification that performance standards for vibration impacts, as established by the Caltrans vibration damage potential guidelines, can be attained.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Noise Impact 3:</b> Potential for a substantial temporary/periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.12-1a through 3.12-1c (see above).</li> </ul>	<i>See above</i>	<i>See above</i>	LTS
<b>Section 3.14: Public Services</b>					
<b>Public Services Impact 1:</b> Potential to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.16-1 (see below).</li> </ul>	<i>See below</i>	<i>See below</i>	LTS

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Section 3.15: Recreation</b>					
<b>Recreation Impact 1:</b> Effects of project construction on recreation facilities.	PS	• Implement Mitigation Measures MM 3.1-1a and 3.1-1b (see above).	See above	See above	LTS
		• Implement Mitigation Measures MM 3.12-1a and 3.12-1c (see above).	See above	See above	
		• <b>MM 3.15-1 Minimize Storage of Construction Equipment Near Recreational Facilities.</b> Requires that, to the extent possible, the North San Diego Water Reuse Coalition locate construction staging areas away from recreational facilities and viewsheds to reduce impacts.	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	
<b>Section 3.16: Transportation and Traffic</b>					
<b>Transportation and Traffic Impact 1:</b> Potential to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system or conflict with a congestion management program.	PS	• <b>MM 3.16-1 Traffic Management Plan.</b> Requires that, prior to construction, a traffic management plan be developed, which includes measures to reduce impacts to traffic as a result of construction.	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Transportation and Traffic Impact 2:</b> Potential to result in hazards due to incompatible uses.	PS	• Implement Mitigation Measure 3.16-1 (see above).	See above	See above	LTS
<b>Transportation and Traffic Impact 3:</b> Potential to result in inadequate emergency response.	PS	• Implement Mitigation Measure 3.16-1 (see above).	See above	See above	LTS
		• Implement Mitigation Measure 3.8-7 (see above).	See above	See above	LTS
<b>Transportation and Traffic Impact 4:</b> Potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	PS	• Implement Mitigation Measure 3.16-1 (see above).	See above	See above	LTS
		• <b>MM 3.16-4 Rail Crossing Plan.</b> Requires that railway crossings be considered during design, and that additional measures be implemented if impacts to railway crossings cannot be avoided.	A, C, G, I, M	Carlsbad WRF, Gafner WRF, HARRF, El Corazon Site	
<b>Section 3.17: Utilities and Service Systems</b>					
<b>Utilities and Service Systems Impact 1:</b> Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board; Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments	PS	• Implement Mitigation Measure 3.8-1 (see above).	See above	See above	LTS
		• Implement Mitigation Measure 3.9-3 (see above)	A, C, D, E, G, H, I, J, K, M, N, O *	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS

Impact	Significance before Mitigation	Mitigation Measures	Relevant Grouping(s)	Relevant Treatment Plant(s) <sup>1</sup>	Significance after Mitigation
<b>Utilities and Service Systems Impact 2:</b> Potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measure 3.9-4 (see above).</li> </ul>	See above	See above	LTS
<b>Section 5.1: Environmental Justice</b>					
<b>Environmental Justice Impact 1:</b> Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively.	PS	<ul style="list-style-type: none"> <li><b>MM 5.1-1 Screening Analysis and Mitigation of Potential Environmental Justice Impacts.</b> Requires that additional design and operational considerations be implemented in the event that impacts to environmental justice communities would occur.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O	El Corazon Site, San Luis Rey WWTP and AWT, Carlsbad WRF, Gafner WRF, Encina WPCF, Meadowlark WRF and AWT, San Elijo WRF, HARRF, Escondido AWTF, Harmony Grove WRF	LTS
<b>Section 5.3: Mandatory Findings of Significance</b>					
<b>Mandatory Findings of Significance Impact 1:</b> Degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.	PS	<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.4-1a through MM3.4-5 (see above).</li> </ul>	See above	See above	LTS
		<ul style="list-style-type: none"> <li>Implement Mitigation Measures MM 3.5-1a through 3.5-4 (see above).</li> </ul>	See above	See above	
<b>Mandatory Findings of Significance Impact 2:</b> Have impacts that would be individually limited, but cumulatively considerable. ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	PS	<ul style="list-style-type: none"> <li>Implement all mitigation measures included within this table (Table ES-1)</li> </ul>	See above	See above	SU
<b>Mandatory Findings of Significance Impact 3:</b> Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.	PS	<ul style="list-style-type: none"> <li>Implement all mitigation measures included within this table (Table ES-1)</li> </ul>	See above	See above	SU

\* Only applies to those groupings that will ultimately include aboveground construction or upgrades.

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

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## 1. Introduction

Olivenhain Municipal Water District (Olivenhain MWD) serves as the Lead Agency for the preparation of this Program Environmental Impact Report (PEIR). This PEIR has been prepared to provide members of the public and responsible agencies with information about the potential environmental effects of the proposed *Regional Recycled Water Project* (Proposed Project), which is located in northern San Diego County.

This PEIR is a joint document intended to comply with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) (see California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, Section 15222 and Code of Federal Regulations (CFR), Title 40, Sections 1502.25, 1506.2, and 1506.4 (authority for combining federal and state environmental documents)).

### 1.1 Background

This PEIR was prepared by a coalition of ten agencies known as the North San Diego Water Reuse Coalition (NSDWRC or Coalition). The Coalition consists of the following agencies, which are all geographically located within northern San Diego County:

1. Carlsbad Municipal Water District (Carlsbad MWD)
2. City of Escondido
3. City of Oceanside
4. Leucadia Wastewater District (Leucadia WWD)
5. Olivenhain Municipal Water District (Olivenhain MWD)
6. Rincon del Diablo Municipal Water District (Rincon del Diablo MWD)
7. San Elijo Joint Powers Authority (San Elijo JPA)
8. Santa Fe Irrigation District (Santa Fe ID)
9. Vallecitos Water District (Vallecitos WD)
10. Vista Irrigation District (Vista ID)

Although the ten agencies that constitute the Coalition are all located within relative proximity to one another, over time, each agency has developed separate recycled water and wastewater systems with very limited integration. In 1998, four agencies – Olivenhain MWD, Carlsbad MWD, San Elijo JPA, and the Leucadia WWD – worked together to apply for and receive Title XVI grant funding from the United States Bureau of Reclamation (USBR). The Title XVI grant funding was used for the construction of various recycled water facilities within the mutual service areas of each of the four agencies, which are all located within north-coastal San Diego County. As a result of the success of integration efforts between these four agencies, the Coalition formed and prepared the *Regional Recycled Water Facilities Plan* (Facilities Plan; RMC 2012) that analyzed the recycled water facilities and demands for each agency in order to develop a regional project that maximizes use of available recycled water supplies. The intent of the Facilities Plan was to identify new local and regional recycled water projects that could provide additional recycled water supplies to the local water agencies beyond what each agency could utilize individually.

The Coalition is currently working to develop a *Regional Recycled Water Feasibility Study* (Feasibility Study; unpublished) for submission to USBR and U.S. Army Corps of Engineers (USACE) that builds upon information from the Facilities Plan by incorporating additional and updated facilities necessary to optimize recycled water use among the ten agencies. The project that will be detailed in the Feasibility Study has been finalized and is included in *Section 2, Project Description*; the Feasibility Study deliverable has not yet been published as the Coalition is waiting on federal funding program guidelines.

The Feasibility Study will include an analysis of regulatory considerations, use of existing recycled water facilities and demands, and future recycled water facilities and demands, and will determine potential long-term and short-term options that could be implemented to meet water reuse objectives of the Coalition. The Feasibility Study will go beyond an examination of recycled water and consider potential potable reuse options that will help to expand the Coalition's reuse of available supplies and reduce reliance on imported water supplies. The short-term project components that will be defined within the Feasibility Study are those that constitute the Proposed Project and analyzed herein. The long-term project components within the Feasibility Study are still under development and, given the uncertainties associated with the long-term components, are not included in the Proposed Project.

## **1.2 Environmental Document**

Per requirements of CEQA, every proposed project in the state of California must be examined for potential effects on the environment. As defined in Section 15168 of the State of California CEQA Guidelines, a PEIR is a type of Environmental Impact Report that may be prepared on a series of actions that can be characterized as one large project and are related either:

- Geographically
- As logical parts in the chain of contemplated actions
- In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
- As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways

Additionally, this PEIR will allow the Coalition to take a proactive approach to implementing the Proposed Project by analyzing and disclosing potential environmental effects of the Proposed Project on a larger, more cumulative basis than would be practical in an EIR on an individual action and by individual agencies. As such, this PEIR will:

- Give decision makers and members of the public the opportunity to have input into the decision-making process;
- Provide Coalition members and other agencies with information necessary to determine if they have jurisdiction over some aspect of the Proposed Project and, if so, to identify project-level permitting requirements;
- To assist members of the public in understanding the anticipated program-level environmental effects and how decision makers plan to respond to and mitigate these effects;
- To develop mitigation measures that reduce or eliminate the potential for environmental, public health, and safety impacts;
- To assist the Coalition members and other responsible State and Federal agencies in determining the extent, nature, and possible future scope of CEQA documents that may be needed for future projects to implement the selected program alternative;
- To serve as a starting point for site-specific environmental findings; and
- Provide the basis for any additional project-level environmental analysis that may be required.

## **1.3 Environmental Review Process**

A Notice of Preparation (NOP) for the Proposed Project was issued by Olivenhain MWD on August 11, 2014 and was made available for public review for a 30-day period that ended on September 9, 2014. The NOP was sent to the Governor's Office of Planning and Research (OPR) State Clearinghouse, to responsible agencies, and was also made publically available on Olivenhain MWD's website.

On August 25, 2014, during the 30-day comment period for the NOP, a Scoping Meeting was held at Olivenhain MWD to present information about the Proposed Project to interested parties, to respond to informal questions, and to accept public comments on the NOP. The Scoping Meeting was publicly advertised in a local newspaper through public notices that were published on August 11 and August 18, 2014. A copy of the NOP, proof of publication for the Scoping Meeting, and comments received during the public comment period for the NOP are included as **Appendix A**. Comments that were received during the public comment period have been considered during preparation of this Draft PEIR.

## 1.4 Draft PEIR Content and Organization

This PEIR is organized into seven chapters and five appendices as described briefly below:

- Executive Summary: Provides a summary of the Proposed Project and Alternatives, including an overview of potential environmental impacts and mitigation measures that could be implemented to mitigate those impacts to a less-than-significant level.
- Chapter 1, Introduction: Includes an introduction to the PEIR and Proposed Project, including information about the purpose and organization of the PEIR.
- Chapter 2, Project Description: Provides a detailed description of the Proposed Project.
- Chapter 3, Environmental Analysis: Includes an analysis of individual resource areas that would be potentially affected by the Proposed Project. The analysis includes background information about the existing environmental setting and regulatory framework, then provides details about potential impacts and proposed mitigation measures.
- Chapter 4, Alternatives: Includes information and an analysis about Project Alternatives.
- Chapter 5, Other Environmental Considerations: Provides information about other CEQA and NEPA topics, including an analysis of growth inducement, cumulative impacts, significant and irreversible environmental effects, and environmental justice concerns.
- Chapter 6, Preparers and Contributors: Includes a list of preparers of this document.
- Chapter 7, References: Includes a list of the reference documents used to prepare this PEIR.
- Appendices:
  - Appendix A: Notice of Preparation and Scoping Materials
  - Appendix B: Proposed Project Supply and Demand Tables
  - Appendix C: General Conformity Report and Air Quality Analysis
  - Appendix D: Biological Resources Analysis
  - Appendix E: Cultural Resources Analysis

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## 2. Project Description

This Program Environmental Impact Report (PEIR) was prepared by a coalition of ten north San Diego County agencies known as the North San Diego Water Reuse Coalition (NSDWRC or Coalition) that was formed to investigate expansion of water reuse within northern San Diego County. The Coalition consists of the following agencies:

1. Carlsbad Municipal Water District (Carlsbad MWD)
2. City of Escondido
3. City of Oceanside
4. Leucadia Wastewater District (Leucadia WWD)
5. Olivenhain Municipal Water District (Olivenhain MWD)
6. Rincon del Diablo Municipal Water District (Rincon del Diablo MWD)
7. San Elijo Joint Powers Authority (San Elijo JPA)
8. Santa Fe Irrigation District (Santa Fe ID)
9. Vallecitos Water District (Vallecitos WD)
10. Vista Irrigation District (Vista ID)

Roles and responsibilities for the Coalition agencies are summarized in **Table 2-1** below.

Although the PEIR was prepared by the above-listed agencies, Olivenhain MWD will serve as the lead agency for this document, which assesses the environmental effects of the NSDWRC's proposed *Regional Recycled Water Project* (Proposed Project). The Proposed Project consists of development of regional recycled water infrastructure that includes interagency connections to increase the capacity and connectivity of the recycled water storage and distribution systems of the Coalition. The Proposed Project includes replacing potable water uses with recycled water, converting facilities to recycled water service, connecting discrete recycled water systems to one another, increasing recycled water treatment and storage capacity, distributing recycled water to effectively meet recycled water demands, and implementing advanced water treatment to produce and use potable reuse water within northern San Diego County.

This environmental analysis relied upon information from the Coalition's *Regional Recycled Water Facilities Plan* (Facilities Plan; RMC 2012). However, the Facilities Plan is currently being updated and repackaged for submission to both USBR and USACE for federal funding consideration; the updated report will be titled *Regional Recycled Water Feasibility Study* (Feasibility Study; unpublished). *Chapter 2, Project Description* contains the updated suite of new local and regional recycled water facilities that can provide additional recycled water supplies to the Coalition agencies at a level beyond what they could supply and utilize individually. *Chapter 2, Project Description* includes comprehensive long-term and short-term options that could be implemented to meet recycled water objectives of the Coalition.

**Table 2-1: Coalition Agency Roles and Responsibilities**

Role	Responsibility	Coalition Agency	Coalition Member Delivers Water	Coalition Member Provides Supply
Lead Agency	Leads and adopts Feasibility Study and serves as contract administrator for funding agreements. Certifies the PEIR and tracks implementation of mitigation measures. Completes project-level (tiered) CEQA analysis for the Project components they are implementing. May be Lead Agency or Responsible Agency on project-level CEQA documents.	Olivenhain MWD	Group H	N/A
Responsible Agency	Participates in and adopts Feasibility Study and contracts with Lead Agency to receive funding. Participates in development of the PEIR. Responsible for completing project-level (tiered) CEQA analysis for the Project components they are implementing. May be Lead Agency or Responsible Agency on project-level CEQA documents.	Carlsbad MWD	Group A, Group B	Group L, Group O
		City of Escondido	Group C, Group D	Group I, Group M
		City of Oceanside	Group G	Group O
		Leucadia WWD	N/A	Group A, Group E, Group H, Group K
		Rincon del Diablo MWD	Group I, Group J	N/A
		San Elijo JPA	Group E	Group H, Group K
		Santa Fe ID	Group K	N/A
		Vallecitos WD	Group L, Group M, Group N	Group B
		Vista ID	Group O	N/A

## 2.1 Proposed Project Objectives

The overall purpose of the Proposed Project is to expand recycled water use within the combined service areas of the Coalition Partners. The objectives of the Proposed Project are to:

- Optimize reuse of available wastewater resources to reduce ocean discharges and offset demands for potable water supplies that are generally imported into the region;
- Proactively plan for facilities that would be needed to meet and offset projected non-potable and potable demands for existing and planned growth within the Coalition members' service areas;
- Combine resources and work together to maximize water reuse for the Coalition members at a level beyond what each member could supply and utilize individually; and
- Increase water supply availability and reliability, and sustainability beyond existing conditions.

## 2.2 Project Location

San Diego County is located along the Pacific Ocean in Southern California. The Study Area consists of the collective service areas of the ten north San Diego County agencies that constitute the Coalition and a small portion of land that extends north of the City of Oceanside, as shown in **Figure 2-1** and **Table 2-2**.

The western boundary of the Study Area is defined by the Pacific Ocean. The northern boundary of the Study Area is roughly defined by the boundary with Camp Pendleton and Rainbow Municipal Water District. The eastern boundary of the project is roughly the border with Valley Center MWD, the City of Poway, and the City of San Diego. To the south, the Study Area is roughly bounded by the City of San Diego.

## 2.2.1 Non-Coalition Agencies within Study Area

The Study Area also includes the combined service areas of additional jurisdictions such as wastewater collection agencies that are not part of the Coalition, but are involved in the Proposed Project by providing wastewater or recycled water for the Proposed Project.

The Study Area includes the service areas of the Coalition, as well as several other participating agencies. The participating agencies provide potable and non-potable water to customers within their respective service areas and may provide wastewater or recycled water for use as part of the Proposed Project. The non-Coalition agencies whose service areas make up the Study Area are also identified in **Table 2-2**.

**Table 2-2: Coalition Members and Non-Coalition Agencies within Study Area**

Water Agencies	Wastewater Agencies
<b>Coalition Members within Study Area</b>	
1. Carlsbad MWD	1. City of Carlsbad
2. City of Escondido	2. City of Escondido
3. City of Oceanside	3. City of Oceanside
4. Olivenhain MWD	4. Leucadia WWD
5. Rincon del Diablo MWD	5. San Elijo JPA
6. Santa Fe ID	6. Vallecitos WD
7. Vallecitos WD	
8. Vista ID	
<b>Non-Coalition Agencies within Study Area</b>	
1. U.S. Marine Corps, Camp Pendleton	1. City of Vista / Buena Sanitation District
2. San Dieguito Water District (San Dieguito WD) <sup>1</sup>	2. U.S. Marine Corps, Camp Pendleton
3. City of Del Mar <sup>1</sup>	3. City of Encinitas
	4. Encina Wastewater Authority
	5. Community Service Districts: Rancho Santa Fe, Fairbanks Ranch, and Whispering Palms

<sup>1</sup> San Dieguito WD and City of Del Mar demands were included in consideration of these analyses due to their services agreements with San Elijo JPA, but these agencies' service areas are not part of the Study Area.

## 2.3 Background

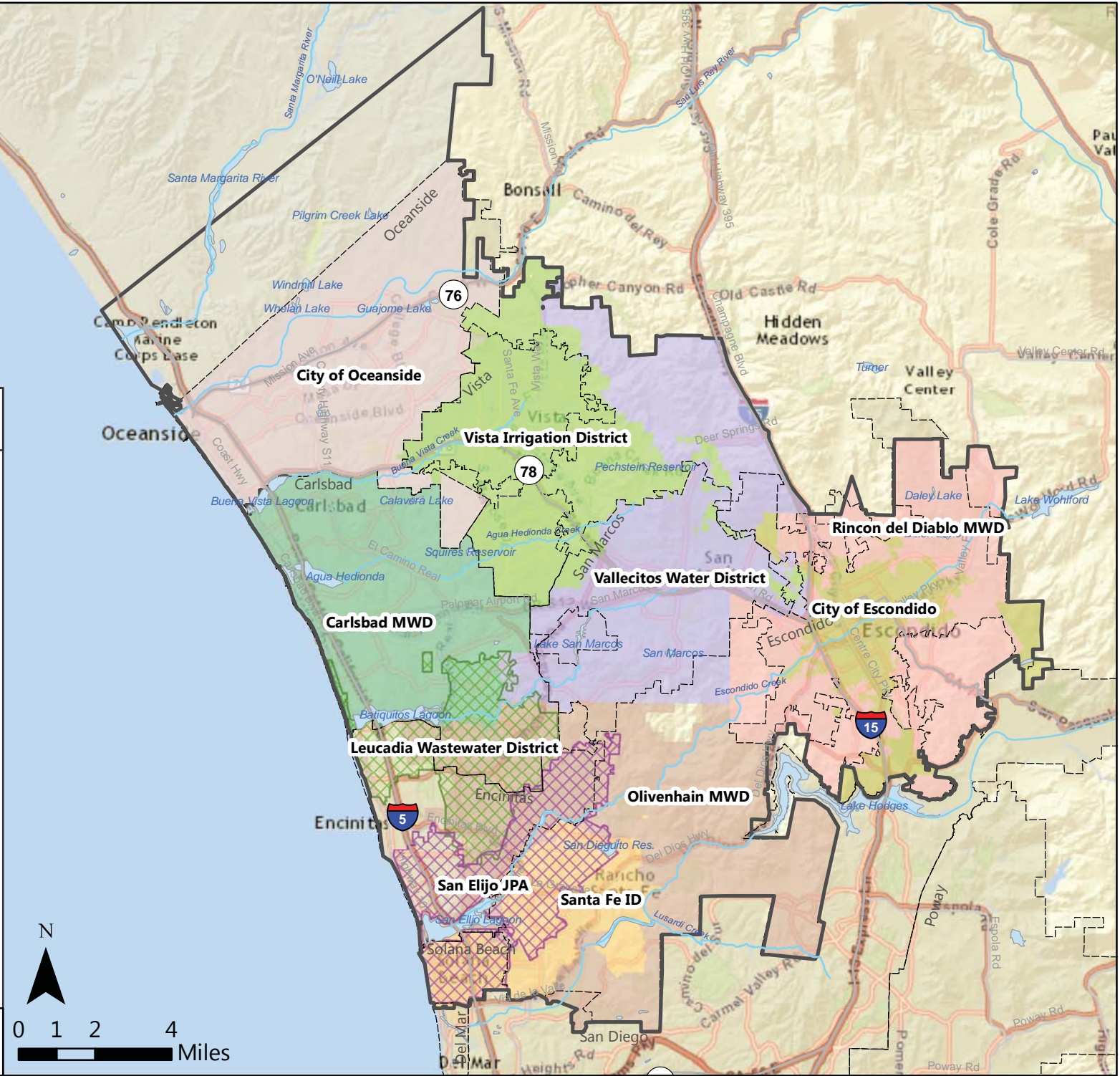
### 2.3.1 Hydrologic Units and Subunits

The north San Diego County study area generally drains to the west toward the Pacific Ocean. This area is located within portions of four major hydrologic units: Santa Margarita, San Luis Rey, Carlsbad and San Dieguito. All four hydrologic units lie within the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB), Region 9 and are shown in **Figure 2-2**.

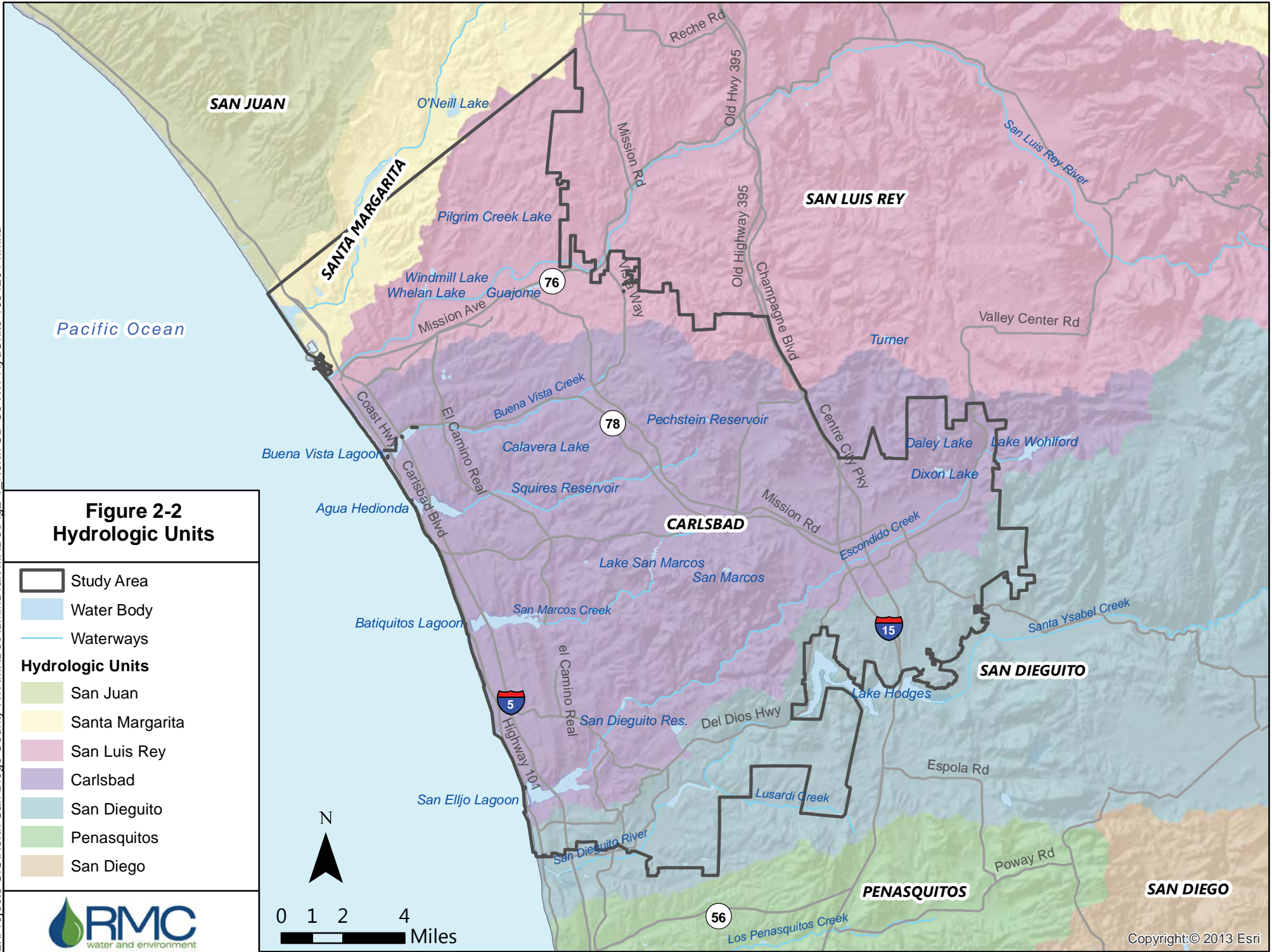
- **Santa Margarita Hydrologic Unit.** Camp Pendleton overlies the Santa Margarita Hydrologic Unit (No. 902).
- **San Luis Rey Hydrologic Unit.** The City of Oceanside, Vista ID and Vallecitos WD overlie the San Luis Rey Hydrologic Unit (No. 903).
- **Carlsbad Hydrologic Unit.** All the agencies within the Coalition overlie the Carlsbad Hydrologic Unit (No. 904).
- **San Dieguito Hydrologic Unit.** Santa Fe ID, San Elijo JPA, Olivenhain MWD, City of Escondido, and Rincon del Diablo MWD overlie the San Dieguito Hydrologic Unit (No. 905).

**Figure 2-1  
Coalition Partners**











- Partner's Service Area**
- Carlsbad MWD
  - City of Escondido
  - City of Oceanside
  - Olivenhain MWD
  - Rincon Del Diablo MWD
  - Santa Fe ID
  - Vallecitos WD
  - Vista ID
  - Leucadia Wastewater District
  - San Elijo JPA
- Other Features**
- Major Roads
  - Waterways
  - Water Body
  - Study Area
  - City Boundaries







**Figure 2-2**  
**Hydrologic Units**

-  Study Area
-  Water Body
-  Waterways
- Hydrologic Units**
-  San Juan
-  Santa Margarita
-  San Luis Rey
-  Carlsbad
-  San Dieguito
-  Penasquitos
-  San Diego



0 1 2 4  
Miles



### 2.3.2 Existing Wastewater and Recycled Water Systems

There are ten agencies participating in the Proposed Project, of which seven provide recycled water supplies and seven currently serve recycled water to customers. The existing northern San Diego County recycled water system that provides supply to both Coalition and non-Coalition agencies has a tertiary treatment capacity of 25.3 million gallons per day (MGD) and averages 10.0 MGD of tertiary water flow, produced at twelve treatment facilities. The existing recycled water systems and supplies relevant to the Proposed Project are described below and summarized in **Table 2-3**.

**Table 2-3: Existing Recycled Water Supplies for the Proposed Project**

Agency	Treatment Plant	Existing Treatment Capacity (MGD)		Existing Average Daily Flow (MGD)	
		Secondary	Tertiary	Secondary	Tertiary
Carlsbad MWD	Carlsbad WRF <sup>5</sup>	--	4.0	--	1.7
	Meadowlark WRF <sup>2</sup>	5.0	5.0	3.7	2.7
Olivenhain MWD	Meadowlark WRF <sup>2</sup>				
Leucadia WWD	Gafner WRF <sup>1,5</sup>	--	1.0	--	0.2
City of Escondido	HARRF <sup>3</sup>	18.0	8.0	13.0	3.6
Rincon del Diablo MWD	HARRF <sup>3</sup>				
City of Oceanside	San Luis Rey WWTP	13.5	0.7	9.7	0.3
	La Salina WWTP	5.5	--	3.0	--
San Elijo JPA	San Elijo WRF <sup>4</sup>	5.3	3.0	3.1	1.3
Camp Pendleton	SRTTP <sup>6</sup>	3.6	3.6	2.4	0.3
Encina Wastewater Authority	Encina WPCF <sup>6</sup>	40.5	--	25.0	--
Community Service Districts (CSDs)	Rancho Santa Fe WRF <sup>6</sup> , Whispering Palms WPCF <sup>6</sup> , Fairbanks Ranch WPCF <sup>6</sup>	1.0	--	1.0	--
<b>TOTAL</b>		<b>92.3</b>	<b>25.3</b>	<b>60.9</b>	<b>10.1</b>

<sup>1</sup> Gafner WRF is owned and operated by Leucadia Wastewater District; this facility currently supplies recycled water to the Omni La Costa Resort and Spa, located within Carlsbad MWD's service area.

<sup>2</sup> Meadowlark Water Reclamation Facility is owned and operated by Vallecitos Water District; this facility serves Carlsbad MWD's recycled system and a portion of Olivenhain MWD's recycled water system.

<sup>3</sup> Hale Avenue Resource Recovery Facility is owned and operated by the City of Escondido, and currently provides recycled water to the City of Escondido and Rincon del Diablo MWD.

<sup>4</sup> San Elijo WRF is owned and operated by San Elijo JPA, and provides recycled water to Santa Fe ID, San Dieguito WD, Olivenhain MWD, and the City of Del Mar.

<sup>5</sup> The source of secondary effluent for Carlsbad WRF and Gafner WRF is the Encina Water Pollution Control Facility.

<sup>6</sup> While United States Marine Corps Camp Pendleton, Encina Wastewater Authority, Community Services Districts, San Dieguito Water District, and City of Del Mar are not included within the Coalition, supplies and demands from these entities impact the overall availability of recycled water and potable reuse water within the Study Area. As such, their facilities are explained where appropriate.

#### **U.S. Marine Corps, Camp Pendleton**

Recycled water is produced at the Southern Regional Tertiary Treatment Plant (SRTTP) and is supplied through a recycled water distribution system to irrigate four sites in the southern part of the Camp Pendleton base. Excess treated effluent that is not recycled is disposed to the Pacific Ocean via the City of Oceanside's ocean outfall.

The SRTTP currently treats an annual average flow of about 2.4 MGD to a level suitable for non-potable reuse. The SRTTP came on line in August 2006 and now receives flows from Sewage Treatment Plants (STPs) 1, 2, 3, and 13. The design capacity of the SRTTP is 7.5 MGD due to a recent project that expanded

the plant's capacity from 5 to 7.5 MGD. However, the permitted capacity is limited to Camp Pendleton's capacity in the Oceanside Ocean Outfall, which is 3.6 MGD.

### **Carlsbad Municipal Water District**

Carlsbad MWD is a subsidiary district of the City of Carlsbad and delivers water and recycled water to its service area. Carlsbad MWD's recycled water system is extensive, and includes distribution and transmission provided by the City of Carlsbad. Recycled water is provided to Carlsbad MWD from the Carlsbad WRF (which receives secondary effluent from Encina Water Pollution Control Facility [WPCF]). Additional external sources of recycled water include flows from Leucadia WWD's Gafner WRF and Vallecitos WD's Meadowlark WRF. Carlsbad MWD had the rights to secondary effluent from the Encina WPCF equivalent to the flows contributed. Carlsbad MWD ownership of the Encina WPCF is 10.26 MGD.

Secondary effluent flows from the Encina WPCF are currently sent to the 4 MGD Carlsbad WRF where they are treated to tertiary levels and recycled. Carlsbad MWD's *Recycled Water Master Plan* projects that the capacity of the Carlsbad WRF will need to be expanded to 8 MGD by 2020 and 13.5 MGD by 2030 due to demand projections. Given Carlsbad MWD's current capacity ownership at the Encina WPCF (10.26 MGD), it is likely that an institutional arrangement will be needed to expand the Carlsbad WRF to receive additional secondary flows (RMC 2012; Carlsbad 2012). Carlsbad MWD's recycled water system includes 77 miles of pipeline, three booster pumping stations, three storage tanks, three pressure regulating systems, and two supply sources with pump stations (Carlsbad 2012).

### **City of Vista/Buena Sanitation District**

Buena Sanitation District is a wastewater agency that collects wastewater in the City of Vista. Wastewater flows from the City of Vista are treated at the Encina WPCF. City of Vista/Buena Sanitation District owns the Shadowridge WRP, which is currently out of service. Previously, tertiary effluent from the Shadowridge WRP was used for irrigation at the Shadowridge Golf Course in an arrangement with Vista ID. A study prepared in August 2010 estimated that the capital cost to renovate, expand to 2.0 MGD, and make the plant operational is approximately \$17.9 million. There are currently no plans in place to renovate this facility.

### **City of Escondido**

The City of Escondido owns and operates the Hale Avenue Resource Recovery Facility (HARRF) that produces recycled water for local distribution. The City of Escondido produces and sells recycled water to its customers primarily for irrigation purposes, and also wholesales recycled water to Rincon del Diablo MWD (Escondido 2011a).

The HARRF currently produces up to 9 MGD of recycled water for use in the City of Escondido and Rincon del Diablo MWD's service areas. Currently, secondary effluent that is produced at HARRF and not treated to tertiary levels and recycled is discharged to the ocean via a land and ocean outfall. Due to capacity constraints associated with the existing land outfall, the City of Escondido is considering upgrading the outfall to increase its capacity. However, if year-round uses for recycled water supplied by the HARRF are developed, the City of Escondido can avoid nearly \$300 million in wastewater disposal costs associated with upgrading the land outfall. As such, expanding the City of Escondido's recycled water system via expansion of the HARRF is preferred to increasing the capacity of the land outfall. For the long-term, the City of Escondido is planning to expand the tertiary treatment facilities at the HARRF by 11 MGD, to bring the total tertiary capacity of the plant to 20 MGD, though short-term, a 9 MGD expansion of tertiary treatment system at the HARRF is anticipated (RMC 2012).

The City of Escondido currently serves recycled water to over 80 customers, through 18 miles of pipelines (RMC 2012 and Escondido 2011b). Much of the City's recycled water customers use recycled water for irrigation purposes, though 60-90% of average daily recycled water demand in the City of Escondido is for

industrial purposes associated with the cooling tower at the Sempra Energy Power Plant. Recycled water storage is provided at the HARRF (1 MG) and Leslie Lane Reservoir (2 MG) (Escondido 2011b).

### **City of Oceanside**

The City of Oceanside owns and operates two wastewater treatment plants (WWTPs): La Salina WWTP and San Luis Rey WWTP. Currently, only a small amount of recycled water from the San Luis Rey WWTP is used at a local golf course and Whelan Lake, both within the City of Oceanside. The City of Oceanside also has some previously constructed recycled water pipelines that will ultimately serve existing potable water users and future development.

The La Salina WWTP currently has a secondary treatment capacity of 5.5 MGD. Due to limited customer base in the downtown service area associated with the La Salina WWTP, there is limited ability to add tertiary treatment facilities. The City of Oceanside has estimated about 1 MGD of tertiary treatment capacity could be constructed at the site, though there are no current plans for expansion.

The San Luis Rey WWTP provides secondary treatment for most of the wastewater generated within the City of Oceanside's service area, some of which is further treated to tertiary levels. The secondary treatment capacity of the existing San Luis Rey WWTP is 13.5 MGD, while the tertiary capacity is 0.7 MGD. Secondary effluent is discharged through a land outfall and the Oceanside Ocean Outfall, which is also utilized by Fallbrook Public Utility District and Camp Pendleton (up to 2.4 MGD). The City of Oceanside is currently conducting integrated water, recycled water, and wastewater master planning efforts. As a result of these efforts, it is currently anticipated that the tertiary facilities at the San Luis Rey WWTP would be expanded to a capacity of 6.5 MGD by 2025 and 13.5 MGD by 2035 to produce recycled water to serve the northern portion of the City of Oceanside, as well as other development projects. Further, the integrated master planning efforts indicate that San Luis Rey WWTP could be upgraded to include Advanced Water Treatment (AWT) capabilities for potable reuse (refer to Section 2.4 below for more information).

The City of Oceanside is further considering development of facilities at the El Corazon site (a development site) to serve nearby recycled water demands, which is centrally located within the City of Oceanside, south of the San Luis Rey WWTP. Current planning efforts for the El Corazon site indicate that this site will likely contain recycled water pumping, storage, and equalization facilities that will hold recycled water produced at San Luis Rey WWTP for distribution to nearby areas. After planning studies are finalized, the El Corazon site could contain additional recycled water facilities, and could even house a stand-alone water reclamation facility to treat and serve recycled water to nearby users.

### **Encina Wastewater Authority**

Encina Wastewater Authority's 40.5 MGD Encina WPCF, which is located adjacent to the Carlsbad WRF, treats wastewater from several of the agencies included in the Coalition to secondary levels. Secondary effluent is currently pumped to both the Carlsbad WRP and the Gafner WRP for further treatment. Secondary effluent that is not treated to tertiary levels (by other facilities) is sent to the Pacific Ocean via the Encina Ocean Outfall. There are no plans to upgrade the Encina WPCF to tertiary levels at this time. While the Encina Wastewater Authority is not included within the Coalition, its service area and facilities are explained where appropriate. The Encina Wastewater Authority is comprised of six member agencies including: Buena Sanitation District, City of Carlsbad, City of Encinitas, City of Vista, Leucadia WWD, and Vallecitos WD.

### **Leucadia Wastewater District**

Leucadia WWD wholesales recycled water to the City of Carlsbad for use at the Omni La Costa Resort and Spa. Leucadia WWD owns and operates the Gafner WRF, which has a 1 MGD capacity to treat water to tertiary levels. Secondary effluent is provided to the Gafner WRF from the Encina WPCF. Tertiary-treated

recycled water from the Gafner WRF is supplied directly to the Omni La Costa Resort and Spa via a distribution system owned and maintained by Leucadia WWD. Currently, there are limited demands for tertiary-treated recycled water from Gafner; however, in the future it is possible that additional supplies from Gafner would be required to serve demands of nearby agencies such as Carlsbad MWD, Olivenhain MWD, San Dieguito WD, and Santa Fe ID.

Leucadia WWD has 900 feet of 16-inch recycled water pipelines installed from the Gafner WRF to the east edge of El Camino Real in readiness for a future connection and supply of recycled water to other agencies' recycled water distribution systems. Use of this 16-inch recycled water pipeline would require construction of a high pressure recycled water pump station on the Gafner WRF site and agreement(s) for supply to the other agencies. Other than as noted, Leucadia WWD does not have any other existing recycled water facilities that are relevant to the Proposed Project.

### **Olivenhain Municipal Water District**

Olivenhain MWD currently supplies recycled water to two separate portions of its service area: one portion is located in the southeast and one is located in the northwest (Olivenhain MWD 2011). In the southeastern portion of the service area, wastewater is collected and treated to tertiary levels at the 4S Ranch WRF, which is a 2 MGD capacity water reclamation facility. The 4S Ranch WRF currently treats all wastewater that it receives to tertiary levels, and recycled water from the facility is used for non-potable irrigation (Olivenhain MWD 2011). The facilities associated with the 4S Ranch WRF include a 3 MG recycled water blending reservoir, several pump stations, a 1 MG recycled water tank, and approximately 33 miles of recycled water pipeline (Olivenhain MWD 2011). To meet recycled water demands in the southern portion of Olivenhain MWD's service area, Olivenhain MWD also purchases additional recycled water from the City of San Diego (800 acre-feet per year [AFY]) and the Rancho Santa Fe Community Services District (CSD) (110 AFY) (Olivenhain MWD 2011).

In the northwestern portion of the service area, Olivenhain MWD purchases recycled water from Vallecitos WD's Meadowlark WRF and San Elijo JPA's San Elijo WRF. Olivenhain MWD's 4S Ranch WRF does not currently have the capacity to provide additional recycled water to the northwest portion of Olivenhain MWD's service area (Olivenhain MWD 2011). Recycled water facilities in the northwest area also include approximately 15 miles of recycled water pipelines (Olivenhain MWD 2011).

### **Rincon del Diablo Municipal Water District**

Rincon del Diablo MWD is not a wastewater collection or treatment agency, and therefore provides recycled water to its customers through a purchase agreement with the City of Escondido (Rincon del Diablo MWD 2011). Recycled water provided by the Rincon del Diablo MWD is produced at HARRF and used for landscape irrigation and industrial purposes. The largest recycled water customer within Rincon del Diablo MWD's service area is the Sempra Energy Power Plant, which uses 2 to 3 MGD for cooling purposes (industrial use).

The Harmony Grove WRP is a new 0.2 MGD tertiary plant proposed to provide wastewater and recycled water services for 750 new homes planned as part of the Harmony Grove Village development project within the Rincon del Diablo MWD service area. The WRP will be owned and operated by the County of San Diego to treat wastewater and produce recycled water for irrigation and industrial uses as part of the development project. Rincon del Diablo will be responsible for the distribution of recycled water within the Harmony Grove Village development.

Rincon del Diablo MWD recently investigated the feasibility of a potable reuse project in the Harmony Grove Valley. Although results showed that potable reuse was not feasible in the northern area of Harmony

Grove, Rincon del Diablo MWD plans to continue investigations for potable reuse elsewhere within the Escondido Valley Groundwater Basin.

### **San Elijo Joint Powers Authority**

San Elijo JPA owns and operates the San Elijo WRF and approximately 19 miles of recycled water distribution pipelines and two covered reservoirs. San Elijo JPA is responsible for collecting, treating, and disposing of wastewater within its service area that includes the City of Solana Beach, portions of the City of Encinitas, portions of the community of Rancho Santa Fe, and the City of Del Mar. In addition to wastewater-treatment services, the San Elijo JPA also produces and distributes recycled water. The San Elijo WRF is a tertiary treatment facility that has a design capacity of 5.5 MGD through secondary treatment and a tertiary treatment capacity of 3 MGD. Secondary-treated wastewater that is not treated to tertiary levels is discharged to the ocean through the San Elijo Ocean Outfall (San Elijo JPA 2013). San Elijo JPA sells recycled water to four water purveyors: Santa Fe ID, San Dieguito WD, Olivenhain MWD, and the City of Del Mar. San Elijo JPA also has an interruptible service agreement directly with the Encinitas Ranch Golf Authority, which is a customer of San Dieguito WD. The purveyors then sell the recycled water to end customers located within their individual service areas. The San Elijo JPA owns the majority of the recycled water infrastructure system including treatment, storage, and pipelines for all the facilities, with the exception that Olivenhain MWD owns storage and distribution infrastructure, for which the San Elijo JPA provides Olivenhain MWD rent for the use of this infrastructure. The remaining purveyors (San Dieguito WD, Santa Fe ID, Del Mar) generally own only the recycled water meter that measures the customer's usage.

In 2013, San Elijo JPA added an AWT facility at San Elijo WRF that provides highly treated recycled water using microfiltration and reverse osmosis processes. The facility operates in parallel to the existing sand filtration system thus providing operational flexibility and treatment redundancy. The AWT facility allows the San Elijo JPA to control the level of total dissolved solids (TDS) to 900 mg/l or less in the recycled water. The improved water quality has allowed the San Elijo JPA to serve new markets, including industrial systems such as cooling towers that are sensitive to mineral deposits.

### **San Dieguito Water District**

San Dieguito Water District is a subsidiary district of the City of Encinitas. The City Council also serves as the Board of Directors of the district. Wastewater within the district's service area is collected by three sanitation districts: Encinitas Sanitary District, Cardiff Sanitation District, and Leucadia WWD. Wastewater from the Cardiff Sanitation District is collected and treated at the San Elijo WRF. Wastewater from the other two sanitation districts is collected and treated at the Encina WPCF and then treated to recycled water standards at the Carlsbad WRF or the Gafner WRF.

Recycled water became available within the district in August 2000. The source of the recycled water is tertiary treated wastewater from the San Elijo WRF. Current customers include the Encinitas Ranch Golf Authority, landscaped traffic medians, homeowner association common areas, and parks.

### **Santa Fe Irrigation District**

Santa Fe ID's service area covers portions of the City of Solana Beach and portions of the communities of Rancho Santa Fe and Fairbanks Ranch. Santa Fe ID serves water and recycled water to its customers. Wastewater services within Santa Fe ID's service area are provided by San Elijo JPA, and three separate Community Service Districts (Rancho Santa Fe CSD, Fairbanks Ranch CSD, and Whispering Palms CSD [collectively, "the CSDs"]). The CSDs treat wastewater at their water treatment and pollution control facilities, which include the Rancho Santa Fe WRF, Whispering Palms WPCF, and Fairbanks Ranch WPCF.

Santa Fe ID currently serves approximately 500 AFY of recycled water to a variety of customers (golf courses, parks, home owners' associations, greenbelt areas, etc.) located in the western portion of its service area. Santa Fe ID purchases its recycled water supply from the San Elijo JPA. San Elijo JPA produces tertiary-treated recycled water at its San Elijo WRF. Santa Fe ID has completed studies that identify additional potential recycled water demands and infrastructure expansion requirements for both the western and eastern portions of the service area. Future recycled water demands may be served by extending the existing San Elijo JPA distribution system in the western portion of the service area, and/or constructing a new Santa Fe ID distribution system in the eastern service area to serve supplies from San Elijo JPA, the CSDs, or other potential sources.

### Vista Irrigation District

Vista ID's service area covers the City of Vista, as well as portions of the cities of Escondido, Oceanside, and San Marcos, and unincorporated areas of San Diego County. Previously, Vista ID served recycled water to the Shadowridge Golf Course from the Shadowridge WRF provided by the Buena Sanitation District. Since the Shadowridge WRF was decommissioned, there is no longer any recycled water use in the Vista ID service area. Vista ID is considering purchasing recycled water from the Carlsbad MWD or the City of Oceanside to use on the Shadowridge Golf Course.

### Vallecitos Water District

Vallecitos WD provides water, wastewater, and reclamation services to San Marcos, the community of Lake San Marcos, parts of the cities of Carlsbad, Escondido and Vista, and other unincorporated areas in north San Diego County, but does not currently retail recycled water to any customers. Wastewater flows from the Vallecitos WD service area are treated at the Encina WPCF. Vallecitos WD owns and operates the 5 MGD Meadowlark WRF and wholesales recycled water to other agencies (Carlsbad MWD and Olivenhain MWD). Wastewater flows currently limit production of recycled water to just under 4 MGD on an average daily basis.

## **2.4 Proposed Recycled and Potable Reuse System Expansion**

The Proposed Project includes construction and operation of recycled water pipelines, pump stations, storage tanks, pressure reducing facilities, and all other facilities necessary to deliver recycled water to applicable end users to meet existing and future recycled water demands. The recycled water system expansion included within the Proposed Project is based upon projected recycled water demands, which are based on the Facilities Plan and Feasibility Study. The recycled water demands and the recycled water components that are included within the Proposed Project to meet those demands are described in the following sections. **Figure 2-3** shows both existing and future (short-term) components associated with the Proposed Project.

**Figure 2-4** shows both short-term and long-term recycled water systems for the Coalition. The long-term components are not included as part of the Proposed Project, but are provided for informational purposes to reflect the Facilities Plan/Feasibility Study build-out condition and demonstrate long-term water reuse efforts that are being planned by the Coalition members. Implementation of any of the long-term components are subject to separate CEQA documentation, as they are not addressed in this PEIR.

The Proposed Project would also involve using recycled water for potable reuse, where recycled water is purified via advanced water treatment and mixed back into the water supply system after it is filtered through an environmental buffer such as a groundwater basin or surface reservoir. After the water has been through an environmental buffer, it is then treated at a water treatment facility and added to the potable supply, in the same manner as untreated imported supplies or untreated groundwater. Five groundwater basins and two surface reservoir sites have been identified for future potential potable reuse: Mission Basin,

San Marcos Basin, San Elijo Valley Basin, San Dieguito Basin, Escondido Valley Basin, San Dieguito Reservoir, and Lake Dixon. These sites are shown in **Figure 2-3** and **Figure 2-4**. While the figures show the potable reuse sites (groundwater basins and surface reservoirs), they do not show proposed pipelines or facilities associated with potable reuse as the precise location of those facilities are not known at this time.

Potable reuse is anticipated to result in up to 7,940 AFY of additional water supplies by 2025 and an additional 6,520 AFY by 2035 for a total of 14,460 AFY. The potable reuse project components will require construction of new advanced water treatment (AWT) plants or upgrades to existing plants to include AWT components; specific information about potable reuse sites and AWT plants are discussed in further detail in Section 2.4.5 and would potentially take place at seven sites within the Study Area. The potable reuse sites, estimated amount of potable water per site, agencies that would receive potable reuse water, and AWT plants that would produce potable reuse water are shown below in **Table 2-4**.

In order to meet the short-term recycled water demands associated with the Proposed Project, six existing treatment plants will need to be upgraded and three additional treatment plants will need to be constructed. Additional treatment plant upgrades will be required in order to meet the long-term recycled water demands associated with the Proposed Project. Further, in the long-term (not evaluated as part of this PEIR) any of the treatment plants in the region may be upgraded to include AWT components to supply water for potable reuse. The treatment plant upgrades associated with the Proposed Project are discussed in further detail in Section 2.4.4 and Section 2.4.5.

**Table 2-4: Potable Reuse Summary**

Agency to Receive Potable Reuse Water	Treatment Plant to Produce Potable Reuse Water	Site for Potable Reuse	Additional Amount of Potable Reuse Water Produced <sup>1</sup>		
			By 2025 (AFY)	By 2035 (AFY)	Total (AFY)
City of Escondido	Escondido AWTF	Lake Dixon	2,200	0	2,200
City of Oceanside	San Luis Rey WWTP – AWT	Mission Basin	2,240	3,360	5,600
Olivenhain MWD	San Elijo WRF – AWT	San Elijo Valley Basin <sup>2</sup>	550	515	1,065
Olivenhain MWD	San Elijo WRF – AWT	San Dieguito Basin <sup>2</sup>	550	515	1,065
Santa Fe ID	San Elijo WRF – AWT	San Dieguito Reservoir <sup>3</sup>	1,100	1,030	2,130
Rincon del Diablo MWD	HARRF – AWT	Escondido Valley Basin	200	0	200
Vallecitos WD	Meadowlark WRF – AWT	San Marcos Basin	1,100	1,100	2,200
<b>TOTAL</b>			<b>7,940</b>	<b>6,520</b>	<b>14,460</b>

<sup>1</sup> The numbers presented within this table represent the amount of potable reuse water that would be provided by each treatment plant by 2025 and 2035; these numbers do not necessarily reflect the total yield produced by each potable reuse site. The total amount of water produced by each potable reuse site will likely be greater given that activities such as conjunctive use (groundwater and untreated surface water) may be implemented at these sites.

<sup>2</sup> Depending on the outcome of feasibility analysis, the San Elijo Valley Basin and San Dieguito Basin potable reuse sites may produce up to 1,100 AFY of water supply in 2025 and 2035 through conjunctive use of groundwater supplies. However, the volumes reported here reflect wastewater flows that will be utilized at the sites.

<sup>3</sup> Santa Fe ID will implement either 1,100 AFY of potable reuse at the San Dieguito Reservoir or 689 AFY of recycled water to meet demands in the eastern service area. Both projects will not take place in the short-term, so the potable reuse numbers presented here are maximum values, assuming that Santa Fe ID implements the 1,100 AFY of potable reuse in the short-term.



### 2.4.1 Increase in Recycled and Potable Reuse Water Demands

As shown below in **Table 2-5**, estimated existing recycled water demands associated with the Proposed Project for the Coalition are 10,810 AFY. Additional existing, known demands associated with non-Coalition members may also be served by local treatment plants; however, those demands are not presented herein. Future demands for recycled water and potable reuse water associated with the Proposed Project are anticipated to increase by up to 18,808 AFY by 2025 to a total of 29,618 AFY, and by another 16,662 AFY by 2035 to a total of 46,280 AFY. **Appendix B** includes a table of the existing and planned recycled water and potable reuse water demands listed by each supply source (treatment plant); the demands listed in **Appendix B** form the basis for the groupings presented in **Table 2-5** and described in detail in the following sections.

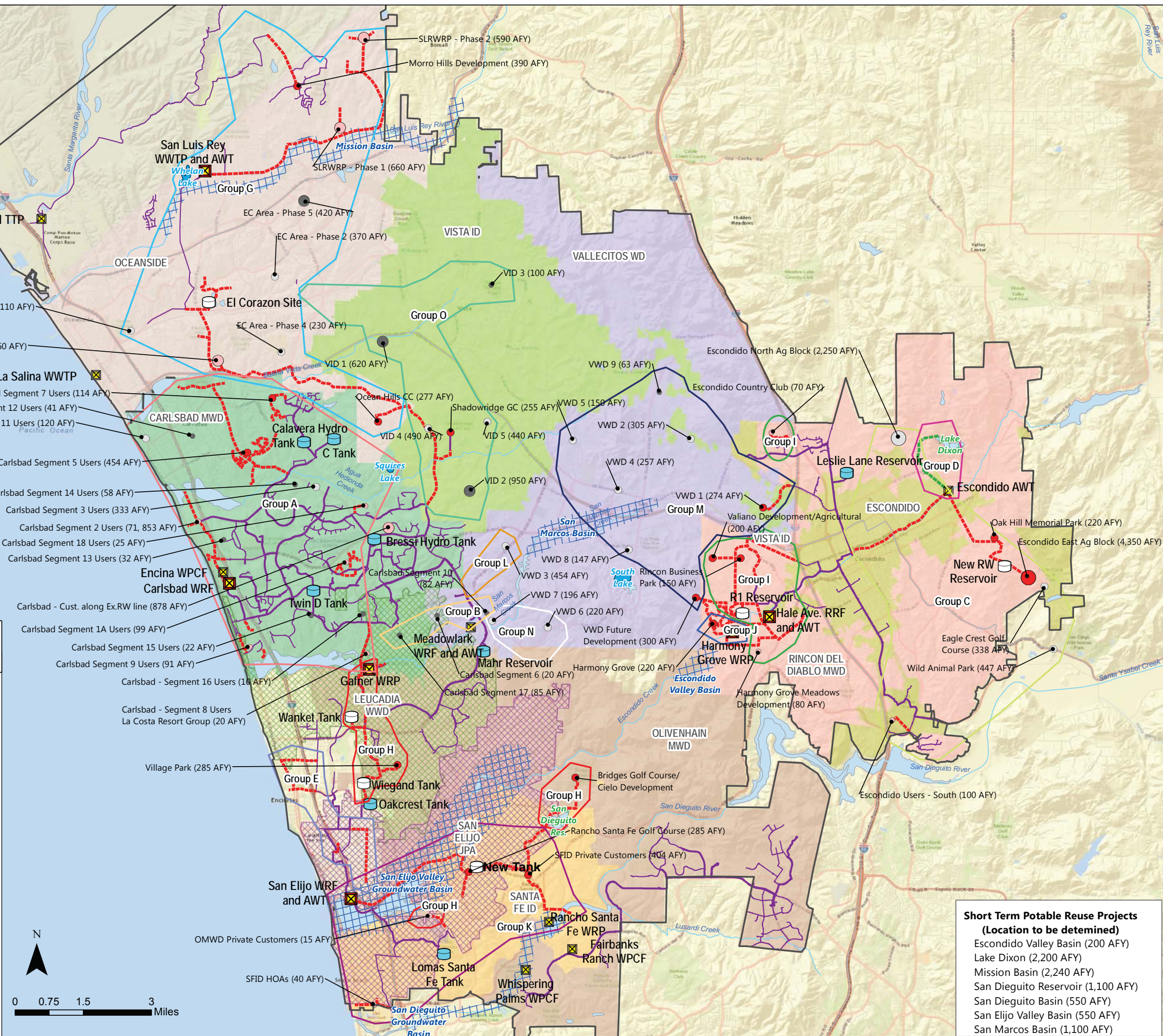
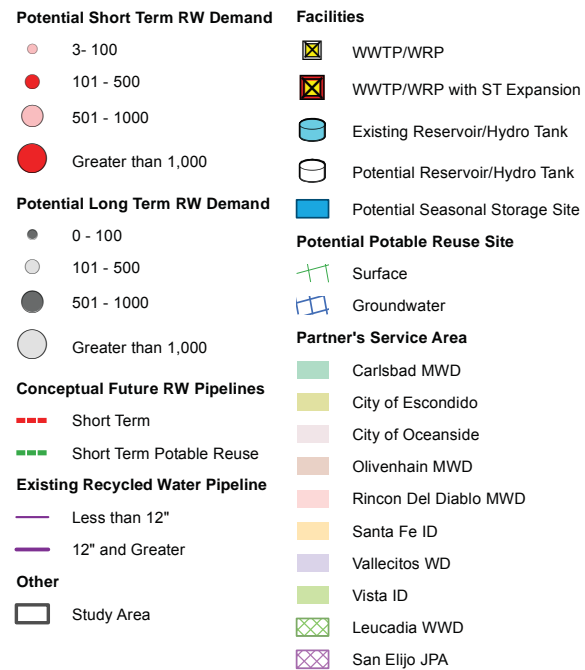
The estimated demands presented in **Table 2-5** are based on the assumption that the “purple pipe” approach would continue to be utilized for the Proposed Project. The purple pipe approach includes use of tertiary-treated recycled water for non-potable purposes such as irrigation and industrial purposes as defined in Title 22 of the California Code of Regulations. In addition, potential changes in the current regulatory environment may make it possible that a regional potable reuse and delivery strategy can be implemented, which would significantly increase the potential demand and ability to use future available potable reuse supplies. Estimated recycled water demands included for the Proposed Project also includes this regional strategy for potable reuse. As shown in **Table 2-4**, it is anticipated that potable reuse will provide up to 7,940 AFY of water by 2025 and an additional 6,520 AFY of water by 2035 for a total of 14,460 AFY by 2035. The potable reuse sites in **Table 2-4** are also shown in **Table 2-5** within the groupings for each applicable member of the Coalition.

Future recycled water supplies would serve demands associated with irrigation in housing developments, commercial properties such as business parks, and golf courses. A portion of the recycled water demand would serve agricultural customers, mainly those who would be connected to the Easterly Main Extension through the City of Escondido and the Rincon del Diablo MWD project components. **Table 2-5** shows the existing, 2025, and 2035 recycled water demands for each member of the Coalition, as well as the applicable wastewater facility that would serve those demands. **Figure 2-3** shows the Proposed Project with all of its components, including potential demand at each proposed user site.

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**Figure 2-3:  
Proposed Project  
Short-Term Project Components**



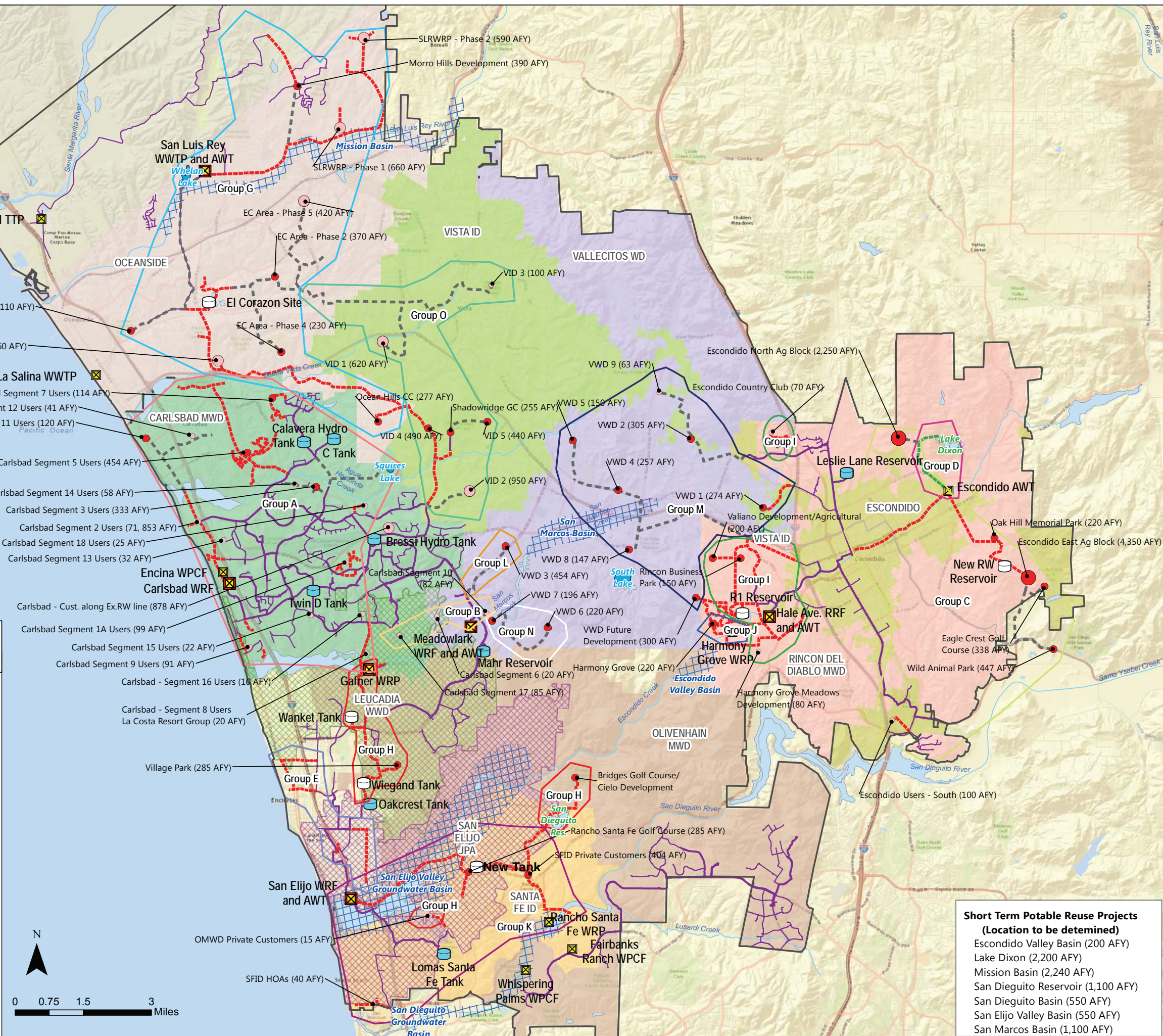
**Short Term Potable Reuse Projects  
(Location to be determined)**

- Escondido Valley Basin (200 AFY)
- Lake Dixon (2,200 AFY)
- Mission Basin (2,240 AFY)
- San Dieguito Reservoir (1,100 AFY)
- San Dieguito Basin (550 AFY)
- San Elijo Valley Basin (550 AFY)
- San Marcos Basin (1,100 AFY)

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**Figure 2-4:  
Short-Term and Long-Term Project Components**

<p><b>Potential Short Term RW Demand</b></p> <ul style="list-style-type: none"> <li>● 3 - 100</li> <li>● 101 - 500</li> <li>● 501 - 1000</li> <li>● Greater than 1,000</li> </ul> <p><b>Potential Long Term RW Demand</b></p> <ul style="list-style-type: none"> <li>● 0 - 100</li> <li>● 101 - 500</li> <li>● 501 - 1000</li> <li>● Greater than 1,000</li> </ul> <p><b>Conceptual Future RW Pipelines</b></p> <ul style="list-style-type: none"> <li>— Short Term</li> <li>— Long Term</li> <li>— Short Term Potable Reuse</li> </ul> <p><b>Existing Recycled Water Pipeline</b></p> <ul style="list-style-type: none"> <li>— Less than 12"</li> <li>— 12" and Greater</li> </ul> <p><b>Other</b></p> <ul style="list-style-type: none"> <li>□ Study Area</li> </ul>	<p><b>Facilities</b></p> <ul style="list-style-type: none"> <li>☒ WWTP/WRP</li> <li>☒ WWTP/WRP with LT Expansion</li> <li>☒ Existing Reservoir/Hydro Tank</li> <li>☒ Potential Reservoir/Hydro Tank</li> <li>☒ Potential Seasonal Storage Site</li> </ul> <p><b>Potential Potable Reuse Site</b></p> <ul style="list-style-type: none"> <li>☒ Surface</li> <li>☒ Groundwater</li> </ul> <p><b>Partner's Service Area</b></p> <ul style="list-style-type: none"> <li>☒ Carlsbad MWD</li> <li>☒ City of Escondido</li> <li>☒ City of Oceanside</li> <li>☒ Olivenhain MWD</li> <li>☒ Rincon Del Diablo MWD</li> <li>☒ Santa Fe ID</li> <li>☒ Vallecitos WD</li> <li>☒ Vista ID</li> <li>☒ Leucadia WWD</li> <li>☒ San Elijo JPA</li> </ul>
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**Short Term Potable Reuse Projects  
(Location to be determined)**

- Escondido Valley Basin (200 AFY)
- Lake Dixon (2,200 AFY)
- Mission Basin (2,240 AFY)
- San Dieguito Reservoir (1,100 AFY)
- San Dieguito Basin (550 AFY)
- San Elijo Valley Basin (550 AFY)
- San Marcos Basin (1,100 AFY)

**Table 2-5: Existing and Future Average Demands for the Proposed Project**

Coalition Member	Group	Treatment Plant(s) to Provide Supply	Existing Demands	Average Demand Increase (AFY)		Total Demand (AFY)
				By 2025	By 2035	
Carlsbad MWD	A	Carlsbad WRF/Gafner WRF	2,150	1,752	1,398	5,300
	B	Meadowlark WRF	2,000	0	187	2,187
		Subtotal	4,150	1,752	1,585	7,487
City of Escondido	C	HARRF	771	4,670	3,035	8,476
	D	Escondido AWTF (Potable Reuse)	0	2,200	0	2,200
		Subtotal	771	6,870	3,035	10,676
San Elijo JPA <sup>2</sup>	E	San Elijo WRF/Gafner WRF	700	80	0	780
		Subtotal	700	80	0	780
City of Oceanside	G	San Luis Rey WWTP/SRTTP	300	2,477	1,130	3,907
	G	San Luis Rey WWTP – AWT (Potable Reuse)	0	2,240	3,360	5,600
		Subtotal	300	4,717	4,490	9,507
Olivenhain MWD	N/A	Meadowlark WRF <sup>1</sup>	1,000	0	0	1,000
	H	San Elijo WRF/Gafner WRF	100	300	0	400
	H	San Elijo WRF – AWT (Potable Reuse)	0	1,100	1,030	2,130
		Subtotal	1,100	1,400	1,030	3,530
Rincon del Diablo MWD	I	HARRF	3,279	500	0	3,779
	I	HARRF – AWT (Potable Reuse)	0	200	0	200
	J	Harmony Grove WRF	0	220	0	220
		Subtotal	3,279	920	0	4,199
Santa Fe ID	K <sup>3</sup>	San Elijo WRF/Gafner WRF	510	40-729	0	550-1,239
	K <sup>3</sup>	San Elijo WRF – AWT (Potable Reuse)	0	0-1,100	1,030	1,030-2,130
		Subtotal	510	729-1,140	1,030	2,269-2680
Vallecitos Water District	L	Carlsbad WRF	0	0	454	454
	M	HARRF	0	574	922	1,496
	N	Meadowlark WRF	0	0	416	416
	N	Meadowlark WRF – AWT (Potable Reuse)	0	1,100	1,100	2,200
		Subtotal	0	1,674	2,892	4,566
Vista Irrigation District	O	San Luis Rey WWTP/Carlsbad WRF	0	255	2,600	2,855
		Subtotal	0	255	2,600	2,855
<b>Total Additional Demand for Proposed Project<sup>3</sup></b>			<b>10,810</b>	<b>18,808</b>	<b>16,662</b>	<b>46,280</b>
<b>Total Cumulative Demand for Proposed Project<sup>3</sup></b>			<b>--</b>	<b>29,618</b>	<b>46,280</b>	

<sup>1</sup> These connections are not included within the groupings, because while they have existing recycled water demands, which are included in the total recycled water flows for the Coalition, there are no future recycled water demands or associated recycled water facilities for these entities for purposes of the Proposed Project.

<sup>2</sup> San Elijo JPA is a wastewater Coalition member that owns and operates distribution pipelines within the San Dieguito Water District service area.

<sup>3</sup> Santa Fe ID will implement either 1,100 AFY of potable reuse at the San Dieguito Reservoir or 689 AFY of recycled water to meet demands in the eastern service area for Group K. Both projects will not take place in the short-term, so total demands for Group K and total demands associated with the Proposed Project are shown as ranges assuming only one of the Group K projects will move forward. Total demands presented within this document assume that the larger (1,100 AFY potable reuse) project is implemented.

## 2.4.2 Short-Term Project Components

The short-term (2025) project components associated with the Proposed Project and shown in **Figure 2-3** have been grouped into various categories, which are described below and are also referenced above in **Table 2-5**. The information provided below focuses on pipeline alignments that would be required for each grouping; further details about treatment plant expansions or improvements associated with the Proposed Project are provided in Section 2.4.4. The following section also includes information about short-term potable reuse components, which are shown on **Figure 2-3**. While **Figure 2-3** shows the potable reuse sites (groundwater basins and surface reservoirs) associated with the Proposed Project, **Figure 2-3** and information provided below do not include the proposed pipelines or facilities potentially associated with potable reuse as the location of those facilities is not known at this time.

The information provided below only pertains to the groups that have short-term demands; long-term demands are included in Section 2.4.3 below and are described in limited detail for informational purposes only, because the long-term components are not part of the Proposed Project.

**Appendix B** includes a table of the existing and planned recycled water demands listed by each supply source (treatment plant); the water demands listed in **Appendix B** form the basis for the groupings presented below.

### **Group A: Carlsbad MWD Extensions – Carlsbad WRF/Gafner WRF**

As shown on **Figure 2-3**, Group A includes the proposed project facilities that would be required to extend recycled water infrastructure to deliver recycled water from the Carlsbad WRF or Gafner WRF throughout Carlsbad MWD's service area. Recycled water demands associated with this grouping will be served by either Carlsbad WRF or Gafner WRF based upon the availability and feasibility of using each recycled water supply. The recycled water supplies may be delivered directly or indirectly through exchange agreements between applicable members of the Coalition. Carlsbad MWD's short-term (2025) recycled water demand from the Carlsbad WRF or Gafner WRF is projected to total 1,752 AFY, and the facilities included within the Proposed Project would be implemented to serve those demands. **Table 2-6** below provides an overview of the facilities necessary to meet projected demands associated with Group A. The pipeline diameters and lengths presented in **Table 2-6** are from Carlsbad MWD's 2012 Phase III Recycled Water Project Feasibility Study and therefore include pipeline diameters and lengths for 4-inch and 6-inch pipes. Group A also includes long-term demands within Carlsbad MWD's service area for 1,398 AFY of recycled water from Carlsbad WRF or Gafner WRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

To meet the 1,752 AFY short-term recycled water demand, the Proposed Project would include construction of approximately 90,800 linear feet of recycled water pipelines to deliver recycled water to central areas near customers. Additional recycled water lateral pipelines (beyond the 90,800 linear feet) would be required to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

The Proposed Project is expected to supply recycled water supplies to six separate segments which are shown on **Figure 2-3** and include: North Carlsbad, West Carlsbad, Northeast Carlsbad, Southwest Carlsbad, Southeast Carlsbad, and Omni La Costa Resort and Spa. The pipeline extensions associated with each segment are described below.

The recycled water pipeline to the North Carlsbad segment would include two sub-segments. The first sub-segment would connect to the existing system at the Cannon Road and El Camino Real, run north to Tamarack Avenue where it would branch off along Tamarack Avenue. From there, the pipeline would continue to run north to Marron Road where it would again branch off along Marron Road. The second

segment would connect to the existing system at College Boulevard and Tamarack Avenue and follow Tamarack Avenue west and south.

The West Carlsbad recycled water system would be extended from the Carlsbad WRF north to Agua Hedionda Lagoon and south to connect to existing recycled water pipelines in the south along Avenida Encinas. The Northeast segment is a small segment that would branch off of an existing recycled water pipeline at El Camino Real and Faraday Avenue and extend northeast. The Southwest segment is also a small segment, consisting of three recycled water extensions from existing pipelines west of Interstate 5 and north of Batiquitos Lagoon. The Southeast Carlsbad Extension would consist of extending existing recycled water pipelines from Camino Vida Roble and El Camino Real to a community located south of Palomar Airport Road. The last extension, to the Omni La Costa Resort and Spa, would include extending recycled water pipelines along El Camino Real to the Omni La Costa Resort and Spa, which is located on Costa del Mar Road.

**Table 2-6: Group A, Carlsbad MWD Facilities – Carlsbad WRF/Gafner WRF**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group A – Carlsbad WRF/Gafner WRF</b>			
<b>Recycled Water Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 1,752 AFY	4"	11,100 linear feet	2016
	6"	17,400 linear feet	2016
	8"	43,300 linear feet	2016
	12"	10,400 linear feet	2016
	16"	200 linear feet	2016
	18"	8,400 linear feet	2016
	<b>Total</b>	<b>90,800 linear feet</b>	<b>2016</b>
<b>Recycled Water Laterals</b> Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b> One 1.5-million gallon (MG) steel tank reservoir and one 75-horsepower (HP) pump station. Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group A users. The precise size and capacity of these facilities will be determined during project-specific design.			

**Group C: City of Escondido Extensions – HARRF**

As shown on **Figure 3**, Group C includes the Proposed Project facilities that would be required to extend recycled water infrastructure to deliver recycled water from HARRF to the eastern portion of the City of Escondido’s service area. The City of Escondido’s short-term recycled water demand from HARRF is projected to total 4,670 AFY, and the facilities included within the Proposed Project would be implemented to serve those demands. **Table 2-7** below provides an overview of the facilities necessary to meet projected demands associated with Group C. Group C also includes long-term demands within the City of Escondido’s service area for 3,035 AFY of recycled water from HARRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

The Proposed Project is expected to supply recycled water to two customers within the City of Escondido service area: Oak Hill Memorial Park and Escondido Agricultural (Ag) Block, which have a cumulative short-term demand of 4,670 AFY. The recycled water pipelines that would be required for this project include an extension of the existing recycled water pipeline from HARRF along the concrete-lined Escondido Creek Channel. The pipeline would stretch along the Escondido Creek Channel to Citrus

Avenue, where it would head in a southeasterly direction to Glenridge Road. The pipeline would connect to Oak Hill Memorial Park along Glenridge Road, where it would also connect to a recycled water storage tank, which would be constructed as part of the Proposed Project. From the recycled water storage tank the pipeline would then head further southwest to serve agricultural users located near Canyon Crest Drive and Mountain View Drive.

Additional recycled water lateral pipelines (beyond the 33,900 linear feet shown in **Table 2-7**) would be required to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

#### **Group D: City of Escondido Extensions – Escondido AWTF**

Group D includes the Proposed Project facilities that would be required to extend infrastructure from the Escondido AWTF to the City of Escondido’s service area to meet a projected short-term demand of 2,200 AFY. As discussed in further detail in Section 2.4.5, demands associated with the Escondido AWTF would be used for potable reuse at Lake Dixon whereby advanced treated recycled water produced at the Escondido AWTF (also referred to as purified water) would be placed in Lake Dixon and then distributed as potable water within the City of Escondido’s service area.

Facilities that would be required to implement potable reuse at Lake Dixon would include construction of the Escondido AWTF, which would include advanced treatment components to treat recycled water from HARRF to levels suitable for potable reuse. It is anticipated that the Escondido AWTF would be located along Escondido Creek Channel, potentially where the Escondido Creek Channel intersects with Citrus Avenue. Approximately 9,900 linear feet of new pipelines would be required to convey purified water from the Escondido AWTF to Lake Dixon; it is possible that other facilities such as additional distribution pipelines, pump stations, and other appurtenances would also be required to implement potable reuse at Lake Dixon. Group D is included on **Figure 2-3** and **Table 2-7** includes the proposed pipelines or facilities potentially associated with potable reuse as the location of those alignments and facilities is known at this time.

**Table 2-7: Group C and D, City of Escondido Facilities**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group C– HARRF</b>			
<b>Recycled Water Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 4,670 AFY	8"	2,800 linear feet	2020-2021
	24"	17,400 linear feet	2020-2021
	30"	13,700 linear feet	2020-2021
	<b>Total</b>	<b>33,900 linear feet</b>	<b>2020-2021</b>
<b>Recycled Water Laterals</b> Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b> One 1.2-MG tank reservoir and three 250-HP pump stations. Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group C users. The precise size and capacity of these facilities will be determined during project-specific design.			



Facility	Size	Capacity or Length	Construction Timeline
<b>Group D – Escondido AWTF</b>			
<b>Recycled Water Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver potable reuse water to meet short-term demands of 2,200 AFY	12"	9,900 linear feet	2021
	<b>Total</b>	<b>9,900 linear feet</b>	<b>2021</b>
<b>Recycled Water Laterals</b> Onsite laterals would be constructed to deliver water to customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b> One 120-HP pump station. Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other appurtenances may be required to deliver recycled water and meet anticipated water demands for Group D users. The precise size and capacity of these facilities will be determined during project-specific design.			
<b>City of Escondido Total</b>		<b>43,800 linear feet</b>	

### **Group E: San Elijo Joint Powers Authority – San Elijo WRF/Gafner WRF**

As shown on **Figure 2-3**, Group E includes the Proposed Project facilities that would be required to extend recycled water infrastructure from the San Elijo WRF or Gafner WRF to customers within San Dieguito WD’s service area. San Elijo JPA indirectly delivers water to customers via its four water purveyors (Olivenhain MWD, San Dieguito WD, Santa Fe ID, Del Mar); however, San Elijo JPA owns most of the infrastructure to deliver water to water purveyors in its service area. Although customers that would receive recycled water as part of Group E are customers of the San Dieguito WD, water would ultimately be conveyed to these customers via Coalition member San Elijo JPA’s infrastructure, and the customers are therefore categorized as San Elijo JPA users in this analysis.

Recycled water demands associated with this grouping will be served by either San Elijo WRF or Gafner WRF based upon the availability and feasibility of using each recycled water supply. The recycled water supplies may be delivered directly or indirectly through exchange agreements between applicable members of the Coalition. San Elijo JPA short-term (2025) recycled water demand from the San Elijo WRF or Gafner WRF is projected to total 80 AFY. **Table 2-8** below provides an overview of the facilities necessary to meet projected demands associated with Group E.

To meet the 80 AFY short-term recycled water demand, the Proposed Project would include construction of approximately 21,200 linear feet of recycled water pipelines, as well as laterals to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water may be constructed. The Proposed Project is expected to supply recycled water to Group E users within three separate segments located within the San Dieguito WD’s service area and also located within the City of Encinitas. The first segment would be located near the intersection of Lake Drive and Santa Fe Drive, and would connect new users to existing recycled water users. The second segment would be located along Encinitas Boulevard west of Interstate 5, then north along Vulcan Avenue, and east along Union Street to just east of I-5; this segment would loop new users into existing recycled water infrastructure. The third segment would be the smallest of the three, located east of Somerset Avenue, along Berkshire Avenue, and then north along MacKinnon Avenue to Villa Cardiff Drive.

**Table 2-8: Group E, San Elijo JPA Facilities**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group E – San Elijo WRF/Gafner WRF</b>			
<b>Recycled Water Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 80 AFY	6"	21,200 linear feet	2016
	<b>Total</b>	<b>21,200 linear feet</b>	<b>2016</b>
<b>Recycled Water Laterals</b> Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b> Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group E users. The precise size and capacity of these facilities will be determined during project-specific design.			

**Group G: City of Oceanside Extensions – San Luis Rey WWTP/SRTTP**

Group G includes the Proposed Project facilities that would be required to extend infrastructure from the San Luis Rey WWTP or SRTTP to the City of Oceanside service area to meet a projected short-term recycled water demand of 2,477 AFY. **Table 2-9** below provides an overview of the facilities necessary to meet projected recycled water demands associated with Group G. Group G also includes long-term demands within Oceanside’s service area for 1,130 AFY of recycled water from San Luis Rey WWTP or SRTTP; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

To meet the 2,477 AFY short-term recycled water demand, the Proposed Project would include construction of approximately 92,100 linear feet of recycled water pipelines, as well as laterals to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water may be constructed as part of the Proposed Project.

As shown on **Figure 2-3**, Group G includes four separate potential pipeline alignments. The first alignment would provide recycled water to users within the Morro Hills Development, which is located in the northern portion of Oceanside’s service area. The second alignment would extend east from the San Luis Rey WWTP to serve at least two separate groups of users located north of the Mission Basin. The third alignment would include facilities necessary to deliver recycled water to users adjacent to or within proximity to the El Corazon site. In the short-term, water would be delivered to the El Corazon site from the San Luis Rey WWTP via an existing pipeline that is currently used to convey water from the San Luis Rey WWTP to Oceanside’s Ocean Outfall; in the short-term this existing pipeline would be re-purposed to deliver recycled water from the San Luis Rey WWTP south to the El Corazon site. Planning for the El Corazon site is currently underway; the El Corazon site could have a stand-alone water reclamation facility to treat and serve recycled water, or could have pumping, storage, and equalization facilities to hold recycled water produced at San Luis Rey WWTP for distribution to nearby areas. For purposes of this analysis, it is assumed that the recycled water would be produced at the San Luis Rey WWTP and that the El Corazon site would be limited to pumping and storage facilities. The fourth alignment would extend south from the El Corazon site and east to the Ocean Hills Area. Pipelines would be constructed to extend south from El Corazon along El Camino Real and head east on Vista Way. At the intersection of Vista Way at College

Boulevard, the pipeline would extend south on College Road and east onto Lake Boulevard to serve the Ocean Hills Area.

### **Group G: City of Oceanside Extensions – San Luis Rey WWTP – AWT**

As shown in **Table 2-5**, Group G also includes the Proposed Project facilities that would be required to upgrade the San Luis Rey WWTP with AWT facilities to provide 2,240 AFY of purified water for purposes of potable reuse in the short-term. The potable reuse portion of Group G is not included on **Figure 2-3** and **Table 2-9** does not include the proposed pipelines or facilities potentially associated with potable reuse as the location of those alignments and facilities is not known at this time. Group G also includes long-term potable reuse demands within the City of Oceanside’s service area for 3,360 AFY of additional demands from the San Luis Rey WWTP; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

As discussed in further detail in Section 2.4.5, the 2,240 AFY of short-term potable reuse demands that are associated with the San Luis Rey WWTP would be used for potable reuse at Mission Basin whereby advanced treated recycled water produced at the San Luis Rey WWTP would be placed in the Mission Basin and then distributed as potable water within the City of Oceanside’s service area.

The San Luis Rey WWTP is an existing treatment plant that treats water to levels suitable for non-potable recycled water use (tertiary levels). In order to implement potable reuse at Mission Basin, the San Luis Rey WWTP would need to be upgraded with advanced treatment components necessary to treat recycled water to levels suitable for potable reuse. It is anticipated that new pipelines would be required to convey purified water from the San Luis Rey WWTP to spreading facilities or injection wells at Mission Basin; it is possible that other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at Mission Basin and deliver water to end-users.

**Table 2-9: Group G, City of Oceanside Facilities**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group G – San Luis Rey WWTP/SRTTP (Recycled Water Only)</b>			
<b>Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver water to meet short-term demands of 2,477 AFY	8"	11,000 linear feet	2020-2021
	12"	45,300 linear feet	2020-2021
	16"	20,500 linear feet	2020-2021
	20"	15,300 linear feet	2020-2021
	<b>Total</b>	<b>92,100 linear feet</b>	<b>2020-2021</b>
<b>Laterals</b> Onsite laterals would be constructed to deliver water to end-users. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b> One 2.0 MG tank reservoir, two 1.0 MG tank reservoirs, and seven pump stations ranging from 30-240 HP. Other facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other appurtenances may be required to deliver water and meet anticipated water demands for Group G users. The precise size and capacity of these facilities will be determined during project-specific design.			

### **Group H: Olivenhain MWD Extensions – San Elijo WRF/Gafner WRF**

As shown on **Figure 2-3**, Group H includes the Proposed Project facilities that would be required to extend recycled water infrastructure to deliver recycled water from San Elijo JPA’s San Elijo WRF or Leucadia WWD’s Gafner WRF to recycled water customers within the Olivenhain MWD service area. Recycled water demands associated with this grouping will be served by either San Elijo WRF or Gafner WRF based

upon the availability and feasibility of using each recycled water supply. The recycled water supplies may be delivered directly or indirectly through exchange agreements between applicable members of the Coalition. Olivenhain MWD's short-term recycled water demand from the San Elijo WRF/Gafner WRF is projected to total 300 AFY, and the facilities included within the Proposed Project would be implemented to serve those demands. **Table 2-10** below provides an overview of the facilities necessary to meet projected demands associated with Group H.

Group H consists of extending recycled water conveyance pipelines from the San Elijo WRF or the Gafner WRF to connect with Olivenhain MWD's existing recycled water infrastructure. Group H also includes recycled water pipelines that would extend from near the Wiegand Storage Tank, which would be converted from potable to recycled water as part of the project and is located along Via Cantabria and Zona Gale Road, to the Village Park community to the east. Further, Group H includes project components to extend recycled water conveyance pipelines to the Bridges Golf Course/Cielo Development via Santa Fe ID's short-term recycled water project (Group K). The recycled water supplies may be delivered directly to the Bridges Golf Course/Cielo Development via recycled water pipelines, or may be indirectly delivered through exchange agreements between Leucadia WWD, San Elijo JPA, Santa Fe ID, and Olivenhain MWD.

Additional recycled water lateral pipelines (beyond the 29,600 linear feet shown in **Table 2-10**) would be required to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

#### **Group H: Olivenhain MWD Extensions – San Elijo WRF – AWT**

As shown in **Table 2-5**, Group H includes the Proposed Project facilities that would be required to upgrade the San Elijo WRF with AWT facilities to provide 1,100 AFY of purified water for purposes of potable reuse. The facilities associated with Group H are not included on **Figure 2-3** and **Table 2-10** does not include the proposed pipelines or facilities potentially associated with potable reuse as the location of those alignments and facilities is not known at this time. Group H also includes long-term potable reuse demands within Olivenhain MWD's service area for 1,030 AFY of additional demands from the San Elijo WRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

As discussed in further detail in Section 2.4.5, half of the short-term demands (550 AFY) that are associated with the San Elijo WRF would be used for potable reuse at the San Elijo Valley Basin and half of the demands (550 AFY) would be used for potable reuse at the San Dieguito Basin. For both potable reuse sites advanced treated recycled water produced at the San Elijo WRF would be placed in the applicable groundwater basin and then distributed as potable water within Olivenhain MWD's service area. As also discussed in Section 2.4.5, depending on the outcome of feasibility analyses conducted on the San Elijo Valley Basin and the San Dieguito Basin, the San Elijo Valley Basin and San Dieguito Basin potable reuse sites may produce up to 1,100 AFY of water supply in 2025 through conjunctive use of groundwater supplies. However, the 550 AFY volumes reported here reflect wastewater flows that will be utilized at each site.

The San Elijo WRF is an existing treatment plant that treats water to levels suitable for non-potable recycled water use (tertiary levels). In order to implement potable reuse at the San Elijo Valley Basin and the San Dieguito Basin, the San Elijo WRF would need to be upgraded with advanced treatment components necessary to treat recycled water to levels suitable for potable reuse. It is anticipated that new pipelines would be required to convey purified water from the San Elijo WRF to spreading facilities or injection wells at the San Elijo Valley Basin and the San Dieguito Basin; it is possible that other facilities such as

pump stations and other appurtenances would also be required to implement potable reuse and deliver water to end-users.

**Table 2-10: Group H, Olivenhain MWD Facilities – San Elijo WRF/Gafner WRF**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group H – San Elijo WRF/Gafner WRF (Recycled Water Only)</b>			
<b>Recycled Water Pipelines</b>	8"	2,700 linear feet	2015
The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 300 AFY	20"	26,900 linear feet	2015
	<b>Total</b>	<b>29,600 linear feet</b>	<b>2015</b>
<b>Recycled Water Laterals</b>			
Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b>			
Two pump stations, one 80-HP pump and one 130-HP pump. Other recycled water facilities such as storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group H users. The precise size and capacity of these facilities will be determined during project-specific design.			

### **Group I: Rincon del Diablo MWD Extensions – HARRF**

As shown on **Figure 2-3**, Group I includes the Proposed Project facilities that would be required to extend recycled water infrastructure to deliver recycled water from the City of Escondido’s HARRF to two separate segments (North and South) within the Rincon del Diablo MWD service area. Rincon del Diablo MWD’s short-term recycled water demand from HARRF is projected to total 500 AFY, and the facilities included within the **Table 2-11** below provides an overview of the facilities necessary to meet projected demands associated with Group I.

The recycled water pipeline to the North Rincon del Diablo MWD segment would connect to Rincon del Diablo MWD’s existing recycled water system at Nutmeg Street and Gary Lane (just west of Interstate 15), and extend north and west to the Escondido Country Club. The recycled water extension to the South Rincon del Diablo MWD segment would also include construction of a new recycled water storage tank, and would include pipelines that extend north and east from HARRF to a business park, agricultural area, and development within Rincon del Diablo MWD’s service area.

Additional recycled water lateral pipelines (beyond the 43,400 linear feet shown in **Table 2-9**) would be required to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

### **Group I: Rincon del Diablo MWD Extensions – HARRF – AWT**

As shown in **Table 2-5**, Group I also includes the Proposed Project facilities that would be required to upgrade HARRF with AWT facilities to provide 200 AFY of purified water for purposes of potable reuse. The facilities associated with potable reuse components of Group I are not included on **Figure 2-3** and information provided in **Table 2-11** does not include the proposed pipelines or facilities potentially associated with potable reuse as the location of those alignments and facilities is not known at this time.

As discussed in further detail in Section 2.4.5, potable reuse demands that are associated with the HARRF would be used for potable reuse at Escondido Valley Basin whereby advanced treated recycled water

produced at HARRF would be placed in the Escondido Valley Basin and then distributed as potable water within Rincon del Diablo MWD’s service area.

HARRF is an existing treatment plant that treats water to levels suitable for non-potable recycled water use (tertiary levels). In order to implement potable reuse at the Escondido Valley Basin, HARRF would need to be upgraded with advanced treatment components necessary to treat recycled water to levels suitable for potable reuse. It is anticipated that new pipelines would be required to convey purified water from HARRF to spreading facilities or injection wells at the Escondido Valley Basin; it is possible that other facilities such as pump stations and other appurtenances would also be required to implement potable reuse and deliver water to end-users.

**Group J: Rincon del Diablo MWD Extensions – Harmony Grove WRF**

As shown on **Figure 2-3**, Rincon del Diablo MWD will use water produced at the Harmony Grove WRF. Harmony Grove WRF is being built to provide services to a new, master-planned development in Harmony Grove, and as such does not have any current capacity. Group J includes the Proposed Project facilities that would be required to extend recycled water infrastructure to deliver recycled water from the Harmony Grove WRF to the Harmony Grove development. Rincon del Diablo MWD’s short-term recycled water demand from the Harmony Grove WRF is projected to total 220 AFY, and the facilities included within the Proposed Project would be implemented to serve those demands.

**Table 2-11** below provides an overview of the facilities necessary to meet projected demands associated with Group J. From the Harmony Grove WRF, approximately 15,100 linear feet of recycled water pipelines would be constructed to serve the Harmony Grove development. Additional recycled water lateral pipelines (beyond the 15,100 linear feet shown in **Table 2-11**) would be required to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

**Table 2-11: Group I and J, Rincon del Diablo MWD Facilities**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group I – HARRF (Recycled Water Only)</b>			
<b>Recycled Water Pipelines</b>	8”	11,900 linear feet	2014-2020
The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 500 AFY	12”	22,400 linear feet	2014-2020
	16”	9,100 linear feet	2014-2020
	<b>Total</b>	<b>43,400 linear feet</b>	<b>2014-2020</b>
<b>Recycled Water Laterals</b>	Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.		
<b>Other Facilities</b>	Two pump stations, one 10-HP pump and one 20-HP pump. Other recycled water facilities such as storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group I users. The precise size and capacity of these facilities will be determined during project-specific design.		
<b>Group J – Harmony Grove WRF</b>			
<b>Recycled Water Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 220 AFY	8”	15,100 linear feet	2013-2016
	<b>Total</b>	<b>15,100 linear feet</b>	<b>2013-2016</b>
<b>Recycled Water Laterals</b>	Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.		

Facility	Size	Capacity or Length	Construction Timeline
<b>Other Facilities</b>			
Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group J users. The precise size and capacity of these facilities will be determined during project-specific design.			
<b>Rincon del Diablo MWD Total for Recycled Water</b>		<b>58,500 linear feet</b>	

### Group K: Santa Fe ID Extensions – San Elijo WRF/Gafner WRF

As shown on **Figure 2-3**, Group K includes the Proposed Project facilities required to extend recycled water infrastructure to deliver recycled water from San Elijo JPA’s San Elijo WRF or Leucadia WWD’s Gafner WRF to recycled water customers in the eastern and western portions of Santa Fe ID’s service area. Recycled water demands associated with this grouping will be served by either San Elijo WRF or Gafner WRF based upon the availability and feasibility of using each recycled water supply. The recycled water supplies may be delivered directly or indirectly through exchange agreements between applicable members of the Coalition.

In accordance with Santa Fe ID’s *Eastern Service Area Recycled Water Facilities Plan*, Santa Fe ID’s short-term recycled water demand from San Elijo WRF is projected to total 689 AFY for Santa Fe ID’s eastern service area. The short-term San Elijo WRF/Gafner WRF recycled water demand for Santa Fe ID’s Western service area was conservatively estimated at 40 AFY based upon serving the most cost-effective demands identified in Santa Fe ID’s *Asset Management Master Plan*. Therefore, Santa Fe ID’s total short-term recycled water demand from San Elijo WRF is projected to be 729 AFY. The facilities included within the Proposed Project would be implemented to serve those demands.

As described in **Table 2-5**, Santa Fe ID will implement either recycled water expansion to serve its eastern service area (689 AFY in the short-term) or will implement potable reuse through San Elijo WRF (see following section). Given the facilities that would be involved for these projects, both cannot take place in the short-term, and either one or the other would be implemented. Therefore, San Elijo WRF/Gafner WRF will either serve a total of 729 AFY of recycled water (40 AFY for the western service area and 689 AFY for the eastern service area) or will only serve 40 AFY of recycled water to the western service area if potable reuse facilities are implemented.

Though the recycled water demand for Santa Fe ID’s eastern service area is currently planned to be served from the San Elijo WRF/Gafner WRF, other regional supply solutions utilizing combinations of flows from San Elijo JPA, the CSDs, or other Coalition partners may be determined to be viable as the Proposed Project progresses. The estimated recycled water demands were based on the assumption that the “purple pipe” approach would be utilized for the Proposed Project, along with the associated recycled water use limitations. Depending on potential changes in the current regulatory environment, it may be possible that a regional potable reuse supply and delivery strategy may be implemented that significantly increases the potential demand and ability to use future available potable reuse supplies.

**Table 2-12** below provides an overview of the pipeline and other facilities necessary to meet projected recycled water demands associated with Group K. Specific pipeline alignments have been identified in prior studies. 46,600 linear feet of pipelines of varying diameters will be required. Pipeline diameters and lengths presented in **Table 2-12** are from the Santa Fe Irrigation District Eastern Service Area Recycled Water Facilities Plan.

Additional recycled water lateral pipelines (beyond the pipelines shown in **Table 2-12**) would be required to deliver recycled water to the end users. In addition to pipelines, other facilities such as recycled water

pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

**Potable Reuse Alternative: Santa Fe ID Extensions – San Elijo WRF – AWT**

As shown in **Table 2-5**, Group K also includes the Proposed Project facilities that would be required to upgrade the San Elijo WRF with AWT facilities to provide 1,100 AFY of purified water for purposes of potable reuse. The facilities associated with Group K are not included on **Figure 2-3** and **Table 2-12** does not include the proposed pipelines or facilities potentially associated with potable reuse as the location of those alignments and facilities is not known at this time. Note that as described in **Table 2-5**, Santa Fe ID will implement either 689 AFY of recycled water to serve the eastern service area or will implement 1,100 AFY of potable reuse at the San Dieguito Reservoir. Both projects will not take place in the short-term. Group K also includes long-term potable reuse demands within Santa Fe ID’s service area for 1,030 AFY of additional demands from the San Elijo WRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

As discussed in further detail in Section 2.4.5, AWT water from San Elijo WRF would be used for potable reuse at the San Dieguito Reservoir whereby advanced treated recycled water produced at the San Elijo WRF would be placed in the San Dieguito Reservoir and then distributed as potable water within Santa Fe ID’s service area.

The San Elijo WRF is an existing treatment plant that treats water to levels suitable for non-potable recycled water use (tertiary levels). In order to implement potable reuse at the San Dieguito Reservoir, the San Elijo WRF would need to be upgraded with advanced treatment components necessary to treat recycled water to levels suitable for potable reuse.

**Table 2-12: Group K, Santa Fe ID Facilities – San Elijo WRF/Gafner WRF**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group K – San Elijo WRF/Gafner WRF (Recycled Water Only)</b>			
<b>Recycled Water Pipelines</b> The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of up to 729 AFY. Note that in the event that potable reuse is implemented at San Elijo WRF-AWT, Group K will only include facilities to extend recycled water to Santa Fe ID’s western service area (40 AFY).	8”	10,100 linear feet	2022-2024
	10”	4,000 linear feet	2022-2024
	12”	7,100 linear feet	2022-2024
	16”	18,800 linear feet	2022-2024
	18”	6,600 linear feet	2022-2024
	<b>Total</b>	<b>46,600 linear feet</b>	<b>2022-2024</b>
<b>Recycled Water Laterals</b> Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b> One 50-HP pump station, one 490-HP pump station, and one 1.7 MG tank reservoir. Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group K users. The precise size and capacity of these facilities will be determined during project-specific design.			

**Group M: Vallecitos WD Extensions – HARRF**

As shown on **Figure 3**, Group M includes the Proposed Project facilities that would be required to extend recycled water infrastructure to deliver recycled water from the City of Escondido’s HARRF to two separate



segments (North and South) within the Vallecitos WD service area. Vallecitos WD’s short-term recycled water demand from HARRF is projected to total 574 AFY, and the facilities included within the Proposed Project would be implemented to serve those demands. **Table 2-13** below provides an overview of the facilities necessary to meet projected demands associated with Group M. Group M also includes long-term demands within Vallecitos WD’s service area for 922 AFY of recycled water from HARRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

The recycled water pipeline to the North Vallecitos WD segment would connect to an existing recycled water pipeline at El Norte Parkway just west of Interstate 15, and extend south and west along Nordahl Road. The recycled water pipeline to the South Vallecitos WD segment would extend east from HARRF to a development within Vallecitos WD’s service area.

Additional recycled water lateral pipelines (beyond the 11,600 linear feet shown in **Table 2-13**) would be required to deliver recycled water to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

**Group N: Vallecitos WD Extensions – Meadowlark WRF – AWT**

As shown in **Table 2-5**, Group N includes the Proposed Project facilities that would be required to upgrade the Meadowlark WRF with AWT facilities to provide 1,100 AFY of purified water for purposes of potable reuse. The facilities associated with Group N are not included on **Figure 2-3** and **Table 2-13** does not include the proposed pipelines or facilities potentially associated with potable reuse as the location of those alignments and facilities is not known at this time. Group N also includes long-term potable reuse demands within Vallecitos WD’s service area for 1,100 AFY of additional demands from the Meadowlark WRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

As discussed in further detail in Section 2.4.5, purified water from the Meadowlark WRF would be used for potable reuse at the San Marcos Basin whereby advanced treated recycled water produced at the Meadowlark WRF would be placed in the San Marcos Basin and then distributed as potable water within Vallecitos WD’s service area.

The Meadowlark WRF is an existing treatment plant that treats water to levels suitable for non-potable recycled water use (tertiary levels). In order to implement potable reuse at the San Marcos Basin, the Meadowlark WRF would need to be upgraded with advanced treatment components necessary to treat recycled water to levels suitable for potable reuse.

**Table 2-13: Group M, Vallecitos Water District Facilities – HARRF**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group M – HARRF</b>			
<b>Recycled Water Pipelines</b>	12"	11,600 linear feet	2021
The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 574 AFY	<b>Total</b>	<b>11,600 linear feet</b>	<b>2021</b>
<b>Recycled Water Laterals</b>			
Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			

Facility	Size	Capacity or Length	Construction Timeline
<p><b>Other Facilities</b> One 30-HP pump station and one 50-HP pump station. Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group M users. The precise size and capacity of these facilities will be determined during project-specific design.</p>			

**Group O: Vista ID Extensions – San Luis Rey WWTP/Carlsbad WRF**

As shown on **Figure 2-3**, Group O includes the Proposed Project facilities that would be required to extend recycled water infrastructure to deliver recycled water from the City of Oceanside’s San Luis Rey WWTP or Carlsbad MWD’s Carlsbad WRF to several water users within Vista ID’s service area. Recycled water demands associated with this grouping will be served by either San Luis Rey WWTP or Carlsbad WRF based upon the availability and feasibility of using each recycled water supply. The recycled water supplies may be delivered directly or indirectly through exchange agreements between applicable members of the Coalition. Vista ID’s short-term recycled water demand is projected to total 255 AFY in the short-term, and the facilities included within the Proposed Project would be implemented to serve those demands. **Table 2-14** below provides an overview of the facilities necessary to meet projected short-term demands associated with Group O. Group O also includes long-term demands within Vista ID’s service area for 2,600 AFY of recycled water from either San Luis Rey WWTP or Carlsbad WRF; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

The recycled water pipelines necessary to serve short-term demands for Group O would be constructed either by extending pipelines from Oceanside in a southern direction to Vista ID, or by extending pipelines from Carlsbad in a northern direction to Vista ID. The ultimate configuration that is selected will be based upon technical feasibility, the progression of projects in Oceanside and Carlsbad’s service areas, and the availability of recycled water supplies from either plant.

If the southern extension is constructed from Oceanside and served by the San Luis Rey WWTP, pipelines would be constructed from the Ocean Hills site included in Group G (in the southeastern portion of Oceanside’s service area), further southeast into Vista ID’s service area. The connection to Group G facilities would extend from the boundary of Oceanside, southward into Vista ID’s service area along Melrose Drive to Faraday Avenue. This extension may utilize an existing 14” failsafe pipe currently owned by the City of Vista from just south of Green Oak Road to the intersection of Melrose Drive and Faraday Avenue. The extension may also branch off of the Melrose Drive pipeline just south of Green Oak Drive and extend eastward where it would connect to the City of Vista’s existing failsafe pipeline to the abandoned Shadowridge Reclamation Facility in order to connect to existing recycled water pipelines that serve the Shadowridge Golf Course.

If the northern extension is constructed from Carlsbad and served by the Carlsbad WRF, pipelines would extend north from existing recycled water infrastructure within Carlsbad MWD’s service area into Vista ID’s service area. The pipelines would extend north along Melrose Drive from the intersection of Melrose Drive and Faraday Avenue to the intersection of the City of Oceanside and Vista ID’s service area boundaries. For this extension it would also be possible to utilize the existing 14” failsafe pipe owned by the City of Vista, and pipelines would be extended east from just south of Greek Oak Drive to connect to the Shadowridge Reclamation Facility and Shadowridge Golf Course.

To meet the 2,600 AFY short-term recycled water demand, the Proposed Project would include construction of approximately 12,200 linear feet of recycled water pipelines, as well as laterals to deliver recycled water

to end-users. In addition to pipelines, other facilities such as recycled water pump stations, storage tanks, pressure reducing stations and valves, and other appurtenances and facilities necessary to deliver recycled water would be constructed as part of the Proposed Project.

**Table 2-14: Group O, Vista Irrigation District Facilities – San Luis Rey WWTP/Carlsbad WRF**

Facility	Size	Capacity or Length	Construction Timeline
<b>Group O – San Luis Rey WWTP/Carlsbad WRF</b>			
<b>Recycled Water Pipelines</b>	12"	6,700 linear feet	2015-2017
The pipelines included in this category are those preliminarily determined necessary to deliver recycled water to meet short-term demands of 255 AFY	14"	5,500 linear feet	2015-2017
	<b>Total</b>	<b>12,200 linear feet</b>	<b>2015-2017</b>
<b>Recycled Water Laterals</b>			
Onsite laterals would be constructed to deliver water to recycled water customers. The precise length and capacity of these pipelines will be determined during project-specific design.			
<b>Other Facilities</b>			
One 30-HP pump station. Other recycled water facilities such as treatment plant construction or upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances may be required to deliver recycled water and meet anticipated water demands for Group O users. The precise size and capacity of these facilities will be determined during project-specific design.			

### 2.4.3 Long-Term Project Components

The long-term (2035) project components that are shown in **Figure 2-4** have been grouped into various categories, which are described below and are also referenced above in **Table 2-5**. Some of the groupings have both short-term and long-term demands; for those groups with both short-term and long-term components, the group names are listed initially in Section 2.4.2 and repeated below; however the information below only pertains to long-term demands and short-term demands are described above in Section 2.4.2. **Appendix B** includes a table of the existing and planned recycled water demands listed by each supply source (treatment plant); the water demands listed in **Appendix B** form the basis for the groupings presented below.

Please note that because the long-term project components are not included within the Proposed Project, they are described in limited detail for informational purposes only. This PEIR acknowledges the long-term project components as part of the Facilities Plan/Feasibility Study build-out condition, but does not include the long-term components in the analysis.

#### **Group A: Carlsbad MWD Extensions – Carlsbad WRF/Gafner WRF**

As shown on **Figure 2-3** and **Figure 2-4** and detailed in **Table 2-5**, Group A includes short-term and long-term demands. The projected long-term recycled water demand associated with Group A is anticipated to be 1,398 AFY of recycled water from Carlsbad WRF or Gafner WRF to Carlsbad MWD’s service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

#### **Group B: Carlsbad MWD Extensions – Meadowlark WRF**

As shown on **Figure 2-4**, Group B includes the Proposed Project facilities that would be required to extend recycled water infrastructure from the Vallecitos Water District’s Meadowlark WRF to Carlsbad MWD’s service area to meet a projected long-term recycled water demand of 187 AFY. Project facilities associated with Group B are not necessary to meet short-term (2025) water demands (refer to **Table 2-5**), and are therefore not included in detail as part of the Proposed Project.

### **Group C: City of Escondido Extensions – HARRF**

As shown on **Figure 2-3** and **Figure 2-4** and detailed in **Table 2-5**, Group C includes short-term and long-term demands. The projected long-term recycled water demand associated with Group C is anticipated to be 3,035 AFY of recycled water from HARRF to the City of Escondido's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

### **Group G: City of Oceanside Extensions – San Luis Rey WWTP/SRTTP**

As shown on **Figure 2-3** and **Figure 2-4** and detailed in **Table 2-5**, Group G includes short-term and long-term demands. The projected long-term recycled water demand associated with Group G is anticipated to be 1,130 AFY of recycled water from San Luis Rey WWTP or SRTTP to the City of Oceanside's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

In the short-term, recycled water from the San Luis Rey WWTP would be conveyed south towards the El Corazon site via an existing pipeline. In the long-term, this existing pipeline would be required for brine disposal for potable reuse from the San Luis Rey WWTP AWT facility (see below for more information); as such, a parallel recycled water pipeline would need to be constructed to continue to convey flows southward from the San Luis Rey WWTP and serve recycled water to the El Corazon site and other users located in southern Oceanside.

### **Group G: City of Oceanside Extensions – San Luis Rey WWTP – AWT**

As detailed in **Table 2-5**, Group G includes short-term and long-term demands for potable reuse water. The projected long-term potable reuse water demand associated with Group G is anticipated to be 3,360 AFY of purified water from the San Luis Rey WWTP to the Mission Basin for later distribution to the City of Oceanside's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

### **Group H: Olivenhain MWD Extensions – San Elijo WRF – AWT**

As detailed in **Table 2-5**, Group H includes short-term and long-term demands for potable reuse water. The projected long-term potable reuse water demand associated with Group H is anticipated to be 1,030 AFY of purified water from the San Elijo WRF. This demand will be provided to the San Elijo Valley Basin (515 AFY) and the San Dieguito Basin (515 AFY) for later distribution to Olivenhain MWD's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

### **Group K: Santa Fe ID Extensions – San Elijo WRF – AWT**

As detailed in **Table 2-5**, Group K includes short-term and long-term demands for potable reuse water. The projected long-term potable reuse water demand associated with Group K is anticipated to be 1,030 AFY of purified water from the San Elijo WRF. This demand will be provided to the San Dieguito Reservoir for later distribution to Santa Fe ID's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

### **Group L: Vallecitos WD Extensions – Carlsbad WRF**

As shown on **Figure 2-4**, Group L includes the Proposed Project facilities that would be required to extend recycled water infrastructure from the Carlsbad WRF to the Vallecitos WD's service area to meet a projected long-term recycled water demand of 454 AFY. Project facilities associated with Group L are not necessary to meet short-term (2025) water demands (refer to **Table 2-5**), and are therefore not included in detail as part of the Proposed Project.

### **Group M: Vallecitos WD Extensions – HARRF**

As shown on **Figure 2-3** and **Figure 2-4** and detailed in **Table 2-5**, Group M includes short-term and long-term demands. The projected long-term recycled water demand associated with Group M is anticipated to be 922 AFY of recycled water from HARRF to the Vallecitos WD's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

### **Group N: Vallecitos WD Extensions – Meadowlark WRF**

As shown on **Figure 2-4**, Group N includes the Proposed Project facilities that would be required to extend recycled water infrastructure from the Vallecitos Water District's Meadowlark WRF to Vallecitos WD's service area to meet a projected long-term recycled water demand of 416 AFY. Project facilities associated with Group N are not necessary to meet short-term (2025) water demands (refer to **Table 2-5**), and are therefore not included in detail as part of the Proposed Project.

### **Group N: Vallecitos WD Extensions – Meadowlark WRF – AWT**

As detailed in **Table 2-5**, Group N includes short-term and long-term demands for potable reuse water. The projected long-term potable reuse water demand associated with Group N is anticipated to be 1,100 AFY of purified water from the Meadowlark WRF. This demand will be provided to the San Marcos Basin for later distribution to Vallecitos WD's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

### **Group O: Vista ID Extensions – San Luis Rey WWTP/Carlsbad WRF**

As shown on **Figure 2-3** and **Figure 2-4** and detailed in **Table 2-5**, Group O includes short-term and long-term demands. The projected long-term recycled water demand associated with Group O is anticipated to be 2,600 AFY of recycled water from either the San Luis Rey WWTP or the Carlsbad WRF to Vista ID's service area; project facilities associated with this long-term demand are not included in detail as part of the Proposed Project.

## **2.4.4 Water Recycling Plant Expansions**

### **2.4.4.1 Short-Term Project Components**

In order to meet the short-term recycled water demands associated with the Proposed Project of 29,618 AFY, six existing recycled water treatment plants will need to be increased in capacity. In addition to these six existing treatment plants, two additional treatment plants (Escondido – AWT and Harmony Grove WRF) will need to be constructed. Four of the treatment plants will need to be upgraded and one will need to be constructed with AWT components necessary to produce water for potable reuse (see Section 2.4.5 for more information). A summary of treatment plant expansions associated with the Proposed Project are provided in **Table 2-15** and described in further detail below.

**Table 2-15: Short-Term Water Treatment Plant Expansions**

Coalition Member/ Owner	Treatment Plant	Existing Treatment Capacity (MGD)			Required Short-Term Treatment Capacity (MGD) By 2025		
		Secondary	Tertiary	Advanced	Secondary	Tertiary	Advanced
Carlsbad MWD	Carlsbad WRF	--	4.0	--	--	8.0	--
Leucadia WWD	Gafner WRF	--	1.0	--	--	2.5	--
City of Escondido	HARRF	18.0	8.0	--	21.0	18.0	0.2
	Escondido AWTF	--	--	--	--	--	2.0
	San Luis Rey WWTP	13.5	0.7	--	13.5	6.5	2.0
Rincon del Diablo MWD	Harmony Grove WRF	--	--	--	0.2	0.2	--
San Elijo JPA	San Elijo WRF	5.3	3.0	--	5.3	3.5	2.0
Vallecitos WD	Meadowlark WRF	5.0	5.0	--	5.0	5.0	1.0
<b>TOTAL</b>		<b>41.8</b>	<b>21.7</b>	<b>0.0</b>	<b>45.0</b>	<b>43.7</b>	<b>7.2</b>

### Carlsbad Water Reclamation Facility

Carlsbad WRF will provide recycled water to meet short-term water demands to up to two of the groupings: Group A and Group O. Group A will be served by either Carlsbad WRF or Gafner WRF and Group O will be served by either Carlsbad WRF or San Luis Rey WWTP, based upon the availability and feasibility of using each recycled water supply. The additional demand for each of these groups is up to 1,752 AFY and 255 AFY, respectively, for a total short-term demand increase from Carlsbad WRF of 2,007 AFY. In order to meet this short-term demand, the Carlsbad WRF will need to increase its tertiary treatment capacity by 4 MGD; from 4.0 MGD to 8.0 MGD. The Proposed Project includes all work necessary to complete upgrades at the Carlsbad WRF, which is located within the service area of the Carlsbad MWD.

### Gafner Water Reclamation Facility

Gafner WRF will provide recycled water to meet short-term water demands to up to four of the groupings: Group A, Group E, Group H, and Group K. Recycled water demands associated with the three aforementioned groupings will be served by either Carlsbad WRF (Group A)/San Elijo WRF (Groups E, H, and Group K) or Gafner WRF based upon the availability and feasibility of using each recycled water supply. The recycled water supplies may be delivered directly or indirectly through exchange agreements between applicable members of the Coalition. The additional demand for each of these groups is up to 1,752 AFY, 80 AFY, 300 AFY, and 729 AFY, respectively, for a total short-term demand increase from Gafner WRF of up to 2,861 AFY. Therefore, in the short-term, Gafner WRF can be expanded to provide up to an additional 1.5 MGD of recycled water, increasing its total capacity to 2.5 MGD. This expansion will provide the potential supply required to serve the aforementioned groupings. The Proposed Project includes all work necessary to complete upgrades at the Gafner WRF, which is located on Leucadia WWD's site.

### Hale Avenue Resource Recovery Facility

HARRF will provide recycled water to meet short-term water demands to three of the groupings: Group C, Group I, and Group M. The additional recycled water demand for each of these groups is 4,670 AFY,

500 AFY, and 574 AFY, respectively, for an additional total short-term recycled water demand from HARRF of 5,744 AFY. As discussed in Section 2.4.2, there is an additional 200 AFY of demand from HARRF that would be required to fulfill potable reuse demands associated with Group I; therefore, advanced treatment upgrades would be required. In order to meet a total short-term demand of 5,944, HARRF will need to increase its secondary treatment capacity by 3 MGD (from 18.0 to 21.0 MGD), increase its tertiary treatment capacity by 10 MGD (from 8.0 to 18.0 MGD), and include improvements to provide 0.2 MGD of advanced treatment capacity. The Proposed Project includes all work necessary to complete upgrades at HARRF, which is located within the service area of the City of Escondido.

### **Escondido Advanced Water Treatment Facility**

The Escondido AWTF will provide recycled water to meet short-term water demands to one of the groupings: Group D. The demand for this group, which is the total short-term demand from the Escondido AWTF is 2,200 AFY for potable reuse (advanced-treated water).

The Escondido AWTF is not an existing facility, and therefore will need to be constructed to meet demands associated with Group D. It is anticipated that the Escondido AWTF will have an advanced treatment capacity of 2.0 MGD and will be located along Escondido Creek Channel, potentially where the Escondido Creek Channel intersects with Citrus Avenue within the City of Escondido. The Proposed Project includes all work necessary to construct and operate the Escondido AWTF to meet short-term demands for Group D.

### **San Elijo Water Reclamation Facility**

The San Elijo WRF will provide recycled water to meet short-term water demands to up to three of the groupings: Group E, Group H, and Group K. The additional recycled water demand for these three groups is up to 80 AFY, up to 300 AFY, and up to 729 AFY, respectively, for an additional total short-term recycled water demand from the San Elijo WRF of up to 1,159 AFY. As discussed in Section 2.4.2, there is an additional 2,200 AFY of short-term demand from San Elijo WRF that would be required to fulfill potable reuse demands associated with Group H and Group K; therefore, advanced treatment upgrades would be required. In order to meet a total short-term demand of up to 3,359, the San Elijo WRF will need to increase its tertiary treatment capacity by 0.5 MGD (from 3.0 to 3.5 MGD) and include improvements to provide 2.0 MGD of advanced treatment capacity to meet potable reuse demands. The Proposed Project includes all work necessary to complete upgrades at the San Elijo WRF, which is located within the service area of the San Elijo JPA.

### **San Luis Rey Wastewater Treatment Plant**

The San Luis Rey WWTP will provide recycled water to meet short-term water demands to up to two of the groupings: Group G and Group O. The additional recycled water demand for these groups is up to 2,477 AFY and up to 255 AFY, respectively. Group O will be served by either Carlsbad WRF or San Luis Rey WWTP, based upon the availability and feasibility of using each recycled water supply. As discussed in Section 2.4.2, there is an additional 2,240 AFY of demand from San Luis Rey WWTP that would be required to fulfill short-term potable reuse demands associated with Group G; therefore, advanced treatment upgrades would be required. In order to meet a total short-term demand of 4,972 AFY, the San Luis Rey WWTP will need to increase its tertiary treatment capacity by 5.8 MGD (from 0.7 to 6.5 MGD) and include improvements to provide 2.0 MGD of advanced treatment capacity. The Proposed Project includes all work necessary to complete upgrades at the San Luis Rey WWTP, which is located within the service area of the City of Oceanside.

### **Harmony Grove Water Reclamation Facility**

The Harmony Grove WRF will provide recycled water to meet short-term water demands to one of the groupings: Group J. The demand for this group, which is the total short-term demand from the Harmony Grove WRF is 220 AFY.

The Harmony Grove WRF is not an existing facility, and therefore will need to be constructed to meet demands from Group J. It is anticipated that the Harmony Grove WRF will have a tertiary treatment capacity of 0.2 MGD and will be located within or adjacent to the Harmony Grove Village – a proposed development project that is located in Rincon del Diablo MWD’s service area and bounded to the north by Mt. Whitney Road, to the south and east by Harmony Grove Road, and to the west by undeveloped land. The Proposed Project includes all work necessary to construct and operate the Harmony Grove WRF to meet short-term demands for Group J.

### **Meadowlark Water Reclamation Facility**

Meadowlark WRF will meet short-term water demands to one of the groupings: Group N. As discussed in Section 2.4.2, demands associated with Group N from Meadowlark WRF would be required to fulfill potable reuse demands; therefore, advanced treatment upgrades would be required. In order to meet a total short-term potable reuse demand of 1,100, Meadowlark WRF will need to include improvements to provide 1.0 MGD of advanced treatment capacity. The Proposed Project includes all work necessary to complete upgrades at Meadowlark WRF, which is located within the service area of the Vallecitos Water District, within the City of Carlsbad.

#### **2.4.4.2 Long-Term**

In order to meet the long-term recycled water and potable reuse demands associated with the Proposed Project of 16,662 AFY, six existing recycled water treatment plants will need to be increased in capacity. In addition to capacity increases, any of the treatment plants in the region may be upgraded to include advanced water treatment components to supply water for potable reuse in the long-term.

Please note that because the long-term project components are not included within the Proposed Project, they are described in limited detail for informational purposes only. This PEIR acknowledges the long-term project components as part of the Facilities Plan/Feasibility Study build-out condition, but does not include the long-term components in the analysis.

### **Carlsbad Water Reclamation Facility**

The Carlsbad WRF will provide recycled water to meet long-term water demands to three of the groupings: Group A, Group L, and Group O. The additional long-term demand for these three groups is 1,398 AFY, 454 AFY, and 1,880 AFY, respectively, for an additional total long-term demand from the Carlsbad WRF of 3,732 AFY. In order to meet this long-term demand, the Carlsbad WRF will need to increase its tertiary treatment capacity by 4.0 MGD (from 8.0 MGD to 12.0 MGD).

### **Hale Avenue Resource Recovery Facility**

HARRF will provide recycled water to meet long-term water demands to two of the groupings: Group C and Group M. The additional long-term demand for these two groups is 3,035 AFY and 922 AFY, respectively, for an additional total long-term demand from HARRF of 3,957 AFY. In order to meet this long-term demand, HARRF will need to increase its tertiary treatment capacity by 7.0 MGD (from 18.0 MGD to 25.0 MGD).



### **San Luis Rey Wastewater Treatment Plant**

The San Luis Rey WWTP will provide recycled water to meet long-term water demands to up to two of the groupings: Group G and Group O. The additional long-term demand for these groups is 4,490 AFY and 2,600 AFY, respectively, for an additional long-term demand from San Luis Rey WWTP of 7,090. 3,360 AFY of demand from San Luis Rey WWTP for Group G would be required to fulfill potable reuse demands; therefore, advanced treatment upgrades would be required. Although the San Luis Rey WWTP does not currently have advanced treatment capacity, it is anticipated that the plant will have an advanced treatment capacity of 2.0 MGD by 2025. In order to meet a total long-term demand of 7,090, the San Luis Rey WWTP will need to increase its tertiary treatment capacity by 7.0 MGD (from 6.5 to 13.5 MGD) and increase its advanced water treatment capacity by 3.0 MGD (2.0 to 5.0 MGD).

### **San Elijo Water Reclamation Facility**

The San Elijo WRF will provide advanced treated water to meet long-term potable reuse demands to two of the groupings: Group H and Group K. The additional potable reuse demand for these groups is 2,060 AFY (1,030 AFY each). Although the San Elijo WRF does not currently have advanced treatment capacity, it is anticipated that the facility will have an advanced treatment capacity of 2.0 MGD by 2025. In order to meet a total long-term potable reuse demand of 2,060 AFY, the San Elijo WRF will need to increase its advanced water treatment capacity by 1.8 MGD (2.0 to 3.8 MGD).

### **Meadowlark Water Reclamation Facility**

Meadowlark WRF will provide recycled water to meet long-term water demands to two of the groupings: Group B and Group N. The additional recycled water demand for these groups is 187 AFY and 416 AFY, respectively. In addition, Group N has a long-term potable reuse water demand of 1,100 AFY from Meadowlark WRF. Although the Meadowlark WRF does not currently have advanced treatment capacity, it is anticipated that the facility will have an advanced treatment capacity of 1.0 MGD by 2025. In order to meet a total long-term demand of 1,703 AFY, the Meadowlark WRF will need to increase its tertiary treatment capacity by 2.0 MGD (from 5.0 to 7.0 MGD) and increase its advanced water treatment capacity by 1.0 MGD (from 1.0 to 2.0 MGD).

**Table 2-16: Long-Term Water Treatment Plant Expansions**

Coalition Member/ Owner	Treatment Plant	Existing Treatment Capacity (MGD)			Required Treatment Capacity (MGD) By 2025			Required Treatment Capacity (MGD) By 2035		
		Secondary	Tertiary	Advanced	Secondary	Tertiary	Advanced	Secondary	Tertiary	Advanced
Carlsbad MWD	Carlsbad WRF	--	4.0	--	--	8.0	--	--	12.0	--
Leucadia WWD	Gafner WRF	--	1.0	--	--	2.5	--	--	3.7	--
City of Escondido	HARRF	18.0	8.0	--	21.0	18.0	0.2	27.5	25.0	0.2
	Escondido AWTF	--	--	--	--	--	2.0	--	--	2.0
City of Oceanside										
	San Luis Rey WWTP	13.5	0.7	--	13.5	6.5	2.0	17.4	13.5	5.0
Rincon del Diablo MWD	Harmony Grove WRF	--	--	--	0.2	0.2	--	0.2	0.2	--
San Elijo JPA	San Elijo WRF	5.3	3.0	--	5.3	3.5	2.0	5.3	4.5	3.8
Vallecitos WD	Meadowlark WRF	5.0	5.0	--	5.0	5.0	1.0	7.0	7.0	2.0
<b>TOTAL</b>		<b>41.8</b>	<b>21.7</b>	<b>0.0</b>	<b>45.0</b>	<b>43.7</b>	<b>7.2</b>	<b>57.4</b>	<b>65.9</b>	<b>13.0</b>

1 Max month tertiary demands from San Luis Rey WWTP may exceed average daily flow in the long term scenarios; recycled water supply may need to be supplemented during these months.

## 2.4.5 Potable Reuse Sites

### 2.4.5.1 Short-Term

As described in Section 2.4.1, potable reuse is being considered as a potential water supply in northern San Diego County. Seven potential potable reuse sites have been selected as feasible for purposes of the Proposed Project: Lake Dixon, Mission Basin, San Elijo Valley Basin, San Dieguito Basin, San Dieguito Reservoir, Escondido Valley Basin, and San Marcos Basin. The selected potable reuse sites are shown in **Figure 2-4**. Recycled water can be indirectly reintroduced to the potable water supply system through a variety of methods. The Proposed Project would use surface reservoir augmentation where recycled water is mixed with untreated water in a reservoir, and groundwater recharge where recycled water is allowed to percolate into the aquifer and mix with groundwater. Of the seven potential potable reuse sites included in this project, the Lake Dixon and San Dieguito Reservoir sites are surface reservoir augmentation sites, while the other five are groundwater recharge sites. A summary of short-term and long-term potential potable reuse sites and capacities are summarized in **Table 2-17** and described in further detail below.

**Table 2-17: Potable Reuse Summary**

Agency to Receive Potable Reuse Water	Treatment Plant to Produce Potable Reuse Water	Site for Potable Reuse	Additional Amount of Potable Reuse Water Produced <sup>1</sup>		
			By 2025 (AFY)	By 2035 (AFY)	Total (AFY)
City of Escondido	Escondido AWTF	Lake Dixon	2,200	0	2,200
City of Oceanside	San Luis Rey WWTP – AWT	Mission Basin	2,240	3,360	5,600
Olivenhain MWD	San Elijo WRF – AWT	San Elijo Valley Basin <sup>2</sup>	550	515	1,065
Olivenhain MWD	San Elijo WRF – AWT	San Dieguito Basin <sup>2</sup>	550	515	1,065
Santa Fe ID	San Elijo WRF – AWT	San Dieguito Reservoir <sup>3</sup>	1,100	1,030	2,130
Rincon del Diablo MWD	HARRF – AWT	Escondido Valley Basin	200	0	200
Vallecitos WD	Meadowlark WRF – AWT	San Marcos Basin	1,100	1,100	2,200
<b>TOTAL</b>			<b>7,940</b>	<b>6,520</b>	<b>14,460</b>

<sup>1</sup> The numbers presented within this table represent the amount of potable reuse water that would be provided by each treatment plant by 2025 and 2035; these numbers do not necessarily reflect the total yield produced by each potable reuse site. The total amount of water produced by each potable reuse site will likely be greater given that activities such as conjunctive use (groundwater and untreated surface water) may be implemented at these sites.

<sup>2</sup> Depending on the outcome of feasibility analysis, the San Elijo Valley Basin and San Dieguito Basin potable reuse sites may produce up to 1,100 AFY of water supply in 2025 and 2035 through conjunctive use of groundwater supplies. However, the volumes reported here reflect wastewater flows that will be utilized at the sites.

<sup>3</sup> Santa Fe ID will implement either 1,100 AFY of potable reuse at the San Dieguito Reservoir or 689 AFY of recycled water to meet demands in the eastern service area. Both projects will not take place in the short-term, so the potable reuse numbers presented here are maximum values, assuming that Santa Fe ID implements the 1,100 AFY of potable reuse in the short-term.

### 2.4.5.2 Advanced Treatment Considerations

Information provided in **Table 2-17** demonstrates the anticipated amount of potable reuse water that would be required from each advanced water treatment plant included as part of the Proposed Project. Specific information about each plant, including details about treatment facilities and other components are not known at this time. This information is not currently available, because advanced treatment to potable levels

is variable, depending upon many factors, including the quality of the source water (wastewater) used in the advanced treatment process. While specific treatment details are not known at this time, for purposes of this analysis it is assumed that all advanced water treatment facilities would include treatment components necessary to treat water to a level such that it could be incorporated into the potable water system. The ultimate treatment levels will be determined by the regulatory framework governing potable reuse and the discretion of the regulatory agencies responsible for permitting such facilities.

In general, advanced treatment facilities include multiple barriers necessary to protect public health. In July 2014 the State Water Resources Control Board's Division of Drinking Water released *Regulations for Groundwater Replenishment Using Recycled Water*. These regulations define an industry-standard multiple barrier approach for water purification (referred to as full advanced treatment), which involves oxidizing wastewater using reverse osmosis and an oxidation treatment process. It is assumed that this multi-barrier approach would be implemented at all of the proposed advanced water treatment facilities and that other treatment steps such as source control and pre-treatment will be considered to ensure that full advanced treatment is achieved in accordance with applicable regulations.

### Lake Dixon

Lake Dixon is located within Rincon del Diablo MWD's service area, along Lake Wohlford Road. Potential potable reuse at Lake Dixon is included within Group D of the Proposed Project (see the section above regarding Group D); advanced treated recycled water that would be placed in Lake Dixon would come from the Escondido AWTF. It is anticipated that the demand for advanced treated water from the Escondido AWTF within the City of Escondido's service area would total 2,200 AFY by 2025.

Facilities that would be required to implement potable reuse at Lake Dixon would include construction of the Escondido AWTF, which would include advanced treatment components to treat recycled water from HARRF to levels suitable for potable reuse. It is anticipated that the Escondido AWTF would be located along Escondido Creek Channel, potentially where the Escondido Creek Channel intersects with Citrus Avenue. New pipelines would be required to convey purified water from the Escondido AWTF to Lake Dixon; it is possible that other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at Lake Dixon.

### Mission Basin

Mission Basin is located in the northern portion of the Proposed Project area, within the City of Oceanside's service area. Mission Basin is a groundwater basin running along the San Luis Rey River from approximately Vista Way and Mission Roads to the Oceanside Municipal Airport. The basin has approximately 90,000 AF of storage, and groundwater is high in total dissolved solids (TDS). Groundwater pumped from the basin is processed at the City of Oceanside's groundwater desalter, which has a capacity of 6,000 AFY.

Potential potable reuse at Mission Basin is included within Group G of the Proposed Project (see the section above regarding Group G); purified water that would be recharged into the Mission Basin would come from the San Luis Rey WWTP. It is anticipated that the demand for purified water within the City of Oceanside's service area would total 2,240 AFY in 2025 and increase by an additional 3,360 AFY in 2035 for a total of 5,600 AFY. The San Luis Rey WWTP is an existing treatment plant that treats water to levels suitable for non-potable recycled water use (tertiary levels). In order to implement potable reuse at Mission Basin, the San Luis Rey WWTP would need to be upgraded with advanced treatment components necessary to produce purified water. New pipelines would also be required to convey purified water from the San Luis Rey WWTP to spreading grounds for the Mission Basin; it is possible that other facilities associated with groundwater recharge and other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at Mission Basin.

Potential potable reuse at Mission Basin will be analyzed further in 2014 by the City of Oceanside.

### **San Elijo Valley Basin**

San Elijo Valley Basin is within the Olivenhain MWD service area. In 2013, Olivenhain MWD undertook a study to evaluate the feasibility of a minimum 1 MGD supply from the San Elijo Valley Basin (Olivenhain MWD 2013). This feasibility study evaluated the potential to recharge San Elijo Valley Basin supplies with purified water from the San Elijo WRF; results of the study are not available at this time.

Depending on the outcome of feasibility analysis conducted on the San Elijo Valley Basin, this potable reuse site may produce up to 1,100 AFY of water supply in 2025 through conjunctive use of groundwater supplies. For purposes of this analysis, it is anticipated that demands for purified water (wastewater flows) to recharge the San Elijo Valley Basin will be 550 AFY by 2025 with an additional demand of 515 AFY by 2035 for a total demand of 1,065 AFY by 2035. These demands, which are included as Group H of the Proposed Project, would be provided by San Elijo WRF and served to customers within Olivenhain MWD's service area. San Elijo WRF is an existing treatment plant that treats water to tertiary levels. In order to implement potable reuse at the San Elijo Valley Basin, San Elijo WRF would need to be upgraded with advanced treatment components necessary to produce purified water. New pipelines would also be required to convey purified water from San Elijo WRF to spreading grounds for the San Elijo Valley Basin; it is possible that other facilities associated with groundwater recharge and other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at the San Elijo Valley Basin.

### **San Dieguito Basin**

San Dieguito Basin is within the service areas of Olivenhain MWD and Santa Fe ID. In 2004, Olivenhain MWD studied the San Dieguito Basin for an aquifer storage and recovery project that would use water from the basin as a source of irrigation supply. An additional study is planned for 2015 to evaluate the feasibility of producing a minimum 1 MGD potable supply from the San Dieguito Basin. The proposed study will evaluate the potential to recharge San Dieguito Basin supplies with purified water from various sources, including the CSDs. Specific infrastructural demands for the implementation of potable reuse at San Dieguito Basin will be examined in the proposed 2015 study.

Depending on the outcome of the proposed 2015 study, this potable reuse site may produce up to 1,100 AFY of water supply in 2025 through conjunctive use of groundwater supplies. However, for purposes of this analysis, it is anticipated that purified water demands (from wastewater flows) will be 550 AFY by 2025 with an additional demand of 515 AFY by 2035 for a total demand of 1,065 AFY by 2035. These demands, which are included as Group H of the Proposed Project, would be provided by San Elijo WRF and served to customers within Olivenhain MWD's service area. San Elijo WRF is an existing treatment plant that treats water to tertiary levels. In order to implement potable reuse at the San Dieguito Basin, San Elijo WRF would need to be upgraded with advanced treatment components necessary to produce purified water. New pipelines would also be required to convey purified water from San Elijo WRF to spreading grounds for the San Dieguito Basin; it is possible that other facilities associated with groundwater recharge and other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at the San Dieguito Basin.

The San Dieguito Basin has an estimated storage capacity of between 52,000 and 63,000 AF and is currently used for limited municipal and irrigation purposes.

### **San Dieguito Reservoir**

Santa Fe ID and San Dieguito WD jointly own the 800-AF capacity San Dieguito Reservoir, which is located within Santa Fe ID's service area. It is anticipated that potable reuse involving the San Dieguito Reservoir would take place with purified water from San Elijo WRF that would be pumped to the San

Dieguito Reservoir and distributed throughout Santa Fe ID's service area. Purified water from San Elijo WRF that is stored within the San Dieguito Reservoir would be subsequently treated at the existing R.E. Badger Water Filtration Plant, which is also jointly owned by Santa Fe ID and San Dieguito WD, prior to incorporation into the potable water system. It is anticipated that demands for potable reuse involving the San Dieguito Reservoir will be 1,100 AFY by 2025 with an additional demand of 1,030 AFY by 2035 for a total demand of 2,130 AFY by 2035. These demands, which are included as Group K of the Proposed Project, would be provided by San Elijo WRF and served to customers within Santa Fe ID's service area. Note that as described in **Table 2-5**, Santa Fe ID will implement either 689 AFY of recycled water or 1,100 AFY of potable reuse at the San Dieguito Reservoir under Group K. Both projects will not take place in the short-term.

San Elijo WRF is an existing treatment plant that treats water to tertiary levels. In order to implement potable reuse at the San Dieguito Reservoir, San Elijo WRF would need to be upgraded with advanced treatment components necessary to produce purified water. New pipelines would also be required to convey purified water from San Elijo WRF to the San Dieguito Reservoir; it is possible that other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at the San Dieguito Reservoir.

### **Escondido Valley Basin**

Escondido Valley Basin is within the Rincon del Diablo MWD service area, and Rincon del Diablo MWD recently investigated the feasibility of a potable reuse project in the Harmony Grove Valley. Although results showed that potable reuse was not feasible in the northern portion of the Harmony Grove Valley, Rincon del Diablo MWD plans to continue investigations for potable reuse elsewhere within the Escondido Valley Basin.

The Escondido Valley Basin has a storage capacity of 24,000 AF and is currently used for limited groundwater production. The demands for potable reuse involving the Escondido Valley Basin within Rincon del Diablo MWD's service area are anticipated to be 200 AFY by 2025. These demands, which are included as Group I of the Proposed Project, would be provided by HARRF. HARRF is an existing treatment plant that treats water to tertiary levels. In order to implement potable reuse at the Escondido Valley Basin, HARRF would need to be upgraded with advanced treatment components necessary to produce purified water. New pipelines would also be required to convey purified water from HARRF to spreading grounds for the Escondido Valley Basin; it is possible that other facilities associated with groundwater recharge and other facilities such as pump stations and other appurtenances would also be required to implement potable reuse at the Escondido Valley Basin.

### **San Marcos Basin**

San Marcos Basin is located in Vallecitos WD's service area, near Highway 78 and San Marcos Boulevard. The basin has a storage capacity of between 39,000 and 78,000 AF, with an estimated recharge capacity of 4,600 AFY.

Potential potable reuse at San Marcos Basin is included within Group N of the Proposed Project; purified water that would be recharged to the San Marcos Basin would come from Meadowlark WRF. It is anticipated that the demand for purified water within the Vallecitos WD's service area would total 1,100 AFY by 2025 and increase by an additional 1,100 AFY by 2035 for a total demand of 2,200 AFY. Meadowlark WRF is an existing treatment plant that treats water to tertiary levels. In order to implement potable reuse at San Marcos Basin, Meadowlark WRF would need to be upgraded with advanced treatment components necessary to produce purified water. New pipelines would also be required to convey purified water from the Meadowlark WRF to spreading grounds for the San Marcos Basin; it is possible that other facilities associated with groundwater recharge and other facilities such as pump stations and other

appurtenances would also be required to implement potable reuse at the San Marcos Basin. Potential potable reuse at Mission Basin will be analyzed further in 2014 by the City of Oceanside.

### **2.4.5.3 Long-Term**

As described in the preceding section and shown on **Table 2-17**, five of the potable reuse sites also have long-term components. In addition to the specific potable reuse sites and treatment plants listed in **Table 2-17**, any of the treatment plants in the region may be upgraded to include advanced water treatment components to supply water for potable reuse in the long-term. Long-term potable reuse components of the Proposed Project are described briefly below.

Please note that because the long-term project components are not included within the Proposed Project, they are described in limited detail for informational purposes only. This PEIR acknowledges the long-term project components as part of the Facilities Plan/Feasibility Study build-out condition, but does not include the long-term components in the analysis.

#### **Mission Basin**

Mission Basin is located in the northern portion of the Proposed Project area, within the City of Oceanside's service area. Potential potable reuse at Mission Basin is included within Group G of the Proposed Project; purified water that would be recharged into the Mission Basin would come from the San Luis Rey WWTP. It is anticipated that the demand for purified water within the City of Oceanside's service area would total 2,240 AFY in 2025 and increase by an additional 3,360 AFY in 2035 for a total of 5,600 AFY in the long-term.

#### **San Elijo Valley Basin**

San Elijo Valley Basin is within the Olivenhain MWD service area. It is anticipated that potable reuse involving the San Elijo Valley Basin would take place with purified water from San Elijo WRF that would recharge the San Elijo Valley Basin and be distributed throughout Olivenhain MWD's service area. Demands for potable reuse involving the San Elijo Valley Basin are included as part of Group H and are anticipated to total 550 AFY by 2025 with an additional demand of 515 AFY by 2035 for a total demand of 1,065 AFY by 2035 in the long-term.

#### **San Dieguito Basin**

San Dieguito Basin is within the service areas of Olivenhain MWD and Santa Fe ID. It is anticipated that potable reuse involving the San Dieguito Basin would take place with purified water from San Elijo WRF that would recharge the San Dieguito Basin and be distributed throughout Olivenhain MWD's service area. Demands for potable reuse involving the San Dieguito Basin are included as part of Group H and are anticipated to total 550 AFY by 2025 with an additional demand of 515 AFY by 2035 for a total demand of 1,065 AFY by 2035 in the long-term.

#### **San Dieguito Reservoir**

Santa Fe ID and San Dieguito WD jointly own the 800-AF capacity San Dieguito Reservoir, which is located within Santa Fe ID's service area. It is anticipated that potable reuse involving the San Dieguito Reservoir would take place with purified water from San Elijo WRF that would be pumped to the San Dieguito Reservoir and be distributed throughout Santa Fe ID's service area after being treated at the R.E. Badger Water Filtration Plant. Demands for potable reuse involving the San Dieguito Reservoir are included as part of Group K and are anticipated to total 1,100 AFY by 2025 with an additional demand of 1,030 AFY by 2035 for a total demand of 2,130 AFY by 2035 in the long-term.

## **San Marcos Basin**

San Marcos Basin is located within the Vallecitos WD's service area. Potential potable reuse at San Marcos Basin is included within Group N of the Proposed Project; purified water that would be recharged into the San Marcos Basin would come from the Meadowlark WRF. It is anticipated that the demand for purified water within the Vallecitos WD's service area would total 1,100 AFY by 2025 and increase by an additional 1,100 AFY by 2035 for a total demand of 2,200 AFY.

### **2.4.6 Other Facilities**

In addition to treatment plants and pipelines, there will be other facilities associated with the Proposed Project such as pump stations, storage reservoirs, pressure reducing stations, etc. Although all facilities associated with each grouping have not yet been defined for this program-level analysis, one additional facility, the El Corazon site, has been defined due to its large scale and undeveloped nature.

### **El Corazon Site**

As explained in Section 2.4.2 pertaining to Group G, the El Corazon site is an undeveloped site that is planned for future development and is located within the City of Oceanside, at the corner of El Camino Real and Oceanside Boulevard, approximately 3 miles south of the San Luis Rey WWTP. For purposes of the Proposed Project, it is anticipated that the El Corazon site will be used to store and deliver recycled water, and will therefore be upgraded to include pumping, storage, and equalization facilities. The onsite construction proposed at the El Corazon site will enable the City of Oceanside to maximize the use of recycled water produced at San Luis Rey WWTP and expand recycled water infrastructure to the southeastern portion of its service area.

For purposes of this analysis, it is assumed that above-ground storage and equalization facilities will be located at the El Corazon site; however, in the future it is possible that the El Corazon site could contain a standalone treatment facility (scalping facility) that would treat secondary flows from the San Luis Rey WWTP to tertiary or more advanced levels for distribution to customers for either potable or non-potable uses.

### **2.4.7 Seasonal Storage Sites**

#### **2.4.7.1 Short-Term**

There are no short-term seasonal storage project components.

#### **2.4.7.2 Long-Term**

Long-term seasonal storage will be analyzed in the Feasibility Study to potentially eliminate the need for peak tertiary treatment capacity, balance supply and demand of recycled water, and provide cost savings to the Coalition members. Of the 12 potential long-term storage sites considered, two were selected for inclusion in the Feasibility Study: Maerke Dam Reservoir/Squires II Reservoir and South Lake.

Please note that because the long-term project components are not included within the Proposed Project, they are described in limited detail for informational purposes only. This PEIR acknowledges the long-term project components as part of the Facilities Plan/Feasibility Study build-out condition, but does not include the long-term components in the analysis.

### **Maerke Dam Reservoir/Squires II Reservoir**

Maerke Dam Reservoir (Squires II Reservoir) would be constructed and owned by Carlsbad MWD, and located in the eastern portion of the Carlsbad MWD service area, near the border with the City of Oceanside



and Vista ID, at the eastern end of Sunny Creek Road. It is proposed to have a storage capacity of 1,100 AF, which was previously identified by Carlsbad MWD as a potential potable water storage site.

If used for seasonal storage of recycled water, Maerkle Dam Reservoir/Squires II Reservoir would likely store tertiary-treated recycled water and would not be re-treated prior to distribution; however, chlorination facilities may be required to maintain a chlorine residual consistent with regulatory standards.

### South Lake

South Lake is a 500 AF reservoir owned by Vallecitos WD. It is located near Twin Oaks Valley Road, which turns into San Elijo Road. It had been identified in the past for recycled water storage.

## 2.5 Construction Considerations

Table 2-18 provides a proposed timeline for construction of each project component.

**Table 2-18: Anticipated Construction Schedule for the Short-Term Recycled Water Components of the Proposed Project**

Project Component	Timeline
Group A	2016
Group B	N/A – Long-Term Only
Group C	2020-2021
Group D	2021
Group E	2016
Group G	2020-2021
Group H	2015
Group I	2014-2020
Group J	2013-2016
Group K	2022-2024
Group L	N/A – Long-Term Only
Group M	2021
Group N	N/A – Potable Reuse Only
Group O	2015-2017

### 2.5.1 Pipeline Construction

Proposed pipelines would be installed in existing public ROWs and newly acquired easements (where necessary) and would be buried except for circumstances such as channel bridge crossings. Typical pipeline construction processes are described below:

**Staging Areas** - At various locations along the construction route, staging areas would be required to store pipe, construction equipment, and other construction-related material. Staging areas would be established along the route where space is available, such as vacant lots, roadway turnouts, and parking lots. Certain staging areas may be used for the duration of project construction due to their favorable location in terms of convenient access and lack of sensitive receptors. As pipeline construction moves along the route, staging areas may also be moved to minimize hauling distances and avoid disrupting any one area for extended periods of time. Potential staging areas include vacant private and public land, parking lots, and segments of closed traffic lanes. Applicable land use agencies would need to review the Construction Staging and Traffic Management Plan and approve lane closures to street segments and intersections. The land use agency or its contractor would make arrangements for the use of staging areas.

**Surface Preparation** - Surface preparation involves removing structures (such as fences), pavement, and/or vegetation from the trench area. Equipment used for this activity includes jack hammers, pavement saws, bulldozers, loaders, and trucks.

**Trench Excavation/Shoring** - A backhoe, excavator, or trencher would be used to dig trenches for pipe installation. In general, trenches would have vertical side walls to minimize the amount of soil excavated, and the area needed for the construction easement. Soils excavated from the trenches, if of suitable quality, would be stockpiled alongside the trench or in staging areas for later reuse in backfilling the trench. If not reusable, the soil would be hauled off site for disposal. Disposal options include use as cover material at sanitary landfills and use as “clean fill” at other sites. In general, pipe trenches would be 3 to 6 feet wide and 4 to 10 feet deep. Deeper installations may be required under special circumstances, such as large utility or channel crossings. Where parallel pipelines are proposed, a single trench would be used for both pipes where possible. Fiber optic conduit would also be installed within the pipeline trench (brine conveyance or recycled water), where possible.

Pipeline trenches, in any given location, would be open for two to three days on average. During construction, vertical wall trenches would be temporarily “closed” at the end of each work day, by covering with steel plates or backfilled.

Trenches would be backfilled with either the excavated soil or imported material. Dump trucks would be used to deliver imported, engineered backfill material to stockpiles near the trenching operation. Native soil would be reused for backfill to the greatest extent possible; however, the soil may not have the properties necessary for compactability and stability. Specific assumptions regarding the amount of soil export are included within **Appendix C**.

**Surface Restoration** - The final step in the installation process would be to restore the ground surface. When the pipe is installed in a paved roadway, repaving would occur after pipeline installation and testing. New asphalt or concrete pavement would be placed to match the surrounding road type. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction. A repaving crew would follow the pipe installation crew and prepare the road surface for repaving. Final repaving would be done after pipeline installation and testing is completed for a whole street width, lane width, or trench width.

**Trenchless Construction Methods** - If pipelines need to be installed without disturbing the ground surface tunneling methods such as jack and boring or horizontal directional drilling (HDD) would be used. These two methods are described in more detail below:

- **Jack and Boring** - Jack and boring employs a non-steerable system that drives an open-ended pipe laterally using a percussive hammer, thereby resulting in the displacement of soil limited to the wall thickness of the pipe. For this construction method, pits would be dug on either side of the surface feature to be avoided (e. g. stream crossing or heavily traveled roadway). The pits are typically 10 to 15 feet wide and 10 to 20 feet long for the receiving pit and up to 50 feet long for the jacking pit. The depth would depend on the feature to be avoided. The boring equipment and pipe would be lowered into the pit and aligned at the appropriate depth and angle to achieve the desired exit location. A compressor would supply air to the pneumatic ramming tool to thrust the pipe forward. A cutting shoe may be welded to the front of the lead pipe to help reduce friction and cut through the soil.

Several options are available for ramming various lengths of pipe. An entire length of pipe could be installed at once or, for longer distances, one section at a time could be installed. In that case the ramming tool would be removed after each section is in place and a new section would be welded on to the end of the newly installed section. The ramming machine would be connected to

the new section and ramming would continue. In certain installations, a winch could be connected to the lead end of the pipe to assist in pulling it out. This would require installation of a connection via a pilot hole.

Depending on the size of the installation, spoil from inside the pipe would be removed with an auger, compressed air, water, or a combination of techniques. A seal cap would be installed on the starter pit side of the installation and spoil would be discharged into the receiver pit. Using this technique, ground surface disturbance would not occur, except at the pits.

- **Horizontal Directional Drilling** - HDD crossings are installed by using a drill rig, with the top of the drill rig tilted up at an angle of ten degrees from horizontal. The bore entry holes are drilled from the starting point to the destination point. In preparing the hole, a small diameter (3-inch to 8-inch-wide) pilot hole is first drilled in a gentle arc from the drill rig to the completion hole on the other side of the area to be crossed. This pilot hole can be guided using magnetic readings transmitted from the drill bit back to the drill rig. The pilot hole is progressively reamed to the finished diameter and the carrier pipe is then pulled into place. After the initial hole is drilled, the final bore entry pit, approximately 10 feet square by several feet deep, is constructed and is used as the collection point for Bentonite drilling mud and drill spoil. During the directional drill procedure, drilling mud is injected into the drill and recovered from the entry hole until the drill bit surfaces at the exit pit. Once the drill bit surfaces, the drilling mud is recovered at both the entry and exit hole, pumped into tanks and transported back to the rig location for cleaning and eventual reuse.

### 2.5.2 Facility Construction

Typical construction activities involved in the construction of pump station and storage sites include the following:

- **Site Preparation** - This phase of construction may involve tree and brush removal, pavement removal, buried utility removal and/or relocation, and structure demolition. Survey staking would be used to define the land limits of the new facility.
- **Earthwork** - After the site is cleared, grading would begin. The contractor would attempt to balance earthwork cut and fill quantities within the construction area to the extent feasible. Material excavated would be used to create screening berms and/or spread across other areas of the site to establish a preliminary grade for structures. Rock removal by blasting may be necessary at the tank site to prepare grade for the foundation. Following rough grading, additional excavation would bring the site to final grade and allow for preparation for underground piping and structural slabs. Additional site work would include paving, temporary and permanent security fencing, and site lighting. Additional access roads and a staging area would also be provided to accommodate construction, operation, and maintenance.

In certain construction situations, excavations could require dewatering of shallow groundwater, and potentially the development of surface and/or subsurface drainage systems.

- **Structural Improvements** - Prior to pouring concrete, structural forms, rebar, pipes and conduits would be installed for the facility. After the concrete is poured, it would be finished and cured before the forms are removed. For the pump station, after the concrete footing and slab are poured, the masonry walls would be constructed and then roof trusses and decking would be installed. For storage facilities, after the foundation is poured the concrete tank would be erected over the foundation slab.

- **Paving** - All parking areas, and access roads, would be paved. Paving would be performed incrementally throughout the site area as large construction and non-rubber tread equipment are removed from the site.
- **Electrical/Instrumentation** - After the structure is erected electrical equipment (e.g., machinery control consoles, switchboards, and lighting) would be installed. Site work such as installing pull boxes, conduits, and cables would continue. After roofs on the buildings and facilities are secured, flow meters, level probes, pressure instruments, process analyzers, and other instrumentation would be installed. Additionally, water quality adjustment, sampling, and monitoring equipment would be installed.
- **Startup and Testing** - This phase of construction would involve personnel from the applicable land use agencies or Coalition members (i.e., engineers, inspectors, operators, maintenance crews, and instrumentation specialists) and the contractor working with the equipment vendors to understand how each piece of equipment would operate and function. Under supervision from the applicable land use agencies, as applicable, the contractor would start up and test the equipment on site to guarantee that pumps, motors, valves, monitoring and communication equipment are functional and meet design requirements and standards.

### 2.5.3 Construction Area(s) and Footprint

Prior to the start of pipeline construction, the Coalition partners would obtain necessary acquisitions or easements from applicable land use agencies, and would either acquire permits or specify requirements for the contractor to obtain permits in the contract documents (plans and specification). The contractor would conduct field surveys to locate the centerline of pipelines and/or footprint(s) of the facility improvements, which would include temporary use areas (e.g. staging areas). For the purposes of this environmental analysis, a standard construction ROW or affected area of up to 40 feet has been applied for the linear conveyance improvements.

### 2.5.4 Construction-Related Water Use

Water would be required to support Proposed Project-related construction for soil conditioning, flushing and hydrostatic testing, construction dewatering, cleaning, and dust control. Traditional sources would include:

- Public domestic water or recycled water system (via fire hydrants), and
- Water brought in by truck or storage tanks.
- Following the construction of new pipeline facilities, each segment would undergo hydrostatic testing to applicable standards. Recycled water from the existing distribution system would be used where possible. Potable water from the distribution system would be used if recycled water is not available. Any leaks would be repaired and the section retested until specifications are achieved. Water utilized during hydrostatic testing or construction dewatering would be disposed of in accordance with contract documents.
- If direct discharge to surface waters is required, the applicable agency or district from the Coalition would need to seek coverage under the San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2010-003 (CAG679001): Discharges Of Hydrostatic Test Water And Potable Water To Surface Waters And Storm Drains Or Other Conveyance Systems Within The San Diego Region or Order No. R9-2008-0002 (CAG919002): Groundwater Extraction And Similar Discharges To Surface Waters Within The San Diego Region Except For San Diego Bay. All hydrostatic testing water would be discharged in a manner to control the rate of discharge and

to minimize erosion and turbidity to meet the standards set forth under the terms and conditions of the applicable permit.

## 2.6 Responsible Agencies, Permits, and Approvals

**Table 2-19** summarizes the potential permits and/or approvals from other agencies that may be required prior to construction of the Proposed Project.

**Table 2-19: Responsible Agencies and Coordination**

Agency	Type of Approval
<b>FEDERAL</b>	
U.S. Fish and Wildlife Service	Federal Endangered Species Act Compliance (Section 7 Consultation) ( <i>Potential</i> )
U.S. Army Corps of Engineers	Clean Water Act, Section 404, Nationwide Permit(s) ( <i>Potential</i> )
<b>STATE</b>	
California Department of Fish & Wildlife (Region 5)	State Endangered Species Act Compliance ( <i>Potential</i> ) Section 1600 Streambed Alteration Agreement ( <i>Potential</i> )
San Diego Regional Water Quality Control Board (Region 9)	<p>National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region (Order R9-2013-0001 and NPDES No. CAS0109266)</p> <p>General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-0006-DWQ and NPDES No. CAS000002)</p> <p>General Permit for Landscape Irrigation Uses of Municipal Recycled Water (Order No. 2009-0006-DWQ)</p> <p>Update/expansion of existing treatment plant permits, along with new permits for AWT facilities:</p> <ol style="list-style-type: none"> <li>1. Waste Discharge Requirements for Vallecitos Water District Meadowlark Water Reclamation Plant San Diego County (Order No. R9-2007-0018)</li> <li>2. Waste Discharge Requirements for Leucadia Wastewater District Forest R. Gafner Water Reclamation Plant San Diego County (Order No. R9-2004-0223)</li> <li>3. Master Reclamation Permit with Waste Discharge Requirements for the Production and Purveyance of Recycled Water for Carlsbad Municipal Water District Carlsbad Water Recycling Facility San Diego County (Order No. 2001-352)</li> <li>4. NPDES Permit for Encina Wastewater Authority, Discharge to the Pacific Ocean through the Encina Ocean Outfall, San Diego County (Order No. 2000-036 [NPDES No. CA0107395])</li> <li>5. Waste Discharge Requirements and Master Reclamation Permit for the City of Escondido, Hale Avenue Resource Recovery Facility (Order No. R9-2010-0032)</li> <li>6. Waste Discharge Requirements for the City of Oceanside San Luis Rey and La Salina Wastewater Treatment Plants and</li> </ol>

Agency	Type of Approval
	<p>Brackish Groundwater Desalination Facility Discharge to the Pacific Ocean Via the Oceanside Ocean Outfall (Order No. R9-2005-0136 [NPDES No. CA0107433])</p> <p>7. Master Recycled Water Permit for the Production and Purveyance of Recycled Water for San Elijo Joint Powers Authority, San Dieguito Water District, Santa Fe Irrigation District, and City of Del Mar San Elijo Water Reclamation Facility San Diego County (Order No. 2000-10)</p> <p>8. Waste Discharge Requirements for the Marine Corps Base, Camp Pendleton, Southern Regional Tertiary Treatment Plant And Advanced Water Treatment Plant, Discharge to the Pacific Ocean via the Oceanside Ocean Outfall (Order No. R9-2013-0112 [NPDES No. CA0109347])</p> <p>9. Waste Discharge Requirements for the Fairbanks Ranch Community Services District Fairbanks Ranch Water Pollution Control Facility San Diego County (Order No. 93-05)</p> <p>10. An Addendum Modifying Waste Discharge Requirements for the Rancho Santa Fe Community Services District Rancho Santa Fe Water Pollution Control Facility San Diego County (Addendum No. 1 to Order No. 92-04)</p> <p>11. Waste Discharge Requirements for the Whispering Palms Community Service District Whispering Palms Water Pollution Control Facility San Diego County (Order No. 94-80)</p> <p>Discharges Of Hydrostatic Test Water And Potable Water To Surface Waters And Storm Drains Or Other Conveyance Systems Within The San Diego Region (Order No. R9-2010-003 (CAG679001)) (<i>Potential</i>)</p> <p>Groundwater Extraction And Similar Discharges To Surface Waters Within The San Diego Region Except For San Diego Bay (Order No. R9-2008-0002 (CAG919002)) (<i>Potential</i>)</p> <p>Clean Water Act, Section 401, Water Quality Certification (<i>Potential</i>)</p>
California Department of Public Health	Amended Domestic Water Supply Permit ( <i>Potential</i> )
California Department of Transportation	Highway Encroachment Permit
California Department of Water Resources – Division of Safety of Dams	Approvals and permits for dam facilities and structures
State Historic Preservation Office	Section 106 Consultation in compliance with the National Historic Preservation Act ( <i>Potential</i> )
<b>LOCAL</b>	
City of Carlsbad	<p>Approvals including Conditional Use Permit and Design Review (<i>as required</i>)</p> <p>Roadway Encroachment Permit</p> <p>Construction Staging and Traffic Management Plan</p> <p>Construction Stormwater Pollution Prevention Plan</p>

Agency	Type of Approval
	Coastal Development Permit Special Use Permit
City of Encinitas	Approvals including Conditional Use Permit and Design Review ( <i>as required</i> ) Roadway Encroachment Permit Construction Staging and Traffic Management Plan Construction Stormwater Pollution Prevention Plan
City of Escondido	Approvals including Conditional Use Permit and Design Review ( <i>as required</i> ) Roadway Encroachment Permit Construction Staging and Traffic Management Plan Construction Stormwater Pollution Prevention Plan
City of Oceanside	Approvals including Conditional Use Permit and Design Review ( <i>as required</i> ) Roadway Encroachment Permit Construction Staging and Traffic Management Plan Construction Stormwater Pollution Prevention Plan
City of Vista	Approvals including Conditional Use Permit and Design Review ( <i>as required</i> ) Roadway Encroachment Permit Construction Staging and Traffic Management Plan Construction Stormwater Pollution Prevention Plan
County of San Diego	Minor or Major Use Permit ( <i>Potential</i> ) Grading Permit Approval or Grading Exemption Approval ( <i>Potential</i> ) Roadway Encroachment Permit
San Diego County Air Pollution Control District	Authority to Construct Authority to Operate
North County Transportation District	Roadway Encroachment Permit ( <i>Potential</i> )
Private Property Owner(s)	Easement, purchase, or lease agreement for tank site

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## Chapter 3 Environmental Analysis

### 3.1 Aesthetics

This section provides a description of the existing visual resources in the Study Area, provides relevant regulatory information, and evaluates potential impacts on visual resources from implementation of the Proposed Project. The Proposed Project has the potential affect scenic vistas, degrade the existing visual character or quality of the project site and surrounding areas, and create light and glare. Mitigation measures identified in this section would reduce potential impacts to levels that are less than significant.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential aesthetic impacts.

#### 3.1.1 Physical Environmental Setting - Aesthetics

The following section describes the existing aesthetic environment (visual setting) of the Study Area.

##### Scenic Views and Resources

##### **Regional – San Diego County**

The landscape of the San Diego region contains extensive natural open space, unique topographic resources, and scenic vistas. These natural features contribute greatly to the overall quality of the existing visual setting. Urban land uses are generally concentrated in the westernmost portion of the County that is located closest to the ocean, while the easternmost portion of the County is largely undeveloped with mountains and desert dominating the landscape. The majority of the Study Area is located within the developed portion of the County, largely within the low-lying Coastal Plain.

The portion of the Study Area that lies within the unincorporated County falls within the San Dieguito sub-regional planning area identified by the County of San Diego. The San Dieguito sub-regional planning area is characterized as a low-density estate residential area that is surrounded by rapidly urbanizing areas (County of San Diego 2014).

There are vast publicly owned lands within the Study Area, which provide open space and visual relief from the urban environment, including the Marine Corps Base Camp Pendleton in northern San Diego County (north of the City of Oceanside and partially included within the Study Area). Parks, habitat preserves, reservoirs, and undeveloped lands contribute to the County’s open space lands and overall aesthetic resource value. The developed environment also contributes scenic features within the County such as built uses including architectural design, historic structures and districts, streetscapes, and manufactured landscapes.

San Diego County has established a Scenic Highway System, several segments of which are located within the Study Area. **Table 3.1-1** shows the portions of the San Diego County Scenic Highway System located within proximity to the Study Area.

**Table 3.1-1: Designated County Scenic Highways in the Study Area**

Eligible County Scenic Highway	From	To
Interstate 5	Oceanside City Limits	Orange County Line
State Route 76	Oceanside City Limits	Interstate 15
State Route 15	Escondido City Limits	Riverside County Line
Bear Valley Parkway and State Route 78	Escondido City Limits	Via Rancho Parkway
Elfin Forest Road / Harmony Grove Road	San Marcos City Limits	Escondido City Limits

Source: San Diego County, 2011

### City of Oceanside

The City of Oceanside is the northern-most coastal city within San Diego County, located adjacent to the Pacific Ocean. The City contains a varied topography that contributes to the diverse visual landscape. Scenic resources include the Guajome Regional Park, Mission San Luis Rey Historic Area, and open space areas (Kanlund 2014). The City of Oceanside General Plan does not explicitly identify any scenic resources within the City of Oceanside. However, the City of Oceanside's Coastal Permit Handbook for the Local Coastal Program (LCP) recognizes that Oceanside's Coastal Zone "is blessed with several important natural aesthetic resources, including the ocean, the San Luis Rey River, and Buena Vista Lagoon" (City of Oceanside 1985). The LCP further describes how the City's grid street pattern allows public views of the aforementioned water bodies from several vantage points and indicates that while there are no developed vista points in Oceanside, several locations meet this purpose. Such locations include the fishing area at Buena Vista Lagoon, the frontage road adjacent to the inner lagoon, the Oceanside Pier, and the bluff promenade along Pacific Street. The LCP also indicates that Coast Highway (Hill Street) represents "a major 'window' to the coast" because it is the major north-south directional through street in the Coastal Zone.

Two treatment plants that are part of the Proposed Project are located within the City of Oceanside: San Luis Rey WWTP and La Salina WWTP. In addition, a major other facility included within the Proposed Project (the El Corazon Site) would also be located within the City of Oceanside. Both the San Luis Rey and the La Salina WWTP facilities are existing facilities, while the El Corazon Site has not yet been constructed. The La Salina WWTP is part of Oceanside's overall system, but will not provide flows as part of the Proposed Project; only the San Luis Rey WWTP will provide supplies for the Proposed Project. The existing San Luis Rey WWTP is located off of North River Road within proximity to the San Luis Rey River. The San Luis Rey WWTP is surrounded to the east and south by residential uses and to the northeast, north, west, and southwest by open space. Windmill Lake is located immediately west of the San Luis Rey WWTP. The existing La Salina WWTP is located north of Loma Alta Creek, approximately 0.5 miles east of Interstate 5 and 500 feet from the Pacific Ocean. There are residential uses located immediately west and north of the treatment plant, recreation uses to the south (Loma Alta Marsh and Buccaneer Park), and transportation uses to the east (railroad corridor). As described in the Project Description, the El Corazon Site is anticipated to contain recycled water storage and equalization facilities, but could also contain additional recycled water facilities or could house a stand-alone water reclamation facility, pending the results of ongoing planning studies. The El Corazon Site would be located on a parcel of land that is owned by the City of Oceanside.

### City of Carlsbad

The City of Carlsbad, located south of Oceanside, contains a diverse visual character due to its location along the Pacific Ocean and the varied topography that exists within the City. A number of roadways within the City are considered scenic because they provide vistas of the ocean, lagoons, open space, back country, and urban activities. The City of Carlsbad Scenic Corridor Guidelines (1988) identifies three tiers of scenic corridors within the City. These corridors, which provide scenic vistas, include:

- Community Theme Corridors: El Camino Real, Carlsbad Boulevard, and Palomar Airport Road
- Community Scenic Corridors: College Boulevard, Interstate 5, Cannon Road, Poinsettia Lane/Carrillo Way, Olivenhain Road/Rancho Santa Fe Road, La Costa Avenue, Faraday Avenue, and Elm Avenue
- Natural Open Space and Recreation Corridors: Adams Streets/Park Drive, Batiquitos Lane, and Jefferson Street.

Four treatment plants that are part of the Proposed Project are located within the City of Carlsbad: Carlsbad WRF, Encina WPCF, Gafner WRP, and Meadowlark WRF. The existing Carlsbad WRF is

located west of Interstate 5, off Avenida Encinas. Commercial, open space, and residential uses are located to the east of the Carlsbad WRF. The Encina WPCF is located to the north of the Carlsbad WRF, and an undeveloped parcel is located to the south. Open space and Carlsbad Seapointe Resort are located to the west. The Pacific Ocean is located approximately 1,000 west of the Carlsbad WRF and Encina WPCF sites. The existing Gafner WRP is located off La Costa Avenue. The Gafner WRP is surrounded by a shopping center to the west, the La Costa Country Club to the north, and residential uses to the east and south. The existing Meadowlark WRF is located west of South Rancho Santa Fe Road. The Meadowlark WRF is surrounded to the north by residential uses, and open space on all other sides. However, graded lots to the west and southeast suggest new development will be built in the vicinity of the plant.

### **City of Encinitas**

The City of Encinitas is located between the City of Carlsbad to the north and the City of Solana Beach to the south. The City of Encinitas General Plan provides an inventory of public viewing locations that encompass views of coastal and inland areas. Because of its location next to the Pacific Ocean, viewpoints within the City of Encinitas are scattered along the coast (City of Encinitas 2010b)

The existing San Elijo WRF is located within the City of Encinitas, west of Interstate 5, off Manchester Avenue. Residential uses are located to the west of the San Elijo WRF, and open space and the San Elijo Lagoon are located to the south.

### **City of Escondido**

Escondido is the most inland of the cities in the Study Area. One of the characteristics that distinguishes Escondido from other communities in the region is its location in a series of valleys that are surrounded by visually distinctive hillsides and ridgelines. The hillsides and ridges within the City of Escondido are considered visually prominent in views from the valley floor. Scenic resources in the City include Escondido Creek, other water bodies and courses such as Lake Dixon, open space areas (including parks), and Multiple Habitat Conservation Program (MHCP) lands (refer to *Section 3.4, Biological Resources*).

Scenic roadways include Interstate 15 through the entire Study Area, segments of Del Dios Highway to Via Rancho Parkway, Via Rancho Parkway to Bear Valley Parkway, Bear Valley Parkway to Valley Parkway, Valley Parkway to Lake Wohlford Road, and Lake Wohlford Road to the General Plan Update boundary that extends from the southwest corner of the Study Area to the northeast corner; South Citrus Avenue from Bear Valley Road to San Pasqual Valley Road; San Pasqual Valley Road/SR-78 from Bear Valley Parkway to the General Plan Update eastern boundary; and San Pasqual Road from Bear Valley Parkway to San Pasqual Valley Road. These roadways afford views of hillsides or steep slopes with rock outcroppings, lakes and reservoirs, and other scenic resources in the City (City of Escondido 2012b).

Two treatment plants that are part of the Proposed Project are located within the City of Escondido: HARRF and Escondido AWT (proposed facility). HARRF is an existing wastewater treatment facility located within the City of Escondido. HARRF is located off Avenida Del Diablo and South Hale Avenue, west of Interstate 15. Residential uses are located to the east and south of HARRF and open space is located to the west. The Escondido AWT is a planned facility, which would be located along Escondido Creek Channel, potentially on an open parcel of land where the channel intersects with Citrus Avenue.

### **City of Vista**

The City of Vista is an inland community located east of Oceanside and Carlsbad. The topography within the City of Vista ranges from lowland creek beds and valleys to steep slopes and canyons along the San Marcos Mountains, which form the city's eastern and northeastern boundaries. Scenic resources in the City include the rugged San Marcos Mountains, various ridgelines, hills, and valleys, creeks and streams, public and private open space and parks, a network of trails, and buildings of historical and cultural significance. The City has not identified any local scenic roadways or corridors (City of Vista 2011a).

### City of San Marcos

The City of San Marcos is surrounded by Carlsbad and Vista to the west and north, Escondido to the east, and unincorporated San Diego County to the south. The City has prominent landforms such as Mount Whitney, Double Peak, Owens Peak, San Marcos Mountains, Merriam Mountains, Cerro de Las Posas, Franks Peak, and canyon areas that enhance the visual and scenic aesthetics of the City. State Route 78 is designated by the City as a view corridor. Other scenic resources include creek corridors, eucalyptus stands, rock outcroppings, landmark or historic buildings, and ocean views from the hillside (City of San Marcos 2012a).

### City of Solana Beach

The City of Solana Beach is the southern-most city in the Study Area. The most significant visual feature in Solana Beach is the Pacific Ocean. The City of Solana Beach General Plan identifies a number of view corridors and scenic roadways within the City. View Corridors are primarily located along the ocean and along the northern boundary of the city, with several other locations east of Highway 101. The entire length of Highway 101 parallel to the Pacific Ocean and the western reach of Lomas Santa Fe are City-designated scenic roadways (City of Solana Beach 2001). The LCP also shows the citywide view corridors, which are generally consistent with those identified in the General Plan (City of Solana Beach 2013b).

### State-Designated Scenic Highways

There are no designated State Scenic Highways in the vicinity of the Study Area in San Diego County. The nearest officially designated State Scenic Highway is an 18-mile stretch of Route 78 (Anza-Borrego Desert State Park Road from the western boundary of the Anza-Borrego Desert State Park to the east Boundary of the park) located approximately 35 miles east of the Escondido city limits (Caltrans 2013; City of Escondido 2012b). There are multiple eligible State Scenic Highways in the Study Area that have not been officially designated, as shown in **Table 3.1-2** below.

**Table 3.1-2: Eligible State Scenic Highways in the Region**

Eligible State Scenic Highway	County	From	To
Interstate 5	San Diego	Opposite Coronado	SR 74 North San Juan Capistrano
Route 76	San Diego	I-5 North Oceanside	SR 79 North Lake Henshaw
Route 15	San Diego/Riverside	SR 76 North San Luis Rey River	SR 91 North Corona

Source: California Department of Transportation. California Scenic Highway Mapping System. San Diego County. Available at: [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/index.htm](http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm). Accessed July 23, 2014.

### 3.1.2 Regulatory Framework – Aesthetics

The regulatory setting describes relevant federal, State, and local laws, regulations, plans, and the associated agencies that have jurisdiction over aesthetic resources in the Study Area.

#### Federal

There are no federal regulations related to visual resources relevant to the Proposed Project.

## State

### **California Coastal Act**

Facilities proposed within the State's coastal zone are subject to the visual resources policy of the Coastal Act, as described in the Public Resources Code Division 20, California Coastal Act, Article 6, Development (2014) and summarized below. Each municipality within the jurisdiction of the California Coastal Commission is required to have a LCP in place that guides development in coastal zones to ensure compliance with Sections 30251 and 30254. The following regulations would apply to the cities of Oceanside, Carlsbad, Encinitas, and Solana Beach.

#### *Section 30251 Scenic and Visual Qualities*

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

#### *Section 30254 Public Works Facilities*

New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

### **California State Scenic Highway Program**

Many state highways are located in areas of outstanding natural beauty. In 1963, the California legislature created the Scenic Highway Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.:

A highway or county road may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

As described above, no officially-designated State Scenic Highways (or county roads) occur in the Study Area. Several highways are eligible (through the California Department of Transportation) for scenic rating as shown in **Table 3.1-2**.

## Local

The goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.1-3** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

The following sections identify aspects of the municipal codes and local coastal programs of the individual jurisdictions within the Study Area that relate to the Proposed Project.

## **City of Oceanside**

### *Municipal Code*

Article 22 of the City of Oceanside Zoning Code for the Scenic Park Overlay District (for non-LCP areas) seeks to conserve and protect natural resources of the recreational and scenic areas in and adjacent to the Guajome Regional Park and other public parks. Specific development restrictions are in place for such areas related to grading, orientation of structures, building heights, and use of building materials and finishes have been identified in the article. Planning Commission review and approval is necessary for development in the Scenic Park Overlay District. In addition, all development projects located within the Guajome Regional Park sphere of influence that require discretionary approval will also be reviewed by the Guajome Regional Park Area and Coordinating Committee (City of Oceanside 1992).

### *Local Coastal Program*

The City of Oceanside Local Coastal Program identifies objectives and policies related to visual resources, as follows (City of Oceanside 1985).

Objectives:

- The City shall protect, enhance and maximize public enjoyment of Coastal Zone scenic resources.
- The City shall, through its land use and public works decisions, seek to protect, enhance, and restore visual quality of urban environment.

Policies:

- In areas of significant natural aesthetic value, new developments shall be subordinate to the natural environment.
- All new development shall be designed in a manner which minimizes disruption of natural land forms and significant vegetation.
- The City shall maintain existing view corridors through public rights-of-way.
- Open space buffers or greenbelts shall be provided along major scenic corridors.
- The City shall ensure that all new development is compatible in height, scale, color and form with the surrounding neighborhood.
- In areas where a change to a more intensive use is proposed, adequate buffers or transition zones (such as increased setbacks, landscaped barriers, or decorative walls) shall be provided.
- New development shall utilize optimum landscaping.

## **City of Carlsbad**

### *Municipal Code*

Chapter 21.40, S-P Scenic Preservation Overlay Zone is intended to supplement the underlying zoning by providing additional regulations for development within designated areas to preserve and enhance outstanding views as well as other natural, historic and cultural attributes. This chapter identifies the permitted uses and structures, special use permit requirements, development standards, and processes for development within this overlay zone within the City of Carlsbad (City of Carlsbad ND).

### *Local Coastal Program*

The City of Carlsbad LCP (last amended 2010) consists of five geographic segments: Mello I, Mello II, West Batiquitos Lagoon/Sammis Properties, and East Batiquitos Lagoon/Hunt Properties, and the Agua

Hedionda Lagoon. Policies for each segment related to visual resources for four of the five segments are identified below (City of Carlsbad 2010). The LCP did not include the Agua Hedionda Lagoon segment.

#### *Mello I*

For this segment, the LCP recommends actions to preserve visual/land resources, including: sign control, parking requirements, implementation of the Scenic Preservation Overlay Zone, preservation of natural vegetation on steep slopes, and preservation/mitigation of archaeological resources.

#### *Mello II*

Policy 3-5: Kelly Ranch/Macario Canyon Area addresses preservation of steep slopes, sensitive vegetation and erosion control. Slopes and habitat areas within the designated open space shall be placed in a permanent open space conservation easement or dedicated in fee as a condition of subdivision approval. The purpose of the open space easement shall be to reduce the potential for localized erosion and slide hazards, to prohibit the removal of native vegetation except for creating authorized firebreaks and/or planting fire retardant vegetation and to protect visual resources of importance to the entire community. The easement shall be granted to the City of Carlsbad to be maintained and managed as part of the LCP open space system for Kelly Ranch.

Policy 7-13: Visual Access states that visual access over more than 80% of the Carlsbad coastline is unobstructed because of public ownership. No future public improvements which would obstruct this visual access shall be permitted.

Policy 8-1: Site Development Review (Scenic and Visual Resources, Historic Resources) applies a Scenic Preservation Overlay Zone where necessary throughout the Carlsbad coastal zone to assure the maintenance of existing views and panoramas. Sites considered for development should undergo individual review to determine if the proposed development will obstruct views or otherwise damage the visual beauty of the area. The Planning Commission should enforce appropriate height limitations and see-through construction, as well as minimize any alterations to topography.

#### *West Batiquitos Lagoon/Sammis Properties*

Land use policy 6 addresses scenic and visual qualities. This section identifies the requirements established in the LCP that address visual quality components such as setbacks, preservation of slope areas, preservation of lagoon and riparian habitats, enhancement of lagoon environments and controlled grading. Other policies relevant to the Proposed Project include the need to preserve existing, mature, healthy vegetation such as eucalyptus stands.

#### *East Batiquitos Lagoon/Hunt Properties*

Land use policy 6 addresses scenic and visual qualities. Requirements already described in the LCP relevant to setback, preservation of slope areas, preservation of lagoon and riparian habitats, enhancement of lagoon environments, and controlled grading would be applicable. Addition provisions have also been included specific to this area, including the preservation of existing, mature, healthy vegetation (such as eucalyptus stands) whenever possible.

### **City of Encinitas**

#### *Municipal Code*

Chapter 30.34.030 (Hillside/Inland Bluff Overlay Zone) of the City of Encinitas Municipal Code applies to all areas where site specific analysis indicates that 10 percent or more of the area of a parcel of land exceeds 25 percent slope. In this area, the Planning Commission has the authority to review and grant discretionary approvals for proposed development. This section describes the maximum encroachment in areas of slope greater or equal to 25 percent. However, public utility systems and system components are exempt from the encroachment limitations (City of Encinitas 1995b).

Chapter 30.34.080 (Scenic/Visual Corridor Overlay Zone) of the City of Encinitas Municipal Code applies to all properties within the Scenic View Corridor along Scenic Highways and adjacent to Significant Viewsheds and Vista Points as described in the General Plan. As indicated, when development is proposed on any properties within this zone, consideration will be given to the overall visual impact of the Proposed Project, and conditions or limits on project bulk, mass, height, architectural design, grading, and other visual factors may be applied to Design Review approval and shall be applied to the Coastal Development permit approval (City of Encinitas 1995b).

#### *Local Coastal Program*

The City of Encinitas' Local Coastal Program is included in its General Plan and other provisions of its municipal code and specific plans (City of Encinitas 2010a).

#### **City of Escondido**

##### *Municipal Code*

The City of Escondido does not identify any special scenic preservation overlay zone in its zoning code.

#### **City of Vista**

##### *Municipal Code*

The City of Vista does not identify any special scenic preservation overlay zone in its municipal code.

#### **City of San Marcos**

##### *Municipal Code*

The purpose of Chapter 20.260 (Ridgeline Protection & Management Overlay Zone) of the San Marcos Municipal Code Title 20 – Zoning Ordinance is to preserve primary ridgelines in their natural state and minimize visual impacts to secondary ridgelines through a Ridgeline Overlay Zone (ROZ) and a Ridgeline Development Permit to protect natural viewsheds and unique natural resources. This section describes the primary and secondary ridgelines, development regulations within this zone, and the permit process. Primary and secondary ridgelines are located in three areas of the City, in and around Owen's Peak to the north, and north and south of San Elijo Road in the southern portion of the City. Structures and construction activities are prohibited within the primary ridgeline areas unless exempt under certain conditions. In these areas, certain development restrictions must be applied (e.g., for lot size/configurations, grading/landform modification, maximum building height, color/material). A permit is required for the construction of two or more main structures or parcels that involve grading within this zone (City of San Marcos 2012b).

#### **City of Solana Beach**

##### *Municipal Code*

The purpose of Chapter 17.48.010 (Scenic Area Overlay Zone) of the City of Solana Municipal Code is to regulate development in areas of high scenic value to preserve and enhance the scenic resources present within and adjacent to such areas and to assure the exclusion of incompatible uses and structures. A development review permit is required prior to construction of a development. This section describes the exemptions to this section as well as the development review criteria and process (City of Solana Beach 2013a).

The purpose of Section 17.48.280 (Hillside Overlay Zone or HOZ) is to restrict grading of nature slopes with an inclination of 25 percent or greater to preserve the natural topography and scenic qualities of the City. Development and grading are not permitted on slopes greater than 25 percent except where necessary to prevent the denial of all reasonable economic use of the property. Two of the 23 HOZ areas are recognized to contain slopes with inclines greater than 25 percent that have been disturbed by grading



activities and are atypical to other areas designated as HOZ; limited grading and other development may be permitted in these areas provided that specific requirements are met. Within these areas, height limitations are imposed. This section describes the exemptions to this section as well as the development review criteria and process (City of Solana Beach 2013a).

#### *Local Coastal Program*

Chapter 6 of the Local Coastal Plan (2013b) Scenic outlines the policies relevant to protection of scenic and visual resources. Relevant policies are as follows:

#### *Scenic and Visual Resource Identification*

- Policy 6.1: The City of Solana Beach contains scenic resources of local, regional and national importance. The scenic and visual qualities of these areas shall be protected and where feasible enhanced.
- Policy 6.2: Protect the scenic and visual qualities of Solana Beach, including the unique character of the Highway 101 Railway Corridor, the Cedros Design District, and the shoreline.
- Policy 6.3: Public views to the beach, lagoons, and along the shoreline as well as to other scenic resources from major public viewpoints, as identified in Exhibit 6-1 shall be protected. Development that may affect an existing or potential public view shall be designed and sited in a manner so as to preserve or enhance designated view opportunities. Street trees and vegetation shall be chosen and sited so as not to block views upon maturity.
- Policy 6.4: Locations along public roads, railways, trails, parklands, and beaches that offer views of scenic resources are considered public viewing areas. Existing public roads where there are major views of the ocean and other scenic resources are considered Scenic Roads and include:
  - Highway 101/Pacific Coast Highway and Railway Corridor
  - I-5
  - Lomas Santa Fe Drive

Public views to scenic resources from Scenic Roads shall also be protected

#### *New Development*

- Policy 6.5: Regulate development in areas with high scenic value to preserve and enhance the scenic resources within and adjacent to such areas to the extent feasible, as well as, to assure exclusion of incompatible uses and structures.
- Policy 6.6: New development on properties visible from public trails in and around San Elijo Lagoon and the San Dieguito River Valley shall be sited and designed to protect public views of the ridgelines and natural features of the area through measures including, but not limited to, providing setbacks from the slope edge, restricting the building maximum size, reducing maximum height limits, incorporating landscape elements and screening, incorporating earthen colors and exterior materials that are compatible with the surrounding natural landscape (avoiding bright whites and other colors except as minor accents). The use of highly reflective materials shall be prohibited.
- Policy 6.7: Fences, walls, and landscaping shall not block major public views of scenic resources or views of other public viewing areas.
- Policy 6.8: Proposed development that unreasonably interferes with or degrades natural or man-made visual features of sites, or adjacent sites, which contribute to the City's scenic attractiveness, as viewed from either a scenic road, or scenic resources, including the San Elijo Lagoon Ecological Reserve and its watershed, shall be prohibited.

- Policy 6.9: The impacts of proposed development on existing public views of scenic resources shall be assessed by the City prior to approval of proposed development or redevelopment to preserve the existing character of established neighborhoods. Existing public views of the ocean and scenic resources shall be protected.
- Policy 6.10: New development shall be sited and designed to minimize adverse impacts on scenic resources visible from scenic roads or major public viewing areas. If there is no feasible building site location on the proposed project site where development would not be visible then the development shall be sited and designed to minimize impacts on scenic areas visible from Scenic Roads or major public viewing areas, through measures including, but not limited to, siting development in the least visible portion of the site, breaking up the mass of new structures, designing structures to blend into the natural hillside setting, restricting the building maximum size, reducing maximum height standards, clustering development, minimizing grading, incorporating landscape elements, and where appropriate berming.
- Policy 6.11: Avoidance of impacts to scenic resources through site selection and design alternatives is the preferred method over landscape screening. Landscape screening, as mitigation of visual impacts shall not substitute for project alternatives including resiting, or reducing the height, or bulk of structures.
- Policy 6.12: All new development shall be sited and designed to minimize alteration of natural landforms by:
  - Conforming to the natural topography.
  - Preventing substantial grading or reconfiguration of the project site.
  - Eliminating flat building pads on slopes and utilizing split level or stepped-pad designs.
  - Requiring that man-made contours mimic the natural contours to and blend with the existing terrain of the site and surrounding area.
  - Minimize grading outside of the building footprint.
  - Clustering structures to minimize site disturbance and to minimize development area.
  - Minimizing height and length of cut and fill slopes.
  - Minimizing the height and length of retaining walls.
  - Cut and fill operations may be balanced on-site, where the grading does not substantially alter the existing topography and blends with the surrounding area.
  - Export of cut material may be required to preserve the natural topography
- Policy 6.13: New development, including a building pad, if provided, shall be sited on the flattest area of the project site, except where there is an alternative location that would be more protective of scenic resources or ESHA.
- Policy 6.14: All new structures shall be sited and designed to minimize impacts to scenic resources by:
  - Ensuring visual compatibility with the character of surrounding areas.
  - Avoiding large cantilevers or under stories.
  - Setting back higher elements of the structure toward the center or uphill portion of the building.

*Development Review Criteria for Scenic Overlay Area*

- Policy 6.15: The general criterion of development review is that the proposed development shall not, to the maximum extent feasible, interfere with or degrade those visual features, natural or manmade, of the site or adjacent sites which contribute to its scenic attractiveness, as viewed

from either the scenic highway or the adjacent scenic, historic, or recreational resource. In applying this general criterion, the following policies 6.16 through 6.23 shall be evaluated when they are applicable as listed below:

- Policy 6.16: All development shall be compatible with the topography, vegetation, and colors of the natural environment, and with the scenic, historic, and recreation resources of the designated areas.
- Policy 6.17: The placement of buildings and structures shall not detract from the visual setting or obstruct significant views and shall be compatible with the topography of the site and adjacent areas.
- Policy 6.18: New buildings and structures should not be placed along inland and coastal bluff-top silhouette lines or on the adjacent slopes within view from a lagoon area, but should be clustered along the bases of the inland bluffs and on the bluff tops set back from the bluff edge. Buildings and structures should be sited to provide unobstructed view corridors from the nearest scenic highway or view corridor road. These criteria may be modified when necessary to mitigate other overriding environmental considerations such as protection of habitat or wildlife corridors.
- Policy 6.19: The removal of native vegetation shall be minimized and the replacement vegetation and landscaping shall be compatible with the vegetation of the designated area. Landscaping and plantings shall be used to the maximum extent practicable to screen roads and utilities. Landscaping and plantings shall be designed so that they do not obstruct significant views, either when installed, or when they reach mature growth.
- Policy 6.20: Any development involving more than one building or structure shall provide common access roads and pedestrian walkways. Parking and outside storage areas shall be screened from view, to the maximum extent feasible, from either the scenic highway or the adjacent scenic, historic, or recreational resource. Acceptable screening methods shall include, but are not limited to, the use of existing topography, the strategic placement of buildings and structures, or landscaping and plantings, which harmonize with the natural landscape of the designated area.
- Policy 6.22: The alteration of the natural topography of the site shall be minimized and shall avoid adverse effects to the visual setting of the designated area and the existing natural drainage system. Alterations of the natural topography shall be screened from view from either the scenic highway or the adjacent scenic, historic, or recreational resource by landscaping, and plantings which harmonize with the natural landscape of the designated area, except when such alterations add variety to or otherwise enhance the visual setting of the designated area. However, design emphasis shall be placed on preserving the existing quality of scenic resources rather than concealment of disturbances or replacement in kind. In portions of the Scenic Area Overlay, containing sensitive lands grading may be severely restricted or prohibited.
- Policy 6.23: The interior and exterior lighting of the buildings and structures and the lighting of signs, roads, and parking areas shall be compatible with the lighting permitted in the designated area

## County of San Diego

### *Municipal Code*

Section 5200 of Part five (Special Area Regulations) of the County of San Diego Zoning Ordinance addresses Scenic Area Regulations. The purpose of this section is to regulate development in areas of high scenic value to assure exclusion of incompatible uses and structure and to preserve and enhance the scenic resources present in adjacent areas. The regulations are applied to areas of unique scenic value including but not limited to scenic highway corridors designated by the San Diego County General Plan,

critical viewshed and prime viewshed areas as designated on the LCP Land Use Map, and areas adjacent to significant recreational, historic, or scenic resources, including but not limited to Federal and State parks. A site plan is required for review prior to issuance of any development permit (County of San Diego 1985).

#### *Local Coastal Program*

The San Dieguito Local Coastal Program applies only to the coastal zone of the San Dieguito Community Plan, which occurs east of the City of Solana. Policy Group 60 of the LCP addresses visual resources, as follows (County of San Diego 2011a):

- Policy 62: Vista Point View Sheds
  2. Development within the critical view shed area should be subject to design review based on the following:
    - a. Building height, bulk, roof line and scale should not obstruct, limit or degrade the existing views;
    - b. landscaping should not, at maturity, obstruct views;
    - c. landscaping should be located to screen adjacent undesirable views (parking lot areas, mechanical equipment, etc.).

### **3.1.3 Impact Analysis – Aesthetics**

#### **Methodology for Analysis**

This section discusses potential impacts to visual resources that could result from implementation of the Proposed Project. Mitigation measures are identified where appropriate.

#### **Thresholds of Significance**

Aesthetic impacts and effects associated with the Proposed Project were analyzed in accordance with the CEQA Guidelines and in consideration of the County of San Diego's Guidelines for Determining Significance (County of San Diego 2007a; 2007b). For the purposes of this analysis, an impact to visual quality would be significant if the Proposed Project would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

#### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Substantially damage scenic resources within a state scenic highway.* The Proposed Project would not affect scenic resources within a state scenic highway as there are no officially designated State Scenic Highways within the Study Area. The closest officially-designated State Scenic Highway is located 35 miles east of the City of Escondido.

## **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to aesthetics that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

### **Impact 3.1-1 Potential to have a substantial adverse effect on a scenic vista or scenic resources**

The Proposed Project encompasses a large area that is visually diverse. The Pacific Ocean dominates the visual character of many of the communities in the Study Area due to its proximity to those communities and local policies that strive to maintain its visual dominance. The region also has hillsides that provide a varied topography and thus diversify the visual setting. Local scenic vistas occur throughout the region with views of scenic resources including the Pacific Ocean, ridgelines, hilltops, rock outcroppings, and a variety of open space areas (parks, lagoons, etc.). An impact to scenic vistas or scenic resources is considered potentially significant if the proposed facilities were to block views from scenic vistas (e.g., block views of the ocean) and/or degrade/damage scenic resources through proposed facility locations (e.g., interrupt views of a City-designated scenic resources such as ridgelines).

Proposed Project facilities include buried pipelines and above-ground structures, including new or upgraded treatment plants, storage tanks, pump stations, and other appurtenances. Proposed pipelines would be located throughout the region, within the service areas of the members of the Coalition as shown in **Figure 2-3**. The pipeline network included as part of the Proposed Project could expand beyond the alignments that have been currently identified, and could include additional alignments for any of the groupings discussed in the Project Description. Pipelines could be located within or in the vicinity of areas identified as scenic vistas or scenic resources. During construction, installation activities could potentially affect scenic vistas/resources due to the presence of construction equipment (e.g., trucks, trenching equipment) and materials (e.g., soil, pipe), fencing around work areas, and workers. However, this impact would be temporary, and upon installation, all proposed pipelines would be located underground and would not be visible to the public. Thus in the long term, the proposed pipelines would not result in substantial adverse effect on any scenic vistas or resources. To ensure that short-term visual impacts associated with construction do not become long-term significant impacts, **Mitigation Measure MM 3.1-1a** requires that disturbed areas are restored to pre-construction conditions. With implementation of this mitigation measure, short-term visual impacts associated with construction of the proposed pipelines would be reduced to a less-than-significant level.

Above-ground facilities are located throughout the Study Area. As part of the Proposed Project, six existing recycled water treatment plants (Carlsbad WRF, Gafner WRF, HARRF, San Elijo WRF, San Luis Rey WWTP, and Meadowlark WRF) would be upgraded and three potential treatment plants (Escondido AWTF, El Corazon Site, and Harmony Grove WRF) would need to be constructed. While five new storage tanks are shown in **Figure 2-3**, it is possible that additional storage tanks would be needed as part of the Proposed Project. Other above-ground structures that are anticipated include pump stations and other appurtenances. However, as discussed in *Chapter 2, Project Description*, the details regarding the number and sizing of these facilities, as well as the area of excavation and disturbance, have not yet been confirmed and would be determined as design of these individual projects is performed. As such, the analysis of above-ground component impacts is based on a conceptual evaluation of facility siting within the communities specified above.

Upgrades at the existing treatment plants would generally occur within the footprint of the existing facilities or within the property boundaries of the existing facilities, and potentially at off-site locations if insufficient space is available. The new treatment facilities would be located within Oceanside and Escondido. While the exact sizing and heights of the new treatment facilities and their associated components are not currently defined, the facilities would generally be similar in appearance to other existing treatment facilities – that is, their appearance would be industrial in nature with buildings, tanks,

and other structures surrounded by protective fencing. Upgrades of existing treatment facilities and construction of other above-ground facilities (e.g., storage tanks and pump stations) could affect scenic vistas and resources if they occur within or in the vicinity of these resources. Impacts to these resources could be twofold: construction-related effects and permanent effects. During construction, the presence of heavy equipment, construction materials, fencing, and workers for extended durations of time associated with construction activities could temporarily affect scenic vistas/resources. Upon completion of construction, permanent facilities would be installed and could affect existing scenic vistas/resources. Implementation of **Mitigation Measures MM 3.1-1a** and **MM 3.1-1b** would reduce the significance of potential impacts by restoring disturbed areas and complying with local regulations protecting scenic resources.

To address potentially permanent visual effects, many communities in the Study Area have scenic preservation overlay zones that further imposes restrictions on developments to preserve the visual quality of the environment. Some communities also have local LCPs that address development within the coastal zone. If above-ground facilities are constructed within these overlay zones or the coastal zone (e.g., Carlsbad WRF, San Elijo WRF), then consistency with these zoning and LCP requirements would be necessary to address potential visual effects. As the details of the proposed facilities have not yet been defined, it is assumed that there is a potential that the proposed components could result in a potentially significant impact on scenic vistas and resources by either blocking views from scenic vistas or damaging scenic resources or because design of the facilities would be inconsistent with established regulations. To ensure that aesthetic resources are protected, screening analysis and mitigation per **Mitigation Measure MM 3.1-1b** shall be required. Additionally, **Mitigation Measure MM 3.15-1** (see *Section 3.15 Recreation*) requires that construction staging areas be sited away from recreational facilities and viewsheds. With implementation of this mitigation measure, potential permanent visual impacts would be reduced to a less-than-significant level.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.1-1a** shall apply to the pipeline and associated below-ground components and **Mitigation Measure MM 3.1-1b** shall apply to above-ground components of the Proposed Project; both mitigation measures shall be implemented by the lead agency responsible for each applicable project component. **Mitigation Measures MM 3.15-1** shall apply to all groups included within the Proposed Project, and shall be implemented by the lead agency for each individual project component. These mitigation measures are consistent with applicable General Plans and relevant policies, as described in **Table 3.1-3**, below.

**MM 3.1-1a Restoration to Pre-construction Conditions.** Coalition members shall require that their contractors restore disturbed areas associated with pipeline and associated below-ground facility installation to their pre-construction conditions, to the extent consistent with pipeline operations, so that short-term construction disturbance does not result in long-term impacts.

**MM 3.1-1b Screening Analysis and Mitigation for Protection of Scenic Resources.** Upon formalization of proposed facility locations, Coalition members shall conduct an internal, preliminary screening analysis to determine if above-ground facilities would be located within designated scenic vistas and resources, within areas covered by special overlay zones, or within the jurisdiction of a Local Coastal Program (LCP). As applicable, coalition members shall design project components to be consistent with relevant LCPs, including aesthetic requirements. All new above-ground facilities shall be sited, to the extent feasible, outside viewshed corridors and visually sensitive areas. Structures shall be located on the least visible portion of the selected site, and shall be sited so as to

preserve unique visual features. If any of the above-ground facilities would be located within a visually-sensitive area or have the ability to impact a visual or scenic resource, Coalition members shall design facilities consistent with local regulations, and provide documentation required by the regulations to the relevant jurisdiction for review and approval. As needed, the Coalition members shall work with staff of applicable jurisdictions to determine the appropriate location and sizing of facilities that would ensure consistency with visual and scenic-related requirements. If required by the applicable jurisdictions, the Coalition members shall also implement additional conditions to ensure compliance with requirements. These conditions may include, but not be limited to:

- Where needed, standalone buildings shall be architecturally treated to have a house-like façade.
- For storage tanks, partially bury the tanks if possible, or construct a berm around the tanks if scenic resources could be affected.
- For all above-ground facilities, landscaping shall be installed as appropriate to screen facilities from surrounding neighborhoods, soften the overall appearance of the proposed facilities by adding natural elements to an otherwise man-made appearance, and improve the appearance of the facility with naturalistic plantings based on a native drought-tolerant plant palette, and to control erosion and restore areas affected by construction.
- For all above-ground facilities, earth-tone colors that blend with the surrounding terrain shall be used.
- Deeper setbacks and/or height limitations, as appropriate.

#### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.1-2 Potential for substantial degradation of existing visual character or quality of the project site and surrounding areas**

The proposed facilities would be located throughout the Study Area, within urban, suburban, and semi-rural areas. All pipelines associated with the Proposed Project would be buried underground. Therefore, the only visual impacts associated with the linear facilities would occur during the construction phase (see **Impact 3.1-1** above). Upon installation, the pipelines would be entirely underground and would be unobtrusive. Thus, no long-term changes to the existing visual character or quality of the project site and surrounding areas would result from pipeline construction. To ensure that short-term visual effects of construction activities do not become permanent effects, **Mitigation Measure MM 3.1-1a**, which requires restoration of disturbed areas to preconstruction conditions, shall be implemented. With implementation of this mitigation measure, short-term visual effects of construction activities would be less than significant.

The existing treatment plants are located throughout the Study Area, in and around residential and commercial uses and open space areas. Upgrades at the treatment plants may occur beyond the footprint of the existing plants or at off-site locations, depending on the actual sizing of facilities needed and the space available to accommodate proposed facilities. The specific components would be determined during design. Thus, this evaluation is conducted at a conceptual level.

Upgrades to the existing treatment plants within their current footprints are unlikely to result in degradation of the existing visual character or quality of the project site and surrounding areas. New treatment plant components (e.g., additional treatment trains, tanks, structures, pump stations, injection wells) would be consistent with overall industrial nature of the existing sites. New components are expected to integrate seamlessly with existing components because facilities would be comparable in

appearance to those currently at the treatment plants. However, if the proposed facilities are substantially taller than existing facilities, or there is insufficient screening of proposed, the Proposed Project-related changes could result in degradation of the visual quality of the site, and may block distant views, which could affect the visual quality of the surrounding area.

Similarly, new above-ground facilities located at off-site locations could result in adverse alterations to the visual environment. The scale of change would depend on the size of the facilities and the setting. For example, pump stations that are unenclosed in urban environments could result in changes to the quality of the affected areas from short-range views by introducing an industrial element to an otherwise residential/commercial area. Storage tanks on existing developed hillsides could introduce an unexpected visual element; on undeveloped hillsides, these tanks could interrupt pristine slopes. Because storage tanks are typically placed at higher elevations to promote gravity flow of water, they are often visible from mid- and long-range locations. The placement of tanks on hillsides could therefore alter the visual environment by changing the topography through grading for the tank pad and the creation of engineered slopes that are not considered natural to the environment. In these cases, aesthetic impacts would be considered potentially significant unless mitigation is implemented. **Mitigation Measures MM 3.1-1b** (see **Impact 3.1-1**) which requires screening analysis and mitigation would ensure that above-ground facilities are designed and constructed to blend with the existing environment. With these mitigation measures, visual impacts from above-ground facilities would be less than significant.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measures MM 3.1-1a** (see **Impact 3.1-1**) shall apply to all pipeline and associated below-ground components, and **Mitigation Measure MM 3.1-1b** (see **Impact 3.1-1**) shall apply to all above ground components.

#### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.1-3 Potential for new source of light or glare that would adversely affect views in the area**

New or additional glare may result from facilities development due to use of reflective exterior materials and finishes in construction, including bright or reflective paints, glass, and metal surfaces. Light impacts could result from the nighttime illumination of a project site or facility or from lights on automobiles or vehicles associated with the Proposed Project.

Above-ground facilities would be located throughout the Study Area. Material for the above-ground structures could be concrete or steel, depending on the facility, and could cause light and glare. Lighting would also be needed at the facilities, for the purposes of security and nighttime emergency maintenance. Where lighting would be installed within residential neighborhoods, light and glare could also occur. Because the above-ground components have not yet been defined, it is unknown where light and glare would affect views and surrounding neighborhoods. For the purposes of this analysis, it is assumed that light and glare impacts would potentially occur as a result of project implementation. To reduce potential impacts to less than significant levels, **Mitigation Measures MM 3.1-3** and **Mitigation Measure MM 3.1-1b** (see **Impact 3.1-1**) would minimize light and glare from above-ground facilities.

#### Significance Determination before Mitigation

Potentially significant.



### Mitigation Measures

**Mitigation Measures MM 3.1-3** shall apply to all above-ground components. **Mitigation Measure MM 3.1-1b** (see **Impact 3.1-1**) shall apply to all above ground components. These mitigation measures shall be implemented by the lead agency for the individual project components, as applicable.

**MM 3.1-3 Minimize Light and Glare.** Coalition members shall ensure that all permanent exterior lighting at the wastewater treatment plants and other above-ground facilities is directed downward and oriented to insure that no light source is directly visible from neighboring residential areas. Highly reflective building materials and/or finishes shall not be used in the designs for proposed structures, unless required by law or for public safety. In accordance with **Mitigation Measure MM 3.1-1b** above, landscaping or other aesthetic-preserving measures shall be implemented around proposed facilities if deemed necessary. If incorporated, this vegetation shall be selected, placed, and maintained to minimize off-site light and glare onto surrounding areas.

### Significance Determination after Mitigation

Less than significant.

**Table 3.1-3: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
The Environmental Resource Management Element (2002) of the City of Oceanside General Plan: <ul style="list-style-type: none"> <li>• Encourage the preservation of significant visual open spaces when such preservation is in the best interest of the public health, safety, and welfare.</li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
The Land Use Element (2013a), the Open Space and Conservation Element (2006), and the Circulation Elements (2013b) of the City of Carlsbad General Plan: <p>Land Use Element:</p> <ul style="list-style-type: none"> <li>• Goal A.1: A City which preserves and enhances the environment, character and image of itself as a desirable residential, beach and open space oriented community</li> <li>• Objective B.2: To create a visual form for the community, that is pleasing to the eye, rich in variety, highly identifiable, reflecting cultural and environmental values of the residents.</li> <li>• Implementing Policy and Action Program C.14: Ensure that all hillside development is designed to preserve the visual quality of the pre-existing topography.</li> </ul> <p>Open Space and Conservation Element:</p> <ul style="list-style-type: none"> <li>• Goal A.1. An open space system of aesthetic value that maintains community identity, achieves a sense of natural spaciousness, and provides visual relief in the cityscape</li> <li>• Goal A.2: A city that protects and preserves visually attractive and/or significant natural areas.</li> <li>• Goal A.4. A city that preserves as open space, hillsides, ridges, valleys, canyons, lagoons, beaches and other unique resources that provide visual and physical relief to the Cityscape.</li> <li>• Objective B.7. To minimize impacts from new development on hillsides, ridges, valleys, canyons, lagoons, beaches and other unique resources that provide visual and physical relief to the cityscape.</li> <li>• Implementing Policy and Action Program C.5. Limit future development adjacent to the lagoons and beach in such a manner so as to provide to the greatest extent feasible the physical and visual accessibility to these resources for public use and enjoyment.</li> <li>• Implementing Policy and Action Program C.17. Prevent incompatible development of areas that should be reserved or regulated for scenic, historic, conservation or public health and safety purposes</li> <li>• Implementing Policy and Action Program C.18. Conserve and encourage the use of appropriate forms of vegetation and sensitive grading techniques needed to: (a) prevent erosion, siltation and flooding, (b) protect air and water resources, and (c) protect and enhance visual resources.</li> </ul> <p>Circulation Element:</p> <ul style="list-style-type: none"> <li>• Goal. A City which preserves and enhances the visual, environmental and historical characteristics of the local community through sensitive planning and design of transportation and utility corridors.</li> <li>• Objective B.1. To enhance the scenic, environmental and historical quality of roadways in conjunction with the Circulation, Open Space and Conservation, and Parks and Recreation Elements of the General Plan.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Encinitas</b></p> <p>The Resource Management Element of the Encinitas General Plan (1995a) identifies the importance of aesthetic resources in the community. Goals and policies relevant to the Study Area are as follows:</p> <ul style="list-style-type: none"> <li>• Goal 4: the City, with the assistance of the State, Federal and Regional Agencies, shall provide the maximum visual access to the coastal and inland views through the acquisition and development of a system of coastal and inland vista points.</li> <li>• Policy 4.6: The City will maintain and enhance the scenic highway/visual corridor viewsheds.</li> <li>• Policy 4.7: The City will designate the following view corridors as scenic highway/visual corridor viewsheds:                         <ul style="list-style-type: none"> <li>○ Saxony Road, from Leucadia Blvd., north to La Costa Avenue</li> <li>○ Highway 101 from Encinitas Blvd. south to Santa Fe Drive</li> <li>○ El Camino Real from Encinitas Blvd. north to La Costa Blvd.</li> <li>○ Highway 101, La Costa Ave. to South Carlsbad Beach</li> <li>○ La Costa Ave. from just west of I-5 to El Camino Real</li> <li>○ Highway 101, from Encinitas Blvd. to La Costa Ave.</li> <li>○ Leucadia Blvd. between Hwy 101 and El Camino Real</li> <li>○ San Elijo Ave. (and Hwy 101) south of Cardiff Beach State Park to Santa Fe Drive</li> <li>○ Manchester Ave. from San Elijo Ave. to Encinitas Blvd.</li> <li>○ Interstate 5, crossing San Elijo Lagoon</li> </ul> </li> <li>• Policy 4.9: It is intended that development would be subject to the design review provisions of the Scenic/Visual Corridor Overlay Zone for those locations within Scenic View Corridors, along scenic highways and adjacent to significant viewsheds and vista points with the addition of the following design criteria:                         <ul style="list-style-type: none"> <li>○ Building and vegetation setbacks, scenic easements, and height and bulk restrictions should be used to maintain existing views and vistas from roadway.</li> <li>○ Development should be minimized and regulated along any bluff silhouette line or on adjacent slopes within view of the lagoon areas and Escondido Creek</li> <li>○ Where possible, development should be placed and set back from the bases of bluffs, and similarly, set back from bluff or ridge top silhouette lines; shall leave lagoon areas and floodplains open, and shall be sited to provide unobstructed view corridors from the nearest scenic highway.</li> <li>○ Development that is allowed within a viewshed area must respond in scale, roof line, materials, color, massing, and location on site to the topography, existing vegetation, and colors of the native environment.</li> </ul> </li> </ul>	E, H	San Elijo WRF
<p><b>City of Escondido</b></p> <p>The Resource Conservation Element of the Escondido General Plan (Escondido 2012a):</p> <ul style="list-style-type: none"> <li>• Goal 3: Preservation of significant visual resources such as ridgelines, hillsides, and viewsheds that serve as a scenic amenity and contribute to the quality of life for residents.</li> <li>• Visual Resources Policy 3.1: Preserve significant visual resources that include unique landforms. A primary objective of viewshed policies is to preserve and protect existing internal and external view corridors in Escondido, with particular emphasis on ridgelines, unique landforms, visual gateways and edges of the community.</li> <li>• Visual Resources Policy 3.2: Require new development to avoid obstructing views of, and to minimize impacts to, significant visual</li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p>resources through the following: creative site planning; integration of natural features into the Proposed Project; appropriate scale, materials, and design to complement the surrounding natural landscape; clustering of development to preserve open space vistas and natural features; minimal disturbance of topography; and creation of contiguous open space networks.</p> <ul style="list-style-type: none"> <li>• Visual Resources Policy 3.3: Maintain density and development standards designed to protect significant visual resources such as existing terrain, steep slopes, floodways, habitat areas, and ridgelines, and to minimize visual impacts of grading and structures.</li> <li>• Visual Resources Policy 3.4: Prohibit development on skyline ridges and seek to obtain scenic easement dedications for these areas from property owners in conjunction with development on other suitable locations of the property. Require property owners of such scenic easements to retain, maintain, preserve, and protect the public view of these areas in their natural state, without obstruction by structures, and prohibit clearing of brush or planting of vegetation except as necessary to reduce fire hazards.</li> <li>• Visual Resources Policy 3.5: Regulate development on intermediate ridges, hilltops, and hillsides to preserve the natural appearance and landform, and minimize impacts on terrain with a slope greater than 15 percent subject to the following requirements:                         <ol style="list-style-type: none"> <li>1. Intermediate Ridges and Hilltops                                 <ol style="list-style-type: none"> <li>a) Prepare landscaping plans that minimize the visual impact of the development from adjoining properties and the valley floor;</li> <li>b) Concentrate development in subordinate or hidden locations, which shall not project above the natural landform;</li> <li>c) Prepare grading plans that minimize disruption of the natural landform and vegetation; and</li> <li>d) Allow development on intermediate ridges only in association with the preservation of significant open space, habitat, cultural resources or agricultural uses within the same project.</li> </ol> </li> <li>2. Slopes Greater than 15 Percent                                 <ol style="list-style-type: none"> <li>a) Locate development to avoid potentially hazardous areas and environmentally sensitive areas, as well as to avoid dislocation of any unusual rock formations or any other unique or unusual geographic features.</li> <li>b) Design development to minimize grading requirements by incorporating terracing, padding, and cut-and-fill grading that conforms to the natural contours of the site and protects the visual continuity of the hillsides.</li> <li>c) Cluster the overall development pattern in accordance with General Plan provisions to preserve the maximum amount of open spaces and natural setting and to reduce grading, erosion, and runoff potential.</li> <li>d) Landscape the site with existing trees and other natural vegetation, as much as possible, to stabilize slopes, reduce erosion, and enhance the visual appearance of the development.</li> <li>e) Minimize the visual impact of development on adjoining residential areas to the extent feasible.</li> </ol> </li> </ol> </li> <li>• Visual Resources Policy 3.6: Require that development within the Interstate 15 corridor be located and designed in consideration of its potential visual impacts and preservation of prominent views along the corridor that include: outstanding continuous, panoramic views of the valley floor, surrounding ridges and Lake Hodges, and focal views where the eye is channeled toward a visually dominant feature such as an undisturbed hillside or steep slopes with rock outcroppings. Require development proposals within the I-15 scenic corridor (defined as the area within 1,750 feet of the freeway) to include a visual assessment and conform to the community design policies which address:                         <ol style="list-style-type: none"> <li>a) The siting of new structures outside of significant viewshed corridors;</li> <li>b) The protection of hillsides and ridgelines; and</li> <li>c) The need to blend developments with their setting in terms of height and scale.</li> </ol> </li> </ul>		

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Vista</b></p> <p>The Vista General Plan (City of Vista 2011b):</p> <ul style="list-style-type: none"> <li>• LUCI Goal 2: Preserve and enhance the characteristics and features of neighborhoods that share common development patterns, topography, major streets, and zoning patterns.</li> <li>• LUCI Policy 2.9: Prohibit mass grading to protect the visual continuity of the hillsides.</li> <li>• LUCI Policy 2.10: Discourage development on skyline ridges visible from scenic roadways and gateway corridors. Skyline ridges are those which define the horizon.</li> <li>• LUCI Policy 2.11: Preserve immediate ridges and hilltops in a natural state to the maximum extent possible. Intermediate ridges are those with visible land behind them that creates a backdrop to the ridge as viewed from the valley floor. Development should be sited such that buildings do not project above the natural landform. Development applications shall be designed so that site plans concentrate development in the subordinate or hidden locations, and grading plans minimize disruption of the natural landform and vegetation.</li> <li>• LUCI Policy 2.12: Restrict development of hillsides so that the natural appearance and landform of the site is preserved. Development projects on terrain with a slope greater than 15 percent shall conform with the following standards: development shall be designed to minimize grading requirements by conforming to the natural contours of the site; the site shall be landscaped with existing trees and natural vegetation, as much as possible, to stabilize slopes, reduce erosion, and enhance the visual appearance of the development; and grading, terracing, padding, and cut-and-fill shall be minimized to protect the visual continuity of hillsides.</li> <li>• CE Goal 7: Preserve and enhance the identity and character of Vista along the City's roadways.</li> </ul>	O	None
<p><b>City of San Marcos</b></p> <p>Conservation and Open Space Element of the San Marcos General Plan (City of San Marcos 2012a):</p> <ul style="list-style-type: none"> <li>• Goal COS-3: Protect natural topography to preserve and enhance the natural beauty of San Marcos.</li> <li>• Policy COS-3.11: Preserve scenic resources, including prominent landforms such as Double Peak, Owens Peak, San Marcos Mountains, Merriam Mountains, Cerro de Las Posas, Franks Peak, and canyon areas through conservation and management policies.</li> <li>• Policy COS-3.4: Evaluate potential impacts to visual and aesthetic resources, including the potential to create new light sources, while still maintain and being sensitive to rural lighting standards.</li> </ul> <p>The City has a Ridgeline Protection and Management Overlay Zone to protect natural viewsheds and unique natural resources, minimize physical impacts to ridgelines, and establish innovative sensitive architectural standards.</p>	I, M, N	None
<p><b>City of Solana Beach</b></p> <p>The City of Solana Beach General Plan (2001):</p> <ul style="list-style-type: none"> <li>• Goal 3.2: To protect and enhance sensitive open space areas and viewsheds</li> <li>• Objective 2.0. Preserve the city's hillside areas and natural landforms in their present state to the greatest extent possible.</li> <li>• Policy 2.a. The City shall enact a hillside development ordinance which contains development standards to: 1) maintain the natural visual character of the hillsides to the maximum feasible extent, 2.) integrate architecture and landscaping into the hillside setting, 3) preserve significant visual and environmental elements, 4) minimize grading impacts, 5) restrict development on slopes of greater than 25 percent, 6) preserve prominent ridgelines, 7) require the contouring of manufactured slopes to blend with natural slopes, 8) encourage the use of innovative structural designs which adapt to the natural topography, 9) discourage "stair-stepping" of building pads, 10) require the blending of colors and materials with the hillside environment, and 11) provide for the planting of slopes with</li> </ul>	H, K	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
fire-retardant, drought-tolerant materials. • Objective 3.0. Maintain the quality of scenic views in the city as well as the overall visual quality of the city's landscape.		
<b>County of San Diego</b>		
Conservation and Open Space Element of the San Diego General Plan (2011b): • Goal COS-11: Preservation of Scenic Resources. Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized. • Policy COS-11.1. Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes. • Policy COS-11.3. Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following: <ul style="list-style-type: none"> <li>○ Creative site planning</li> <li>○ Integration of natural features into the project</li> <li>○ Appropriate scale, materials, and design to complement the surrounding natural landscape</li> <li>○ Minimal disturbance of topography</li> <li>○ Clustering of development so as to preserve a balance of open space vistas, natural features, and community character.</li> <li>○ Creation of contiguous open space networks</li> </ul> • Policy COS-11.5: Collaboration with Private and Public Agencies. Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that impact visually sensitive areas, whenever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape. • GOAL COS-12: Preservation of Ridgelines and Hillside. Ridgelines and steep hillsides that are preserved for their character and scenic value. • Policy COS-12:1 Hillside and Ridgeline Development Density. Protect undeveloped ridgelines and steep hillsides by maintaining semi-rural or rural designations on these areas. • Policy COS-12.2 Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky. • Goal COS-13: Dark Skies. Preserved dark skies that contribute to rural character and are necessary for the local observatories. • Policy COS-13.1: Restrict Light and Glare. Restrict outdoor light and glare from development projects in Semi-Rural and Rural Lands and designated rural communities to retain the quality of night skies by minimizing light pollution.	H, J, K, O	None

## 3.2 Agriculture and Forestry Resources

This section assesses the potential impacts of the Proposed Project on agricultural and forestry resources. There are some agricultural lands located within the Study Area, including Williamson Act lands and Farmlands of Significance. However, the Proposed Project is not located within these portions of the Study Area, and is unlikely to have significant impacts to these resources.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts on agricultural or forestry-related resources.

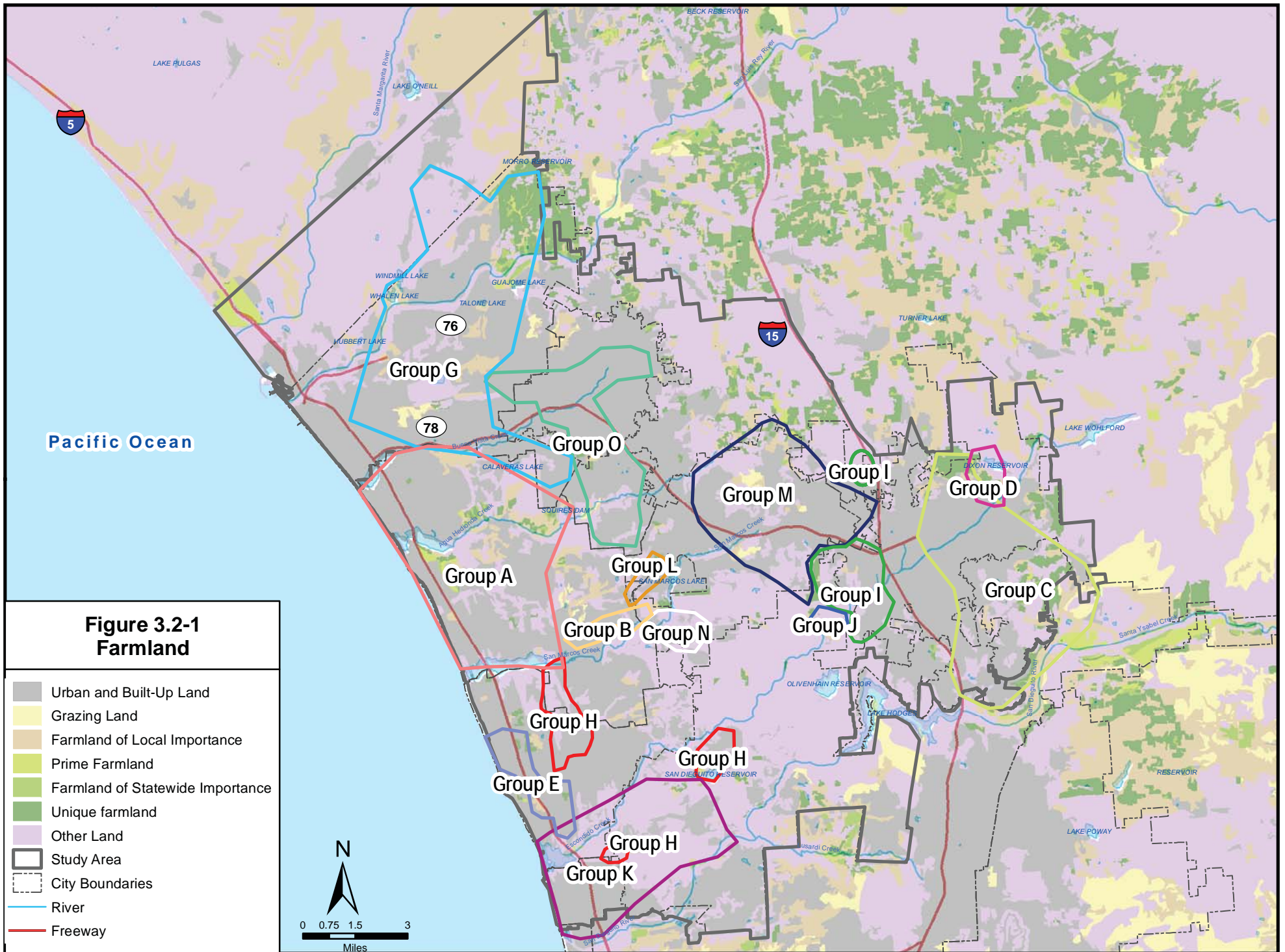
### 3.2.1 Physical Environmental Setting - Agriculture and Forestry Resources

The following section describes the existing agricultural and forestry settings of the Study Area, including the service areas of the ten Coalition member agencies, as described in the Project Description.

#### Agriculture Resources

According to the 2010 California Farmland Mapping and Monitoring Program maps for San Diego County, the majority of the Study Area is Urban and Built-Up Land, with small areas of Unique Farmland along the fringes of the urban areas, most notable along the eastern edge of Escondido. There are small patches of Farmland of Statewide Importance and Prime Farmland along these fringes as well. A small area of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is in the Study Area, running approximately parallel to the coastline, just east of Interstate 5 from Agua Hedionda Lagoon south to Palomar Airport Road. There is also an area of Farmland of Local Importance, with patches of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, north of Agua Hedionda Creek. There are areas of Farmland of Local Importance interspersed throughout much of the Study Area, again located generally along the fringes of urbanized areas, and minimal amounts of grazing land near San Marcos. A large portion of the Study Area, specifically the eastern portion of the Study Area, is mapped as Other Land.

Prime Farmland is land that has recently been used for irrigated agricultural production and has the qualities to produce high yields. Farmland of Statewide Importance is also land that has been used recently for irrigated farmland. While Farmland of Statewide Importance has a good combination of factors to produce high yields, it is slightly less desirable than Prime Farmland, possibly due to slope, ability to retain soil moisture, or other factors. Unique Farmland is land that has recently been used for crops, but has a lower quality soil than Prime Farmland or Farmland of Statewide Importance. Farmland of Local Importance meets the qualifications of Prime Farmland and Farmland of Statewide Importance, but does not have to be irrigated. Farmland of Local Importance can also include farmland used to grow crops of economic importance to a given area (such as San Diego County), with a history of good production. Grazing Land contains existing vegetation suitable for grazing of livestock. Urban and Built-Up land requires a minimum density of 1 unit per 1.5 acres. Other Land can include low density rural development, open space unsuitable for grazing or livestock, small water bodies, mining facilities and vacant or nonagricultural land greater than 40 acres and entirely surrounded by urban areas. Farmland present in areas of each Group associated with the Proposed Project is described below, and shown in **Figure 3.2-1**.





- **Group A:** There are areas of Farmland of Statewide Importance and Unique Farmland immediately south of Agua Hedionda Lagoon within the City of Carlsbad. Further east are areas of Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance in the area approximately between Tamarack Avenue and east of El Camino Real. There are other small areas of farmland in Group A, but most of the farmland is in areas already being served by recycled water through an existing system.
- **Group C:** Group C has Farmland of Statewide and Local Importance, and Unique Farmland primarily along the eastern and northern borders of the City of Escondido.
- **Group D:** Group D contains minimal areas of Unique Farmland and Farmland of Local Importance.
- **Group E:** Group E is primarily urban/built land, but does contain Farmland of Statewide Importance along I-5 in a small area between (but not fully extending to) Encinitas Blvd. and Olivenhain Rd., as well as along the eastern edge of Group E, southeast of Santa Fe Dr. and Lake Dr. There is one area of Grazing Land within Group E that generally corresponds to Encinitas Community Park.
- **Group G:** Group G contains some Unique Farmland and Farmland of Local Importance, primarily surrounding Whelan Lake, and south of the railroad between El Camino Real and Rancho Del Oro Drive, with most of this designated as Grazing Land. There is additional Grazing Land west of El Camino real to approximately Eldean Lane. There is no Farmland of Statewide Importance in Group G.
- **Group H:** There are some small areas of Unique Farmland and Farmland of Statewide Importance in Group H near the San Dieguito Reservoir. Though there are small areas of Unique Farmland near Group H by the Encinitas Ranch Golf Course, these areas are outside the bounds of the Study Area.
- **Group I:** There is some Farmland of Local Importance in the northern portion of the Group I component that lies south of Highway 78, and Unique Farmland along the western portion of this Group I component.
- **Group J:** The Harmony Grove area, to be served by the Group J component, contains some small areas of Unique Farmland and Farmland of Local Importance.
- **Group K:** There is Farmland of Local Importance and Unique Farmland in the portion of Group K near the San Dieguito Reservoir, as well as some Farmland near the San Dieguito River north of the golf course near Via de la Valle.
- **Group M:** Group M encompasses designated farmland along its northwestern area, and within some of its urban/built lands around Twin Oaks. Farmland includes unique and locally-important farmland, as well as Farmland of Statewide Importance.
- **Group N:** There is some Unique Farmland and Farmland of Local Importance in Group N, to the west of Lake San Marcos, in the northwestern area of Group N.
- **Group O:** There is a small pocket of Unique Farmland within Group O, but only along the northern edge, and beyond the areas of proposed construction.

Within the Study Area, there are multiple pockets of land enrolled in the Williamson Act. These lands are generally small, and scattered across the Study Area, and many are located adjacent to or surrounded by urban/built lands. Per the State of California's Department of Conservation, there are Williamson Act-enrolled lands within Groups A, C, G, and H. There are additional Williamson Act lands in the Vallecitos WD service area west of Interstate 15 and south of Deer Springs Road, within the Study Area but outside any designated grouping defined in *Chapter 2, Project Description* (Department of Conservation, 2013b).

None of the lands designated under the Williamson Act are located within facilities currently proposed as part of the Proposed Project.

The Proposed Project would also be implemented in areas that have been zoned for agricultural uses by the applicable General Plans and under relevant zoning codes. Such General Plans include those for the County of San Diego, City of Escondido, City of San Marcos, City of Vista, City of Carlsbad, City of Oceanside, and City of Encinitas, all of which include agricultural or other zoning that permits agricultural land uses.

### **Forestry Resources**

In 2006, the California Department of Forestry and Fire Protection (CalFire) produced a land cover map under the Fire and Resources Assessment Program (FRAP), using aggregate data for the state of California. This map shows that the Study Area is primarily Urban and Shrub land cover, with some agricultural land, herbaceous cover, and wetlands. According to the FRAP map, there is no Forestland or Forest and Rangeland within the Study Area.

## **3.2.2 Regulatory Framework – Agriculture and Forestry Resources**

### **Federal**

#### **Farmland Protection Policy Act**

The Farmland Protection Policy Act (FPPA), passed in 1981 with a final rule in 1984, requires documentation of irreversible conversion of farmland to non-agricultural use when a federal agency is involved. The FPPA applies to activities involving federal funds and irreversible conversion of prime, unique, or important farmland to non-agricultural uses that do not qualify for one of the FPPA exemptions. Irreversible conversion is one in which land cannot be restored or doing so would involve significant time and expense. FPPA exemptions include the construction of non-farm structures that are necessary to support farm operations, and activities required for national defense purposes. FPPA does not apply to land that has already been converted, has already committed to urban development, or is committed to development of water storage. As related to the Proposed Project, underground pipelines are typically not subject to FPPA, as the land above them is generally able to continue to be used for agricultural purposes. Pipelines are subject to FPPA only if the land can no longer be used for agriculture following pipeline installation.

### **State**

#### **Farmland Mapping and Monitoring Program**

The state of California enacted the Farmland Mapping and Monitoring Program (FMMP) in 1982 to document the location, quality, and area of agricultural lands and to document the conversion of these lands to other uses over time. The FMMP updates its maps every two years, and covers approximately 98 percent of the state. FMMP maps categorize land as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, Other Land, and Water.

#### **The Land Conservation Act (Williamson Act)**

The California Land Conservation Act of 1965, also known as the Williamson Act, allows landowners to enroll qualifying lands as “Prime Agricultural Land” and agree to avoid conversion of these lands in exchange for tax benefits. The associated Open Space Subvention Act of 1971 provides payments from the state to local counties to compensate for the loss of revenue from the Williamson Act. However, budget constraints have led to suspension of these payments since 2009.

## **Local**

### **General Plans**

General Plans provide guidance for and regulate the development of their individual planning area, and are designed to achieve the long-term vision for a community. General plans from the County of San Diego, the City of Escondido, the City of Oceanside, City of Carlsbad, City of Vista, City of San Marcos, and City of Encinitas, all apply to the Study Area.

### **Zoning Codes**

Zoning codes regulate land uses and activities within a jurisdiction. Applicable zoning related to agriculture or forestry resources are included in the zoning codes from the County of San Diego, City of Escondido, City of Oceanside, City of Carlsbad, City of Vista, City of San Marcos, and City of Encinitas.

#### *County of San Diego*

The County of San Diego has areas zoned for agricultural use. Agricultural activities are allowed to varying degrees in most zones, including Residential (all types), Commercial (excepting Office-Professional and Residential/Office Professional). Agricultural activities are not allowed in Mixed Industrial (although certain packing activities are allowed), Ecological Resource Area, Parking, and Solid Waste Facility zones (County of San Diego 2014).

#### *City of Escondido*

The City of Escondido's zoning code allows agricultural uses in Open Space, Flood Plains, and to varying degrees in agricultural, estates, and single-family residential zones, and general and light industrial zones (City of Escondido ND).

#### *City of Oceanside*

Agriculture is permitted in areas zoned as Flood Plain zone, Open Space zone, Residential Agricultural zone, Suburban Agricultural zone, General Agricultural zone, and Planned Community Development zone. In some of these zones, agricultural activities may require a conditional use permit or other special permission (Oceanside 1986 and 1992).

#### *City of Carlsbad*

The City of Carlsbad permits agriculture in Exclusive Agriculture, Residential Agriculture, Rural Residential Estate, Single-Family Residential, Two-family Residential, Multiple-family Residential, Public Utility, Transportation Corridor, and Open Space zones (City of Carlsbad 2003).

#### *City of Vista*

The City of Vista allows some agricultural uses in Open Space, Agricultural, Estates, and Residence zones (City of Vista ND).

#### *City of San Marcos*

Per the City of San Marcos Zoning Ordinance, agricultural activities are allowed to some degree in areas zoned as Agricultural or Residential (City of San Marcos 2012a).

#### *City of Encinitas*

The City of Encinitas zoning allows some degree of agricultural use in most zones provided a conditional use permit is acquired. Mobile Home Park, Visitor Serving Commercial, Public/Semi-Public, Limited Local Commercial, and Limited Visitor Serving Commercial all prohibit any type of agriculture (City of Encinitas 2010).

### 3.2.3 Impact Analysis – Agriculture and Forestry Resources

#### Methodology for Analysis

The potential impacts to agriculture and forestry resources were evaluated using the CEQA Guidelines, and in consideration of the County of San Diego’s Guidelines for Determining Significance (County of San Diego 2007).

#### Thresholds of Significance

In accordance with the CEQA Guidelines, an impact to agriculture and forestry would be significant if the Proposed Project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526) or by timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

#### Criteria Requiring No Further Evaluation

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526) or by timberland zoned Timberland Production (as defined by Government Code section 51104(g)).* Pursuant to the FRAP map developed by CalFire, there are no forest lands located within the Study Area, and therefore no impacts related to rezoning or conflicts with zoning for forest, timberland, or timberland production.
- *Result in the loss of forest land or conversion of forest land to non-forest use.* Pursuant to the FRAP map developed by CalFire, there are no forest lands located within the Study Area, and there are no impacts from the Proposed Project related to loss or conversion of forest land.

#### Impact Statements and Mitigation Discussions

This section discusses potential impacts to agriculture and forestry resources that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

##### **Impact 3.2-1 Potential to convert prime, or unique farmland, or farmland of statewide importance to non-agricultural use**

According to the San Diego County Important Farmland 2010 map, produced through the FMMP, the Proposed Project would be partially constructed across some Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as indicated in the description of each group in *Section 3.2.1*, above (California Department of Conservation 2013a). The majority of the

Proposed Project would be constructed in urban and built-up lands, as the primary customers of the recycled and potable reuse water would be residential and commercial users. Further, recycled water pipelines constructed to deliver irrigation supplies are generally constructed within roadway rights-of-way and adjacent paved areas.

However, the Proposed Project would serve some agricultural customers, and thus would benefit agriculture. While the precise users that would receive water as a result of the Proposed Project are not definite, Group C will serve an agricultural customer block as part of the Proposed Project. Group I also includes one potential agricultural user also within the City of Escondido's service area. These deliveries, and potentially others included as part of the Proposed Project, would enable agriculture to continue, by providing a less expensive and more reliable source of water (recycled water) than is currently being used (potable water generally from imported sources). Rather than lead to conversion of Farmland, the Proposed Project is likely to protect Farmland from conversion in some portions of the Study Area, which would be considered a project-related benefit.

During project construction, pipelines would be constructed in existing roadways, where feasible, to minimize short-term impacts on agricultural areas, but some Farmland may be temporarily fallowed to allow for pipeline construction. Designated Farmland may also be used as sites for storage tanks, pump stations, and other necessary appurtenances and facilities. However, the area used for such sites would likely be small, and would not be anticipated to impact agricultural operations on a long-term basis. It is not anticipated that any of the water treatment expansions or constructions would be located on farmland. In addition, the Proposed Project would be consistent with relevant policies from applicable General Plans (see **Table 3.2-1**, below) that provide protections against unnecessary conversion of agricultural lands. Due to the location of proposed facilities included as part of the Proposed Project, the Proposed Project's compliance with applicable General Plans, and the small or short-term nature of potential impacts related to farmland conversion, the Proposed Project is anticipated to have a less-than-significant impact related to farmland conversion. No mitigation would be required.

#### Significance Determination before Mitigation

Less than significant.

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### **Impact 3.2-2 Potential for conflict with existing agricultural use zoning or a Williamson Act Contract**

As stated previously, none of the lands designated under the Williamson Act are located within facilities currently proposed as part of the Proposed Project. Although the location of all facilities included as part of the Proposed Project have not yet been defined, the Proposed Project primarily involves installation of underground pipelines, associated appurtenances, and improved recycled water facilities and storage. Given the underground nature of pipelines and the fact that sites for storage tanks, pump stations, and additional treatment facilities would not likely take place within Williamson Act-designated lands, it is not anticipated that the Proposed Project would significantly conflict with a Williamson Act contract.

Given the location of facilities included within the Proposed Project, which would largely be located within urban, residential, and other built areas, it is not anticipated that the Proposed Project would conflict with existing agricultural use zoning. Further, the Proposed Project would support existing agricultural use zoning in several portions of the Study Area by providing less expensive and more affordable water to agricultural users, therefore supporting agricultural uses. For these reasons, it is not anticipated that the Proposed Project would significantly conflict with existing agricultural use zoning. The impact to agricultural use zoning or Williamson Act contracts is therefore less than significant. No mitigation would be required.

### Significance Determination before Mitigation

Less than significant.

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### **Impact 3.2-3 Potential for other changes in the existing environment which could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use**

As noted above, there is Farmland within some portions of the Study Area. However, all potential recycled water users that would be served by the Proposed Project are existing use or planned uses. Group J would serve planned development, and would not itself result in conversion of these areas from undeveloped land.

The Proposed Project has identified agricultural customers to be served, mainly in Group C and Group I, as described in *Chapter 2, Project Description*. It is anticipated that agricultural customers that would receive recycled water as part of the Proposed Project would be served a lower cost source of irrigation water once the Proposed Project begins delivery compared to current water supplies (potable water). According to the *Preliminary Design Report of the City of Escondido's Recycled Water Easterly Main Extension* (part of the Group C component), irrigation demand averages 5 acre-feet per year (City of Escondido 2012a). Escondido farmers pay between \$1,200 and \$1,300 per acre-foot of potable water from imported sources, with avocado crops (the primary crop grown in the area) valued at \$5,000 per acre (Bender 2012). As such, irrigation with potable water represents a substantial portion of the cost to operate agricultural facilities within the Study Area. By providing a less-expensive source of water for irrigation, the Proposed Project could help to protect continued agriculture use of existing agricultural lands by reducing irrigation costs. Due to the limited potential impacts and the benefits provided by the Proposed Project, the Proposed Project would not have a potential for other changes that would result in conversion of Farmland to non-agricultural use.

There are no forest lands within the Study Area, and therefore the Proposed Project would not result in conversion of forest land to non-forest uses. There is no impact to conversion of Farmland or forests from the Proposed Project, and no mitigation is required.

### Significance Determination before Mitigation

No impact.

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**Table 3.2-1: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
The Environmental Resource Management Element (2002) and Land Use Element (2002) of the City of Oceanside General Plan: Environmental Resource Management Element: <ul style="list-style-type: none"> <li>• Designate as agriculture in the Land Use Element those areas of prime agricultural land that can still be economically cultivated.</li> </ul> Land Use Element: <ul style="list-style-type: none"> <li>• [Agricultural Subdivision] Policy A: The City shall assure in all actions that the legal parcels or interests in agricultural lands are of sufficient size to viably conduct agricultural practices.</li> <li>• Objective: To identify, conserve and enhance Oceanside’s agricultural areas.</li> <li>• Policy C: The City shall, in all proposed actions converting agricultural lands to other land uses, consider the loss of those lands to the potential agricultural productivity to the community; and shall assure that land use compatibility to agricultural lands is fully defined and assured.</li> </ul>	G, P	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
The Land Use Element (2013a) and the Open Space and Conservation Element (2006) of the City of Carlsbad General Plan: Land Use Element: <ul style="list-style-type: none"> <li>• Goal A.1: A City which prevents the premature elimination of agricultural land and preserves said lands wherever possible.</li> <li>• Goal A.2: A City which supports agriculture while planning for possible transition to urban uses.</li> <li>• Objective B.3: To develop measures to ensure the compatibility of agricultural production and adjacent land uses.</li> <li>• Implementing Policy and Action Program C.6: Encourage soil and water conservation techniques in agricultural activities.</li> </ul> Open Space and Conservation Element: <ul style="list-style-type: none"> <li>• Goal A: A city which recognizes the important value of agriculture and horticultural lands.</li> <li>• Objective B.3. To promote the use of new technology for agricultural purposes to improve the economic viability of agriculture</li> <li>• Objective B.4: To ensure that new development is sensitive to existing agricultural uses.</li> <li>• Implementing Policy and Action Program C.2. Encourage the use of water conservation techniques in agricultural enterprises including the use of reclaimed wastewater for irrigation.</li> <li>• Implementing Policy and Action Program C.7. Discourage the premature elimination of agricultural lands.</li> <li>• Implementing Policy and Action Program C.13. Accomplish grading of agricultural lands in a manner that minimizes erosion of hillsides and minimize stream siltation and to maintain the appearance of natural hillsides and other land forms wherever possible.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Encinitas</b>		
<p>The Resource Management Element of the Encinitas General Plan (1995) contains the following agricultural Goals and Policies relevant to the Proposed Project:</p> <ul style="list-style-type: none"> <li>• Goal 11: The City recognizes the important contribution of agricultural and horticultural land uses in the local economy and the emphasis of the need to maintain these activities</li> <li>• Policy 11.2: Support agricultural water rates for agricultural/horticultural operations and explore the use of treated wastewater for agricultural operations.</li> <li>• Policy 11.2: Support air quality control measures to protect against agricultural crop damage.</li> <li>• Goal 12: The City will encourage the preservation of “prime” agriculture lands within its sphere of influence.</li> </ul>	E, H	San Elijo WRF
<b>City of Escondido</b>		
<p>The Resource Conservation Element of the Escondido General Plan (Escondido 2012b):</p> <ul style="list-style-type: none"> <li>• Goal 4: Preservation of agricultural resources and continuation of agricultural production in appropriate areas within Escondido.</li> <li>• Agricultural Resources Policy 4.4: Encourage the use of water conservation techniques in agricultural enterprises including the use of reclaimed water for irrigation.</li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF
<b>City of Vista</b>		
The Vista General Plan contains policies related to agricultural lands, but none of these goals and policies are applicable to the Proposed Project.	O	None
<b>City of San Marcos</b>		
<p>Conservation and Open Space Element of the San Marcos General Plan (City of San Marcos 2012b):</p> <ul style="list-style-type: none"> <li>• Goal COS-2: The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations. By working with property owners, local organizations, and state and federal agencies, the City can limit the conversion of resource lands to urban uses.</li> <li>• Policy COS-2.3: Protect existing agricultural areas, encourage farm to consumer, promote public health, and promote small-scale agriculture such as community gardens and the growing of organic produce.</li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
The City of Solana Beach General Plan (2001) has policies related to agricultural land uses in its Land Use Element and Conservation and Open Space Element, but none of these policies are relevant to the Proposed Project in relation to potential agricultural resource impacts.	H, K	None
<b>County of San Diego</b>		
Conservation and Open Space Element and the Land Use Element of the San Diego General Plan (2011) contains policies and goals aimed at protecting agricultural resources, none of which are relevant to the Proposed Project.	H, J, K, O	None



### 3.3 Air Quality

This section addresses air emissions generated by construction and operation of the Proposed Project. Air pollutants of concern include: ozone (O<sub>3</sub>), oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), sulfur and PM<sub>2.5</sub>, respectively). The analysis also addresses consistency of the Proposed Project with air quality policies set forth within the San Diego Air Basin (SDAB) rules and regulations, the California State Implementation Plan (SIP), and Federal Maintenance Plans for air quality contaminants. Analysis of project-generated air emissions focuses on whether the Proposed Project would cause an exceedance of an ambient air quality standard or significance threshold. Supporting documentation for this analysis is provided in **Appendix C**. With mitigation measures, the Proposed Project would have significant and unavoidable air quality impacts, as described below.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential air quality impacts.

#### 3.3.1 Air Pollutant Properties, Effects, and Sources

Air quality conditions are indicated by the presence of criteria air pollutants, as described below.

##### Ozone (O<sub>3</sub>)

Ozone (O<sub>3</sub>) is formed when volatile organic compounds (VOC) and NO<sub>x</sub> react in the presence of sunlight and heat. Upper atmosphere O<sub>3</sub> (stratospheric ozone) is beneficial, providing protection against harmful ultraviolet rays from the sun, but lower atmosphere O<sub>3</sub> (tropospheric ozone) is harmful to organisms and man-made materials. VOCs and NO<sub>x</sub>, O<sub>3</sub> precursors, are emitted from fuel combustion, chemical plants, factories, commercial products, industrial sources, and some natural emissions. Effects of O<sub>3</sub> include impacts to both human and environmental health, as well as damage to certain materials. O<sub>3</sub> can affect respiratory systems, and aggravates existing respiratory conditions such as asthma. Exposure to O<sub>3</sub> can increase risk of respiratory diseases, including pneumonia and bronchitis. O<sub>3</sub> can reduce crop yield and impact growth, and causes damage to rubbers, dyes, some synthetic materials, and paints (SDAPCD 2012).

##### Carbon Monoxide (CO)

Carbon monoxide (CO) reduces the blood's ability to transport oxygen, and is of greatest concern to people with existing conditions such as certain heart and lung diseases, and anemia, and to developing fetuses and smokers. CO is a colorless, odorless gas formed by the incomplete combustion of fuels, and is primarily produced by motor vehicles.

##### Suspended Particulates (PM<sub>10</sub> and PM<sub>2.5</sub>)

Inhalable fine particulate matter is classified as PM<sub>10</sub> and PM<sub>2.5</sub>, both of which are extremely small suspended particles or droplets that can lodge in the lungs, contributing to respiratory problems. PM<sub>10</sub> includes particles that are 10 microns or smaller in diameter, while PM<sub>2.5</sub> consists of particles 2.5 microns or smaller in diameter.

Sources of PM<sub>10</sub> include road dust, diesel soot, combustion products, tire and brake abrasion, construction operations, and fires. It is also formed in the atmosphere from NO<sub>x</sub> and sulfur dioxide (SO<sub>2</sub>) reactions with ammonia. Diesel soot and reactions of NO<sub>x</sub> and SO<sub>2</sub> with ammonia also contribute to PM<sub>2.5</sub>. Secondary organics and fine dust particles are also sources of PM<sub>2.5</sub>.

PM<sub>10</sub> and PM<sub>2.5</sub> both cause health problems, with smaller particles able to cause permanent lung damage. They can also act as carriers of toxic substances or affect the body's ability to clear out the

respiratory tract. In addition, to these health risks, PM10 scatters light and significantly reduces visibility (SCAQMD 2005).

### **Nitrogen Oxides (NOx) and Nitrogen Dioxide (NO2)**

Nitrogen dioxide (NO<sub>2</sub>) is produced by combustion, with the resulting nitric oxide (NO) reacting quickly to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. NO<sub>2</sub> is more harmful than NO, but is less irritating at atmospheric concentrations. NO<sub>2</sub> can reduce visibility, and may contribute to chronic pulmonary fibrosis and increased rates of bronchitis in young children. In addition to direct impacts, NO<sub>x</sub> emissions are of concern because of their contribution to the formation of O<sub>3</sub> and particulate matter (SCAQMD 2005).

### **Sulfur Dioxide (SO2)**

Sulfur dioxide (SO<sub>2</sub>) is formed primarily by fossil fuel combustion, and can cause acute respiratory symptoms and difficulty in breathing for children. As with NO<sub>x</sub>, SO<sub>2</sub> can also contribute to other air quality pollutants - it is a precursor to both sulfate and PM10 (SCAQMD 2005).

## **3.3.2 Physical Environmental Setting – Air Quality**

The following sections describe the existing settings of the Study Area and also identify resources that could be affected by the Proposed Project.

### **Climate and Meteorology**

The San Diego region's climate is characterized by dry, warm summers and mild, occasionally wet winters. The region experiences an average temperature range from the mid-40s to the high 90s (in degrees Fahrenheit (°F)). Approximately 90 percent of the region's precipitation falls from November to April, with an average seasonal precipitation at the coast of approximately 10 inches. Precipitation generally increases towards the mountains and high elevations (City of San Diego 2007).

In concert with local meteorology, topography influences the dispersal and movement of pollutants in the basin. Topography in the region ranges from desert and mountains in the east to beaches and coastal areas in the west. Pollutant dispersal can be impeded by the mountains, which help trap them in inversion layers. Prevailing wind patterns are westerly to northwesterly, and inland can blow through the valleys during the day and down the hills and valleys at night (City of San Diego 2007).

### **Existing Regional Air Quality**

The Proposed Project is located within the SDAB, which is under the authority of the San Diego Air Pollution Control District (SDAPCD). The SDAB covers 4,260 square miles in southwestern California, and is an area of high air pollution potential.

During warmer months, temperature subsidence inversions occurs as descending air associated with the Pacific High Pressure Zone encounters air cooled by the ocean, trapping pollutants. A shallow inversion layer can form on cooler nights due to radiation inversion, which can also trap pollutants. Pollutants can become concentrated in the inversion layers allowing for photochemical reactions which produce O<sub>3</sub>, or smog. The SDAB is currently classified as a federal marginal nonattainment area for O<sub>3</sub> and a state nonattainment area for particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), and O<sub>3</sub> (City of San Diego 2007).

### **Ambient Air Quality**

Air quality in the San Diego region is affected by numerous sources, including industrial, mobile, area, and natural sources. Emissions of toxic air contaminants (TACs) from facilities must be reported to the SDAPCD under AB 2588. 3,130 facilities reported emissions between 2007 and 2011, with over half

being diesel engine facilities, and approximately one-third a combination of auto body shops, gas stations, and dry cleaners (SDAPCD 2013a).

Overall, air quality in San Diego County has been improving over time. TAC emissions from stationary sources in San Diego County have been reduced by approximately 89 percent since 1989 (SDAPCD 2013a). TAC monitoring in the SDAB has been conducted at stations in El Cajon and Chula Vista since the mid-1980s. Excluding diesel particulates, monitoring data from these stations show a 74.1 and 77.8 percent reduction in the ambient incremental cancer risk from air toxics since 1989, respectively. Diesel particulates cannot yet be directly measured by the monitoring stations, but estimates show that they could contribute significantly to ambient risk levels in San Diego County. Despite overall improvements to air quality, there are still large amounts of TAC emissions from a wide variety of sources including motor vehicles, industrial facilities, household products, area sources, and natural processes (SDAPCD 2013a).

### Existing Pollutant Levels at Nearby Monitoring Stations

The SDAPCD maintains a network of air quality monitoring stations located throughout the SDAB. Within the Study Area, SDAPCD maintains two monitoring stations, located at McClellan-Palomar Airport and in Escondido. In addition, there is a Camp Pendleton monitoring station located immediately northwest of the border between Camp Pendleton and the City of Oceanside, and a station near the coast at Del Mar, just outside the southwestern boundary of the Study Area. Of these, the Escondido station has the most comprehensive air quality monitoring. The Escondido station monitors criteria pollutants, including O<sub>3</sub>, CO, PM<sub>2.5</sub>, and NO<sub>2</sub>. Because the SDAB does not generally exceed SO<sub>2</sub> standards, the Escondido monitoring station does not provide information on the levels of SO<sub>2</sub>. The most recent data available from the SDAPCD's monitoring stations includes the years 2009 to 2013. The data from the Escondido station, summarized in **Table 3.3-1** show the following pollutant trends:

- **Ozone** - The maximum 1-hour O<sub>3</sub> concentration recorded during the 2009 to 2013 monitoring period was 0.11 parts per million (ppm), recorded in 2010. During this period, the California Ambient Air Quality Standard (CAAQS) was exceeded between 0 and 2 times annually and the National Ambient Air Quality Standard (NAAQS) was not exceeded. The maximum 8-hour O<sub>3</sub> concentration was 0.09 ppm, recorded during the 2011. The CAAQS was exceeded between 2 and 9 times annually and the NAAQS exceeded between 0 and 13 times annually.
- **Particulate Matter (PM<sub>10</sub>)** -The highest recorded 24-hour PM<sub>10</sub> concentration was 80 micrograms per cubic meter (µg/m<sup>3</sup>), recorded in 2013. The maximum annual average over 2009-2013 was 24.9 µg/m<sup>3</sup>, in 2009.
- **Fine Particulates (PM<sub>2.5</sub>)** - The maximum 24-hour PM<sub>2.5</sub> concentration recorded was 71 µg/m<sup>3</sup> in 2012. The highest annual average during 2009-2012 of 11 µg/m<sup>3</sup> was recorded in 2009.
- **Carbon Monoxide** - The highest 1-hour CO concentration recorded was 4.4 ppm, recorded in both 2009 and 2012. The maximum 8-hour CO concentration was 3.8 ppm, recorded in 2012. During the 2009-2013 period, there were no exceedances recorded for the California or National 1-hour or 8-hour CO standards.
- **Nitrogen Dioxide** - The highest 1-hour NO<sub>2</sub> concentration recorded was 0.073 ppm in 2009. The highest recorded NO<sub>2</sub> annual average was 0.015 ppm, recorded in 2009. There were no recorded exceedances of either the California or National standards during this period.
- **Sulfur Dioxide** – SO<sub>2</sub> data were not recorded at the Escondido monitoring site during the 2009 to 2013 period. In general, this contaminant is not found in high quantities in this area and is therefore not considered a high threat.

- **Lead (Pb)** - The Air Basin is currently in compliance with California and National standards for lead and monitoring is only conducted periodically since the primary sources of atmospheric lead, leaded gasoline and lead-based paint, are no longer available in the Air Basin.

**Table 3.3-1: Pollutant Standards for San Diego County and Ambient Air Quality Data from the Escondido Monitoring Station**

Pollutant	Standard	2009	2010	2011	2012	2013
<b>Ozone</b>	<u>(1-Hour)</u>					
	Maximum Concentration (ppm)	0.09	0.11	0.10	0.08	0.08
	Days > 0.095 ppm CAAQS (0.09 ppm)	0	2	1	0	0
	Days > NAAQS (0.12 ppm)	0	0	0	0	0
	<u>(8-Hour)</u>					
	Maximum Concentration (ppm)	0.08	0.08	0.09	0.07	0.07
	Days > CAAQS (0.070 ppm)	9	5	2	2	4
Days > NAAQS (0.075 ppm)	1	3	2	0	0	
<b>PM10</b>	<u>(24-Hour)</u>					
	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )	73	42	40	33	80
	<u>(Annual)</u>					
Annual Arithmetic Mean ( $\mu\text{g}/\text{m}^3$ )	24.9	20.9	18.8	18.0	23.1	
<b>PM2.5</b>	<u>(24-Hour)</u>					
	Maximum Concentration ( $\mu\text{g}/\text{m}^3$ )	65	33	27	71	56.3
	<u>(Annual)</u>					
Annual Arithmetic Mean ( $\mu\text{g}/\text{m}^3$ )	11.0	10.5	10.4	10.5	10.5	
<b>Carbon Monoxide</b>	<u>(1-Hour)</u>					
	Maximum Concentration (ppm)	4.4	3.9	3.5	4.4	3.2
	<u>(8-Hour)</u>					
Maximum Concentration (ppm)	3.4	2.5	2.3	3.8	2.6	
<b>Nitrogen Dioxide</b>	<u>(1-Hour)</u>					
	Maximum Concentration (ppm)	0.073	0.064	0.062	0.062	0.61
	<u>(Annual)</u>					
Annual Arithmetic Mean (ppm)	0.015	0.014	0.013	0.012	0.012	

ppm= parts per million;  $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter  
 Source: SDAPCD 2014.

### Sensitive Receptors

Some population groups, such as children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Schools (preschool–12th grade), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality are considered sensitive receptors. In general, CEQA also defines residents as sensitive receptors in the County. The two primary emissions of concern regarding health effects for land development projects are diesel-fired particulate matter and CO.

### 3.3.3 Regulatory Framework – Air Quality

#### Federal Policies and Regulations

##### **Clean Air Act Amendment of 1970 (CAA)**

The Clean Air Act Amendments of 1970 established national ambient air quality standards (NAAQS), and individual states retained the option to adopt more stringent standards and to include other pollution sources. As described below, California uses the more stringent standards under the California Clean Air Act. The NAAQS standards are listed in **Table 3.3-2**.

Ambient air quality standards are intended to protect the public health and welfare, and specify the concentration of pollutants to which the public can be exposed without adverse health effects. Air quality standards are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, the elderly, people weak from other illness or disease, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above the ambient air quality standards before adverse health effects are observed.

The 1977 Clean Air Act (last amended in 1990, 42 United States Code [USC] 7401 et seq.) required regional planning and air pollution control agencies to prepare regional air quality plans outlining the measures by which pollutant sources will be controlled to achieve all standards by the deadlines specified in the Clean Air Act. The resulting State Implementation Plan (SIP) contains control strategies that demonstrate attainment of national ambient air quality standards by the established deadlines. Each regional air district in California prepares their individual federal attainment plan, which is approved by CARB and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

#### State Policies and Regulations

##### **California Clean Air Act (CCAA)**

In 1988, California passed the California Clean Air Act (California Health and Safety Code Section 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment but based on the state ambient air quality standards rather than the federal standards. California had already established its own air quality standards when federal standards were established, and, because of the unique meteorological conditions in California, there is considerable difference between the state and NAAQS.

CCAA is administered by the California Air Resources Board (CARB) at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). As shown in **Table 3.3-2**, CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

CARB regulates mobile air pollution sources, such as motor vehicles, and sets emission standards for sources in California, such as vehicles, consumer products, and certain off-road equipment. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by

highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. The attainment statuses for the SDAB are displayed in **Table 3.3-2**. The basin is in nonattainment for the state ozone one and eight-hour, PM2.5 annual, and PM10 24-hour and annual. SDAB is unclassifiable in hydrogen sulfide and visibility-reducing particles, and is in attainment for carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, and lead.

**Table 3.3-2: State and Federal Ambient Air Quality Standards and Attainment Status**

Pollutant	Averaging Time	(State) SAAQS		(Federal) NAAQS	
		Standard	Attainment Status	Standard	Attainment Status
Ozone (ROG)	One hour	0.09 ppm	<b>N</b>	NA	NA
	Eight hour	0.07 ppm	<b>N</b>	0.075 ppm	<b>MN</b>
Carbon Monoxide (CO)	One hour	20 ppm	A	35 ppm	A
	Eight hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO2)	One hour	0.18 ppm	A	0.100 ppm	A
	Annual	0.030 ppm	A	0.053 ppm	A
Sulfur Dioxide (SO2)	One hour	0.25 ppm	A	0.075 ppm	A
Particulate Matter (PM10)	24 hour	50 µg/m <sup>3</sup>	<b>N</b>	150 µg/m <sup>3</sup>	A
	Annual	20 µg/m <sup>3</sup>	A	NA	NA
Fine Particulate Matter (PM2.5)	24 hour	NA	NA	35 µg/m <sup>3</sup>	A
	Annual	12 µg/m <sup>3</sup>	<b>N</b>	12.0 µg/m <sup>3</sup>	U
Sulfates	NA	NA	A	NA	NA
Lead	30 day	1.5 µg/m <sup>3</sup>	A	NA	NA
	Quarter	NA	NA	0.15 µg/m <sup>3</sup>	A
Hydrogen Sulfide	NA	NA	U <sup>1</sup>	NA	NA
Visibility-Reducing Particles	NA	NA	U <sup>1</sup>	NA	NA

Notes: A = Attainment; **N** = Nonattainment; **MN** = Marginal Nonattainment; U = Unclassifiable; NA = Not Applicable, no applicable standard; ND = no designation; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

Sources: SDAPCD 2013c.

### Toxic Air Contaminants (TACs)

The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics, and is administered by CARB. CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)]. The Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code Section 44360) supplements the Toxic Air Contaminant Identification and Control Act by requiring a state-wide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The "Hot Spots" Act also requires facilities that pose a significant health risk to the community to create and implement a risk management plan.

To address the potential health effects from air toxic substances and protect the public health of Californians, CARB and the Office of Environmental Health Hazard Assessment (OEHHA) identifies

TACs, including 189 federal hazardous air pollutants. CARB also reviews the emission sources of an identified TAC to determine if any regulatory action in addition to the controls already in place is necessary to reduce the risk.

### **California's Diesel Risk Reduction Program**

Particulate emissions from diesel-fueled engines (diesel PM) are designated TACs. To manage the risks from diesel PM, CARB formed the Diesel Advisory Committee, which developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. Resulting control measures consist of specific Statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

### **Local Policies and Regulations**

#### **San Diego Air Pollution Control District**

The SDAPCD was formed in 1955 to regulate air quality in the San Diego Air Basin (SDAB). SDAPCD operates fourteen monitoring stations throughout the SDAB. Air quality samples are generally collected for one or more of the following purposes: determining compliance with ambient air quality standards, activating emergency control procedures that prevents air pollution episodes, observing trends within the region, creating daily reports, providing a database for research for land-use planning and development of abatement strategies, and determining the levels of pollution above which there are significant adverse health effects. Data collected from these sites serve many purposes, and help inform health researchers and agencies, environmentalists, regulatory agencies, businesses, and the general public.

#### **Ambient Air Quality Network Plan (AAQNP)**

All areas designated as nonattainment under the CAAQS are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The Ambient Air Quality Network Plan (AAQNP) is the SDAPCD plan for improving regional air quality, and is developed in coordination with the San Diego Association of Governments (SANDAG). It addresses NAAQS and CAAQS requirements and demonstrates attainment with State and federal ambient air quality standards. The County Regional Air Quality Strategy (RAQS) outlines SDAPCD's plans and control measures that are designed to attain the state air quality standards for O<sub>3</sub>, and is updated triennially. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the county as part of the development of their general plans.

#### **Toxic Air Contaminants (TACs)**

In 1996, SDAPCD adopted Regulation XII Rule 1210 which governs toxic air contaminant emissions. It contains requirements for notifications of emissions and risk reduction audits and plans for stationary source toxic air contaminants. This rule was amended to include more up to date lists of toxic air contaminants in 2010, 2013, and 2014.

#### **General Plans**

The General Plans within the Study Area contain policies, goals, and objectives related to air quality protection and improvements. The goals, objectives, and policies included in the general plans of the

individual jurisdictions within the Study Area are outlined in **Table 3.3-17** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### 3.3.4 Impact Analysis – Air Quality

#### Methodology for Analysis

Criteria pollutant emissions during construction were estimated using three methods: one to determine emissions resulting from pipeline construction, one to determine emissions resulting from pump station construction, and one to determine emissions resulting from treatment plant upgrades. The resulting emissions were then added together and considered alongside the proposed schedule for construction of the different project components to determine a potential maximum amount of emissions that could take place as a result of the Proposed Project.

For emissions resulting from the operation of new facilities associated with the Proposed Project, the methods used included estimates of emissions from mobile sources (employees commuting to and from treatment plants and periodically visiting pump stations) and estimates of indirect emissions from power plants due to electricity consumption at the treatment plants and pump stations.

Given the programmatic nature of this PEIR and the fact that all of the facilities, pipelines, appurtenances, and other components that may be associated with the Proposed Project are not currently known, this air quality analysis was conducted conservatively with the best available information about the Proposed Project to calculate potential emissions that could occur from both construction and operation. These calculations are used as a starting point for analyzing potential emissions that could result from the Proposed Project and as guidance for setting mitigation measures.

#### **Construction**

##### *Pipelines*

A total of 11 groups of pipelines will be constructed in the short-term (as part of the Proposed Project) according to information in *Chapter 2, Project Description*. The groups and their expected start years are included in **Table 3.3-3**. Pipe lengths and diameters are based on information from the Project Description, which were used to determine trench width required for the pipes and estimates of imported and exported soil amounts per linear foot (LF) of pipeline. The disturbed area for each pipeline segment was calculated assuming a total of 40-feet disturbed perpendicular to the pipeline multiplied by the total length of each pipeline. The expected duration of construction for each group was calculated assuming a 200 LF/day averaged construction rate and a 5-day work week, as shown in **Table 3.3-3** below. This analysis relied upon the *Road Construction Emissions Model Version 7\_1\_5\_1*, as well as project-specific information to determine potential air emissions that would result from the Proposed Project. SDAPCD Significance Thresholds were compared to the model results for each criteria pollutant to determine potential impacts that could result from implementation of the Proposed Project.



**Table 3.3-3: Short-Term Pipeline Construction Time Frame and Emissions**

Agency	Group*	Timeline	Project Working Schedule	
			Average 200 LF/day	5-Day Work Week
			Days	Months
Carlsbad MWD	A	2016	454	22.7
City of Escondido	C	2020-2021	170	8.5
	D	2021	42	2.1
San Elijo JPA	E	2016	106	5.3
City of Oceanside	G	2020-2021	165	8.3
Olivenhain	H	2015	148	7.4
Rincon del Diablo MWD	I	2014-2020	217	10.9
	J	2013-2016	76	3.8
Santa Fe ID	K	2022-2024	233	11.7
Vallecitos WD	M	2021	58	2.9
Vista ID	O	2015-2017	61	3.1

\* This table only includes information for groups that are included as part of the Proposed Project and which have defined pipeline components as part of the Proposed Project. Groups B and L only have long-term components and Group N only involves potable reuse components, which does not have defined pipeline alignments at this time.

Upon analyzing potential emissions that would occur from construction of anticipated pipelines (and pump stations and treatment plants described subsequently) for the Proposed Project, the analysis showed that nitrous oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), and PM<sub>10</sub> were the limiting pollutants, meaning that the amount of NO<sub>x</sub>, VOCs, and PM<sub>10</sub> emissions for each Group when added together reached the threshold before any other pollutant. The Significance Threshold for NO<sub>x</sub>, VOCs, and PM<sub>10</sub> are 250 lbs/day, 75 lbs/day, and 100 lbs/day, respectively. Emissions from constructing the pipelines need to be combined with emissions from constructing other project components (pump stations and treatment plants) and these three pollutants are most likely to approach or exceed their respective thresholds without incorporating mitigation measures. **Appendix C** includes the results of the modeling with maximum day emissions for criteria pollutants.

**Table 3.3-4** includes the maximum day emissions, per Group (pipelines only; does not include pump stations or treatment plants), for NO<sub>x</sub>, VOCs, and PM<sub>10</sub> only. Note that this maximum does not consider the implementation timeline for the Proposed Project, which results in some years with multiple Groups under construction concurrently and some years with none under construction. Thus, the sum of emissions in all pipelines is not a valid approximation of the conditions that would be observed during project implementation. When considering the schedule for the construction of the different pipelines (included in **Appendix C**), the maximum day emissions is 127 lb/day for NO<sub>x</sub>, 12 lb/day for VOC, and 11 lb/day for PM<sub>10</sub>, forecasted for some months in 2016, resulting from overlapping implementation of Groups A and E. Incorporating construction of the pump stations and two treatment plants (as discussed in the following two sections), the maximum day emissions when considering the construction schedules are 377 lb/day for NO<sub>x</sub>, 86 lb/day for VOC, and 139 lb/day for PM<sub>10</sub>.

**Table 3.3-4: Pipeline Construction Maximum Daily Emissions for the Limiting Pollutants\*  
 NOx and PM10**

Agency	Group*	Timeline	Limiting Pollutants		
			NOx	PM10	VOC
			lb/day	lb/day	lb/day
Carlsbad MWD	A	2016	59	5.7	6.2
City of Escondido	C	2020-2021	42	4.7	4.3
	D	2021	39	4.6	4.2
San Elijo JPA	E	2016	56	5.6	6.2
City of Oceanside	G	2020-2021	40	4.6	4.2
Olivenhain	H	2014-2015	65	6.8	6.8
Rincon del Diablo MWD	I	2014-2020	48	5.1	5
	J	2013-2016	62	6	7
Santa Fe ID	K	2022-2024	29	4.2	3.5
Vallecitos WD	M	2021	39	4.6	4.2
Vista ID	O	2015-2017	62	5.9	6.8

\* This table includes information for NOx, VOC, and PM10 only, given that the analysis indicated that these pollutants are more likely to approach or exceed the relevant thresholds.

**Pump Stations**

Several pump stations will need to be built as part of the Proposed Project as described in *Chapter 2, Project Description*. The potential air emissions that would result from construction of these pump stations were estimated using an approximate disturbed area of 0.25 acres for each pump station. This land area is a conservative approximation of the site that would be required for most of the pump stations in the Proposed Project, and it is appropriate for the larger pump stations that will be constructed.

Pump station construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2013.2, which provides output for criteria pollutants and CO2. Model output sheets are included in **Appendix C**. **Table 3.3-5** presents the maximum daily emissions for NOx and PM10, which as explained before, are the limiting pollutants for the construction of the components of the Proposed Project.

Note that the maximum emissions in **Table 3.3-5** do not consider the implementation timeline for the Proposed Project and thus, the sum of the emissions in all pump station groups is not a valid approximation of the conditions that would be observed during project implementation. When considering the schedule for the construction of the different pipeline groups *and* pump stations (included in **Appendix C**), the maximum daily emissions is 193 lb/day for NOx and 23 lb/day for PM10, forecasted for some months in 2020, resulting from overlapping implementation of Groups C and G.

**Table 3.3-5: Pump Station Construction Maximum Daily Emissions for the Limiting Pollutants\*  
NOx and PM10**

Agency	Group*	Timeline	Limiting Pollutants		
			NOx	PM10	VOC
			lb/day	lb/day	lb/day
Carlsbad MWD	A	2016	13.92	1.76	1.46
City of Escondido	C	2020-2021	55.68	7.04	5.84
	D	2021	13.92	1.76	1.46
San Elijo JPA	E	2016	-	-	-
City of Oceanside	G	2020-2021	97.44	12.32	10.22
Olivenhain	H	2014-2015	27.84	3.52	2.92
Rincon del Diablo MWD	I	2014-2020	27.84	3.52	2.92
	J	2013-2016	-	-	-
Santa Fe ID	K	2022-2024	27.84	3.52	2.92
Vallecitos WD	M	2021	27.84	3.52	2.92
Vista ID	O	2015-2017	13.92	1.76	1.46

\* This table includes information for NOx, VOC, and PM10 only, given that the analysis indicated that these pollutants are more likely to approach or exceed the relevant thresholds.

**Treatment Plants**

The existing northern San Diego County recycled water system that provides supply to the Proposed Project has a tertiary treatment capacity of 25.3 million gallons per day (MGD) and averages 10.0 MGD of tertiary water flow, produced at twelve treatment facilities. In order to meet the short-term water reuse demands associated with the Proposed Project of 29,618 AFY (an increase of 18,808 AFY over existing conditions), six existing recycled water treatment plants will need to increase treatment capacity. In addition to these six existing treatment plants, two additional treatment plants (Escondido AWT and Harmony Grove WRF) will need to be constructed. Four of the treatment plants will need to be upgraded and one will need to be constructed with AWT components necessary to produce water for potable reuse. Due to uncertainty over the details of the treatment plant upgrades and construction, not enough data is currently available to precisely model the potential emissions of these Proposed Project components. As called for by several mitigation measures (see below), the project-level environmental analyses for each project will include a more in-depth analysis and modeling of potential emissions.

Despite these limitations, air quality impacts from the treatment plants in the Proposed Project were estimated using data from other, similar, projects to provide a basis of understanding of potential air quality emissions that could result from the Proposed Project. Emissions data and project characteristics were collected from Environmental Impact Reports (EIRs) of other recycled water projects and wastewater treatment plant upgrades in California in the last decade.

**Table 3.3-6** lists the treatment plants used in this analysis, along with their expected capacity upon project completion. Emissions rates were reported in pounds per day (lbs/day), tons per year (tons/yr), or both. For facilities whose construction lasted for more than one year, the highest daily emission factor was used, to be conservative. Although this method is not as accurate as project-level modeling, it still provides a general estimate of potential maximum emissions that could result from the Proposed Project.

**Table 3.3-6: Other Wastewater Treatment Plant Projects Used for Emissions Estimates**

Wastewater Treatment Plant	City	Treatment Capacity (MGD)	Year Published
Ridgemark WWTP and RWP	Hollister	0.35	2009
Morro Bay-Cayucos WWTP	Morro Bay	1.5	2010
Palmdale WRP	Palmdale	22.4	2005
Laguna Subregional WRF	Santa Rosa	25.9	2003
Lancaster WRP Option 1	Lancaster	26	2004
Lancaster WRP Option 2	Lancaster	26	2004
Riverside Regional Water Quality Control Plant	Riverside	52.2	2010

Sources: Sunnyslope County Water District 2009; City of Morro Bay 2010; LACSD 2005; City of San Jose 2013; LACSD 2004; City of Riverside 2010.

The average maximum daily emissions from these plants correspond to:

- NO<sub>x</sub>: 84 lb/day
- VOC: 33 lb/day
- PM<sub>10</sub>: 56 lb/day
- PM<sub>2.5</sub>: 10 lb/day
- CO: 41 lb/day
- SO<sub>2</sub>: negligible (for plants with data available)

Due to construction logistics, construction must be distributed over the 2014 through 2025 short term time frame discussed above. As mentioned above, when the construction schedule for the various Groups is considered, there are some periods when the construction of pipeline and pump station facilities overlap and thus, maximum daily emissions approach levels that could result in emissions higher than the thresholds of significance if the treatment plants were to be constructed in those same periods. In particular, the forecasted period with highest emissions for pipelines and pump stations corresponds to approximately 2020 and in that period, construction of a treatment plant would result in emissions higher than the NO<sub>x</sub> threshold. Construction of two treatment plants simultaneously, at any period within project implementation, would result in exceedances of the PM<sub>10</sub> threshold. In the case of NO<sub>x</sub>, the most critical periods where construction of both treatment plants would result in emissions higher than the threshold correspond to (approximately) the years 2015-2016, 2018, and 2020-2021. Critical periods for VOCs where construction of two treatment plants concurrent with pipeline construction would result in emissions higher than the threshold fall within at least a portion of the years 2015-2016, 2020, and 2021.

As shown in **Table 3.3-7**, construction of two treatment plants simultaneously with the pipelines would result in average maximum daily emissions exceeding the thresholds of significance for NO<sub>x</sub>, VOCs, and PM<sub>10</sub> if mitigation measures were not implemented. The exact construction timeline for the treatment plants, however, is not known at the time so a worst case scenario has been evaluated – the maximum daily pipeline and pump station emissions (for which we have construction timing) combined with the maximum daily emissions for two treatment plants. This analysis shows that it is likely unfeasible to construct all the pipelines and facilities associated with the Proposed Project without exceeding at least one of the NO<sub>x</sub>, VOC, or PM<sub>10</sub> significance thresholds from SDAPCD without incorporating additional mitigation measures.

**Table 3.3-7: Significance Thresholds and Emissions Factors for Construction of the Proposed Project**

Pollutant	SDAPCD Significance Threshold <sup>1</sup> (lbs/day)	Maximum Daily Pipeline and Pump Stations Emissions <sup>2</sup> (lbs/day)	Maximum Daily Treatment Plant Emissions for 2 Plants <sup>3</sup> (lbs/day)	Total Maximum Daily Emissions from Proposed Project <sup>4</sup> (lbs/day)
Nitrogen Oxides (NOx)	250	193	168	361
Volatile Organic Compounds (VOC)	75	20	66	86
Particulate Matter (PM10)	100	23	112	135
Fine Particulate Matter (PM2.5)	55	15	20	35
Carbon Monoxide (CO)	550	139	82	221

<sup>1</sup>Thresholds from County of San Diego’s Guidelines for Determining Significance, Air Quality (2007), which include SDAPCD Rule 20.3 thresholds for NOx, PM10, and CO. Rule 20.3 did not include thresholds for VOC and PM2.5. A proxy was used for VOCs (South Coast Air Management District – Coachella Valley APCD), and PM2.5 thresholds based on U.S. EPA rule (Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards” published September 8, 2005)

<sup>2</sup>Calculated maximum emissions correspond to approximately the year 2020.

<sup>3</sup>Calculated as the average emissions from the facilities listed in **Table 3.3-6**, above. This analysis assumed concurrent construction of two (2) treatment plants.

<sup>4</sup>Includes average maximum daily treatment facility emissions for two plants, and maximum daily pipeline and pump station emissions.

### Operations

Operational emissions from mobile sources associated with the pump stations and treatment plants were estimated assuming emissions are due to additional worker vehicle trips. For the additional vehicle trips, it was assumed one worker would commute to and from each new pump station via a passenger car once per week. For the two new treatment plants, it was assumed four new workers would commute to and from the new plants five days a week (Monday through Friday) and two workers would commute to and from the plants two days per week (Saturday through Sunday). Estimates used the CalEEMod assumptions for urban trip length between a worker’s home and work site for the San Diego Air Basin (10.8 miles). USEPA emission factors for passenger cars were used to convert miles travelled to annual emissions. These emission factors and total emissions are summarized in **Table 3.3-8**.

**Table 3.3-8: Operational Emissions from Mobile Sources for New Pump Stations and Treatment Plants**

Pollutant	Emission Factors <sup>1</sup> (g/mile)	Annual Emissions from Proposed Project (lbs/yr)
Nitrogen Oxides (NOx)	0.698	120.88
Volatile Organic Compounds (VOC)	1.034	179.07
Particulate Matter (PM10)	0.0044	0.76
Fine Particulate Matter (PM2.5)	0.0041	0.71
Carbon Monoxide (CO)	9.4	1,627.9

<sup>1</sup>USEPA, 2008.

Indirect emissions for the pump stations and treatment plants were estimated assuming emissions are due to increases in energy use to power the pump stations and accommodate increases in capacity at the treatment plants. USEPA’s eGRID data on energy production was used to estimate emission output rates for NOx and SO<sub>2</sub>. Per the CEC’s Energy Almanac, California produces 70% of its energy and imports 10% from the Pacific Northwest and 20% from the Pacific Southwest (CEC 2013). A weighted average of the output emission rates from these sources results in an emission rate of approximately 0.67 lbs/MWh NOx and 0.34 lbs/MWh SO<sub>2</sub>. Energy usage at each pump station site was estimated using the required horsepower and/or flow requirements for each pump station site. Anticipated energy use for operation of the treatment facilities from the Proposed Project are based on the production increases provided in *Chapter 2 Project Description* and the average energy intensities described above for similar projects. Indirect annual operational emissions from the pump stations and treatment plants are shown in **Table 3.3-9**. The emissions for the treatment plants include all plants included as part of the Proposed Project.

**Table 3.3-9: Increase in Indirect Operational Emissions for New Pump Stations and Treatment Plants**

Agency	Group	Indirect Emissions	
		NOx	SO <sub>2</sub>
		lb/yr	lb/yr
<b>Pump Stations</b>			
Carlsbad MWD	A	94.33	48.19
City of Escondido	C	227.84	116.40
	D	150.92	77.10
San Elijo JPA	E	-	-
City of Oceanside	G	1094.18	558.98
Olivenhain	H	264.11	134.93
Rincon del Diablo MWD	I	91.14	46.56
	J	-	-
Santa Fe ID	K	301.31	153.93
Vallecitos WD	M	108.45	55.40
Vista ID	O	37.73	19.28
<b>Treatment Plants</b>			
All Treatment Plants in Proposed Project	-	10,570	5,400

**Potential for Health Impacts**

The air quality analysis also considered potential impacts to human health that could result from long-term operational emissions associated with the Proposed Project. To make this assessment, an analysis was completed to estimate the concentrations of CO, NOx, SOx, VOC, PM10 and PM2.5 that would be emitted during operation of the Proposed Project. The analysis examined if operation of the Proposed Project would continuously expose people to air quality pollutants in concentrations higher than federal and state concentration standards. Given that federal and state air pollutant concentration standards are set at levels intended to protect human health, comparing long-term (operational) air pollutant concentrations from the Proposed Project to applicable state and federal standards provides a proxy for assessing if Proposed Project would impact human health as a result of increased emissions.

Potential concentrations of emissions associated with the Proposed Project were computed using an analytical model based on the emissions anticipated for the Proposed Project during operations, using a conservative model and assumptions. The area with the highest emissions in the Study Area was modeled and concentrations were estimated for different wind speeds and distances from the source (a point source), which is considered a conservative assessment as it results in higher concentrations.

**Appendix C** includes detailed calculations conducted for this analysis, including the tables with concentrations for the different wind speeds and distances from the assumed point source and shows that the resulting concentrations from the Proposed Project would be lower than state and federal air quality concentration standards.

The standards used for analysis of potential health impacts, as well as the anticipated concentrations from the Proposed Project, are listed in **Table 3.3-10** below.

**Table 3.3-10: Current Ambient Air Quality Standards and Health Effects**

Air Pollutant	State Standard	Federal Standard	Maximum Anticipated Exposure Concentration from Proposed Project Operations	Relevant Health Effects
	Concentration, Averaging Time	Concentration, Averaging Time		
Carbon Monoxide (CO)	20 ppm, 1-Hour 9.0 ppm, 8-Hour	35 ppm, 1-Hour 9 ppm, 8-Hour	1.33 ppm, 8-Hour	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide (NO <sub>2</sub> )	0.18 ppm, 1-Hour 0.04 ppm, Annual	100 ppb (0.1 ppm), 1-Hour 0.053 ppm, Annual	0.098 ppm, 1-Hour	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide (SO <sub>2</sub> )	0.25 ppm, 1-Hour 0.04 ppm, 24-Hour	75 ppb (0.075 ppm), 1-Hour	0 ppm, 8-Hour <sup>1</sup>	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , 24-Hour 20 µg/m <sup>3</sup> , Annual	150 µg/m <sup>3</sup> 24-Hour	0.80 µg/m <sup>3</sup> , 8-Hour <sup>1</sup>	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Decline in pulmonary function or growth in children; (c) Increased risk of premature death
Suspended Particulate Matter (PM <sub>2.5</sub> )	12.0 µg/m <sup>3</sup> , Annual	35 µg/m <sup>3</sup> , 24-Hour 15.0 µg/m <sup>3</sup> , Annual	0.70 µg/m <sup>3</sup> , 8-Hour <sup>1</sup>	

Source: SCAQMD 2012

<sup>1</sup> The anticipated concentrations for SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are presented as the maximum average over an 8-hour period, representing a workday (when treatment plants are operating). Emissions are anticipated to decrease outside the workday, lowering the average emissions when looking at a 24-hour timeframe. Reporting concentrations in an 8-hour average for a 24-hour average standard is a conservative analysis, and where the 8-hour average is below the 24-hour standard, it is unlikely to exceed the threshold.

## Thresholds of Significance

Air quality impacts and effects associated with the Proposed Project were analyzed in accordance with the CEQA Guidelines. For the purposes of this analysis, an impact to air quality would be significant if the Proposed Project would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates.
- Create objectionable odors affecting a substantial number of people.

The SDAPCD's mass daily thresholds for criteria pollutants are presented in **Table 3.3-11**.

**Table 3.3-11: SDAPCD Pollutant Significance Thresholds for Stationary Sources**

Pollutant	Emission Rate <sup>1</sup> (lbs/day)
Nitrogen Oxides (NOX)	250
Volatile Organic Compounds (VOC) <sup>2</sup>	75 <sup>2</sup>
Particulate Matter (PM10)	100
Fine Particulate Matter (PM2.5)	55 <sup>3</sup>
Carbon Monoxide (CO)	550
Sulfur Oxides (SOX)	250
Lead	3.2

1. Source: County of San Diego's Guidelines for Determining Significance, Air Quality (2007). These standards are based on SDAPCD's Rule 20.3 for NOx, PM10, CO, SOX, and Lead. Rule 20.3 does not include standards for VOC or PM2.5

2. VOC standards from the County of San Diego's Guidelines for Determining Significance, Air Quality (2007), which used the threshold from the South Coast Air Quality Management District for the Coachella Valley as a proxy, because VOC standards are not specified by SDAPCD.

3. PM2.5 standards are not included in the SDAPCD's Rule 20.3. This standard is included in the County of San Diego's Guidelines for Determining Significance, Air Quality (2007), and is based on the U.S. EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005.

## National Environmental Policy Act (NEPA) Significance Criteria

There are not specific significance criteria under NEPA for air quality, however, NEPA regulations do provide guidance for significance analysis, described in 40 C.F.R. § 1508.27.

## General Conformity Thresholds

The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. 40 C.F.R. 93 § 153 defines *de minimis* levels, that is, the minimum threshold for which a conformity determination must be performed, for various criteria pollutants in various areas.



Based on the Federal attainment status for the SDAB, the applicable *de minimis* levels are shown in **Table 3.3-12**.

**Table 3.3-12: General Conformity *De Minimis* Levels for the San Diego Air Basin (tons/year)**

Pollutant	Tons/Year
Nitrogen Oxides (NOX)	100
Volatile Organic Compounds (VOCs)	100
Particulate Matter (PM10)	100
Fine Particulate Matter (PM2.5)	100
Sulfur Oxides (SOX)	100
Carbon Monoxide (CO)	100
Lead	25

Source: USEPA 2004 and USEPA 2015.

### Potential for Health Impacts

The standards used for analysis of potential health impacts, as well as the anticipated concentrations from the Proposed Project, are listed in **Table 3.3-10** above. The more stringent standard (between federal and state) were used for the comparison.

### Impact Statements and Mitigation Discussions

This section discusses potential impacts to air quality that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### Impact 3.3-1 Potential to conflict with or obstruct implementation of the applicable air quality plan

The applicable air quality plans for the Proposed Project are the RAQS and the SIP; the RAQS is produced by the SDAPCD and submitted to the state for inclusion in the SIP. The RAQS is revised every three years, but the most recent RAQS available is the 2009 RAQS Revision, which was adopted by SDAPCD on April 22, 2009. Air quality emissions projections and control measures for stationary sources provided in the RAQS and included in the SIP include consideration of multiple factors, including population projections from local planning documents such as the General Plans for members of the Coalition and local land use planning agencies such as the County of San Diego and the San Diego Association of Governments.

The County of San Diego's Guidelines for Determining Significance: Air Quality (County of San Diego 2007) state that projects which would not increase growth beyond that included in applicable General Plans or in SANDAG projections would not violated the RAQS. The Proposed Project is not anticipated to directly induce growth, but rather would increase the availability of local water supplies that would offset demands for imported water supplies. Future demands that would be served by the Proposed Project are based upon population and land use projections consistent with applicable General Plans, and are therefore accounted for in population projections that are incorporated into the RAQS and the SIP. Given that anticipated air quality emissions associated with the Proposed Project are accounted for in the RAQS and the SIP, the Proposed Project would not conflict with applicable air quality plans. Impacts are considered less than significant, and no mitigation is required.

#### Significance Determination before Mitigation

Less than significant.

### Impact 3.3-2 Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation

#### Operational Emissions

Facilities associated with the Proposed Project are not anticipated to produce direct emissions during normal operation. Therefore, the primary emissions associated with operation are indirect, and include emissions from energy use and vehicle trips to and from the treatment facility and pump station sites for normal operations and maintenance. The project operation emissions are expected to be negligible for the pipelines because these facilities represent conversion from potable water use to recycled water use and no additional new operations or management is anticipated to be necessary. The upgraded treatment facilities are not anticipated to have direct emissions from operation, but would require additional energy inputs, which themselves produce emissions. Additional worker trips associated with the operation and maintenance of the new pump stations and treatment facilities would result in an additional 78,624 miles per year traveled. **Table 3.3-8**, above, summarizes the emissions associated with these additional vehicle miles traveled.

Indirect operational emissions for the treatment facilities that result from increased energy use were calculated based on the increase in treatment capacity times the energy intensity of recycled water or potable reuse (advanced treated water). These energy intensities are 2,100 kWh/MG and 3,227 kWh/MG<sup>1</sup>, respectively (CAPCOA 2010; City of San Diego 2013). In the Proposed Project, recycled water capacity will increase by 3,541 MG/year (10,868 AFY) and potable reuse will increase by 2,587 MG/year (7,940 AFY). Total energy associated with operation of the treatment facilities in the short-term is 15,786 MWh/year (18,808 AFY).

California produces 70 percent of its energy, and imports 10 percent from the Pacific Northwest and the remaining 20 percent from the Pacific Southwest (CEC 2013). The USEPA's eGRID reports emissions associated with energy produced in different regions of the United States. Of these emissions, NO<sub>x</sub> and SO<sub>x</sub> were the only criteria pollutants included (USEPA 2014). Reported GHGs were utilized in the analysis included in *Section 4.7 Greenhouse Gases*. Using a weighted average of the NO<sub>x</sub> emissions from the three regions supplying energy to California results in 0.67 lbs/MWh NO<sub>x</sub> emissions. Energy use for operation of the short-term treatment facilities would result in NO<sub>x</sub> emissions of 10,570 lbs/year (29 lbs/day, 5.3 tons/year). A weighted average of SO<sub>x</sub> emissions results in 0.34 lbs/MWh, or an energy emissions of the short-term treatment facilities of 5,400 lbs/yr (14.8 lbs/day, 2.7 tons/year). The pump stations for the Proposed Project are anticipated to have a total energy demand of 3,540 MWh/year, and associated NO<sub>x</sub> and SO<sub>x</sub> emissions of 2,370 lbs/year (6.5 lbs/day, 1.2 tons/year) and 1,211 lbs/year (3.3 lbs/day, 0.61 tons/year), respectively.

As shown in **Tables 3.3-13** and **3.3-14**, operation of the Proposed Project's pipelines, pump stations, and tertiary treatment plants would not exceed either SDAPCD or Federal General Conformity emissions standards. Some uncertainty remains over potential additional energy use related to the potable reuse components of the Proposed Project; however, the range of emissions in **Table 3.3-6**, above, for tertiary treatment plants is a reasonable projection for treatment energy use. Because operation of the Proposed Project would not exceed emissions standards, impacts are considered less than significant.

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<sup>1</sup> Average of energy use to produce advanced treated water over the course of one year at the City of San Diego's Water Purification Demonstration Project

**Table 3.3-13: Operational Emissions for the Proposed Project Compared to SDAPCD Thresholds (lbs/day)**

Emissions Source	NOx	SOx	VOC	PM10	PM2.5	CO
Worker Trips During Operation	0.3	-	0.5	0.0	0.0	4.5
Pump Station Operation Energy-Use	6.5	3.3	-	-	-	-
Treatment Facility Operation Energy-Use	29	14.8	-	-	-	-
<b>Total Operation Emissions</b>	<b>35.8</b>	<b>18.1</b>	<b>0.5</b>	<b>0.0</b>	<b>0.0</b>	<b>4.5</b>
SDAPCD Emission Thresholds	250	250	75	100	55	550
<i>Significant Construction Emissions</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

**Table 3.3-14: Operational Emissions for the Proposed Project Compared to Federal General Conformity Thresholds (tons/year)**

Emissions Source	NOx	SOx	VOC	PM10	PM2.5	CO
Worker Trips During Operation	0.1	-	0.1	0.0	0.0	0.8
Pump Station Operation Energy-Use	1.2	0.6	-	-	-	-
Treatment Facility Operation Energy-Use	5.3	2.7	-	-	-	-
<b>Total Operation Emissions</b>	<b>6.5</b>	<b>3.3</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.8</b>
Federal General Conformity Rule Thresholds	100	100	100	100	100	100
<i>Significant Construction Emissions</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

Although there are emissions associated with operation of the treatment facilities and pump stations, the water delivered by the Proposed Project would offset imported water supplies to the Coalition partners. Imported potable water requires an estimated 11,111 kWh/MG (11.1 MWh/MG) for treatment and delivery creating 45,594 lbs/day of NOx and 23,293 lbs/day of SOx. Offsetting imported water with the Proposed Project is anticipated to result in an operational offset of 31,655 lbs/day NOx and 16,682 lbs/day of SOx from the treatment and delivery of recycled water. The potential change in net operational emissions that would result from the Proposed Project would vary depending on the details of the pumping requirements and other factors, but could help offset overall air quality impacts from operation.

Given the potential health risks of air emissions, an analysis was also completed to estimate the resulting concentrations of CO, NOx, SOx, VOC, PM10 and PM2.5 during project operation. This assessment considers the potential direct impacts to human health that could result from long-term exposure to criteria air pollutants. The standards used for analysis of potential health impacts are listed in **Table 3.3-10** above, along with the anticipated concentrations from the Proposed Project. To be conservative, the more stringent standard (between federal and state) were used for the comparison. An 8-hour timeframe was used when considering standards that utilized a 24-hour timeframe, because the 8-hour timeframe corresponds to an average workday associated with the mobile, direct emissions generated by the Proposed Project. The analysis concluded that when the anticipated 8-hour concentration is below the 24-hour standard, it is unlikely to exceed the 24-hour standard. As shown in **Table 3.3-10**, it is unlikely that the project would result in continued exposure to high concentrations (above federal and State standards) of criteria air pollutants. Impacts to human health from Proposed Project operations are considered less than significant. However, due to the cumulative impact on air quality from the Proposed Project, implementation of **Mitigation Measures MM 3.3-2** would further reduce operational emissions through air pollution control measures.

### Construction Emissions

**Table 3.3-15** and **Table 3.3-16** summarize the potential air quality impacts from construction of the Proposed Project, based on the methodologies described above, and the timeframe for construction of each component. Calculated estimates were compared to SDAPCD’s maximum daily thresholds for construction and operational activities for VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. The maximum construction emissions take place during grading and excavation periods, and are associated with frequent soil import and export trips. Note that the maximum daily construction emissions for each Group may not fall in overlapping time periods; therefore, the anticipated maximum daily emissions presented for the entire Proposed Project in the table below accounts for the construction schedule described in *Section 2 Project Description*. As shown in **Table 3.3-15**, construction emissions would exceed SDAPCD thresholds for NO<sub>x</sub>, VOCs, and PM<sub>10</sub>.

**Table 3.3-15: Criteria Pollutant Emissions from Construction of the Proposed Project (by 2025)**

Project Components	Anticipated Maximum Daily Construction Emission (lbs/day)				
	NO <sub>x</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO
Pipelines and Pump Stations <sup>1</sup>					
Group A	73.32	7.66	7.46	4.45	39.34
Group C	97.78	10.14	11.74	7.30	69.86
Group D	52.52	5.66	6.36	3.45	38.04
Group E	56	6.2	5.6	3.1	29
Group G	137.54	14.42	16.96	10.95	100.86
Group H	92.34	9.72	10.32	5.90	50.68
Group I	75.44	7.92	8.62	5.10	48.98
Group J	62	7	6	3.5	30
Group K	57.14	6.42	7.72	4.30	48.38
Group M	27.84	7.12	3.52	2.50	20.88
Group O	52.52	8.26	6.36	3.45	38.04
<b>Maximum Pipeline and Pump Station Emissions<sup>2</sup></b>	<b>193</b>	<b>20</b>	<b>23</b>	<b>15</b>	<b>139</b>
Treatment Facility Upgrades/Construction					
Average Emissions per Facility <sup>3</sup>	84	33	56	10	41
<b>Treatment Facility Emissions for 2 Plants<sup>4</sup></b>	<b>168</b>	<b>66</b>	<b>112</b>	<b>20</b>	<b>82</b>
<b>Total Anticipated Project Construction Emissions</b>	<b>361</b>	<b>86</b>	<b>135</b>	<b>35</b>	<b>221</b>
SDAPCD Emission Thresholds	250	75	100	55	550
<i>Significant Construction Emissions</i>	YES	YES	YES	NO	NO

<sup>1</sup> Construction emissions calculated using Road Construction Emissions Model (Version 7.1.5.1).

<sup>2</sup> Pipeline construction timelines overlap in some cases. The maximum overlap in the construction timeline presented in *Section 2 Project Description* is two groups under construction at one time and gives the maximum emissions above.

<sup>3</sup> Determined by averaging emissions for similar projects as described in the methods above.

<sup>4</sup> Maximum treatment facility emissions assume two facilities being constructed at a time using the averaged emissions per facility.

Potential air quality emissions were also evaluated with respect to Federal General Conformity Rule Thresholds. The General Conformity Rule requires analysis based on conformance with an applicable SIP, NEPA, and the Federal Clean Air Act. **Table 3.3-16** provides an overview of emissions associated with the Proposed Project as they relate to compliance with the General Conformity Rule. As shown in **Table 3.3-16**, emissions would not exceed General Conformity significance thresholds.

**Table 3.3-16: Short Term Project Compliance with Federal General Conformity Rule**

Project Components	Potential Annual Construction Emission (Tons/Year)				
	NOx	VOC	PM10	PM2.5	CO
Pipelines and Pump Stations <sup>1</sup>					
Group A	13.38	1.40	1.36	0.81	7.18
Group C	17.84	1.85	2.14	1.33	12.75
Group D	9.58	1.03	1.16	0.63	6.94
Group E	10	1.1	1.0	0.6	5.2
Group G	25.10	2.63	3.10	2.00	18.41
Group H	16.85	1.77	1.88	1.08	9.25
Group I	13.77	1.45	1.57	0.93	8.94
Group J	11	1.3	1.1	0.6	5.5
Group K	10.43	1.17	1.41	0.78	8.83
Group M	5.08	1.30	0.64	0.46	3.81
Group O	9.58	1.51	1.16	0.63	6.94
<b>Maximum Pipeline and Pump Station Emissions<sup>2</sup></b>	<b>35</b>	<b>3.7</b>	<b>4.2</b>	<b>2.7</b>	<b>25.4</b>
Treatment Facility Upgrades/Construction					
Average Emissions per Facility <sup>3</sup>	15.3	6.0	10.2	1.83	7
<b>Treatment Facility Emissions for Two Plants<sup>4</sup></b>	<b>31</b>	<b>12.0</b>	<b>20</b>	<b>3.65</b>	<b>15</b>
<b>Total Potential Project Construction Emissions</b>	<b>66</b>	<b>16</b>	<b>25</b>	<b>6</b>	<b>40</b>
Federal General Conformity Rule Thresholds	100	100	100	100	100
<i>Significant Construction Emissions</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>	<i>NO</i>

<sup>1</sup> Construction emissions calculated using Road Construction Emissions Model (Version 7.1.5.1).

<sup>2</sup> Pipeline construction timelines overlap in some cases. The maximum overlap in the construction timeline presented in *Section 2 Project Description* is two groups under construction at one time and gives the maximum emissions above.

<sup>3</sup> Determined by averaging emissions for similar projects as described further in the methods above.

<sup>4</sup> Maximum treatment facility emissions assume two facilities being constructed at a time using the averaged emissions per facility.

As analyzed above, the Proposed Project would exceed the applicable emissions standards during construction. Although the anticipated construction schedule, as described in *Chapter 2 Project Description*, would phase active construction based on the Coalition partners' implementation plans, air quality impacts are still anticipated to occur. Further, due to the potential for changes to the construction schedule related to unanticipated delays, there would remain potential for construction of project components to overlap in ways not anticipated by this analysis. As such, there is potential for the Proposed Project to violate air quality standards and mitigation would be required to reduce these potential impacts.

Because the Proposed Project will be implemented by multiple agencies and there are uncertainties associated with construction timing, it is not possible to provide a definitive calculation of potential air quality emissions and impacts are considered significant and unavoidable. Considering the results of the example analysis and the Proposed Project uncertainties, **Mitigation Measure MM 3.3-2** would be required to reduce the potential impacts as much as practicable. The assessment required under **MM 3.3-2** may find that measures are available to allow treatment facilities to be constructed at the same time without violating standards. This mitigation measure will help to reduce impacts, but given the scale of the program, the high construction emissions, and the anticipated overlap in construction activities, impacts are anticipated to remain significant and unavoidable, even with the implementation of mitigation.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.3-2** shall apply to all components of the Proposed Project and shall be implemented by the lead agency of each individual component, as applicable.

**MM 3.3-2 Implementation of Practicable Air Pollution Control Measures.** During design of all project components, the lead agency for each component shall complete an air quality assessment that determines project-level air emissions and identifies measures that could be incorporated into project operation and construction to minimize emissions to the extent practicable. Potential mitigation measures could include control measures for PM10 (e.g., imposing speed limits on unpaved roads, covering haul trucks, limiting daily grading), control measures for NOx (e.g., grading or fuel use restrictions, using newer equipment), control measures for VOCs (e.g., use of VOC-free coatings, using VOC ERCs), or other control measures as appropriate. All project components shall implement air quality control measures to the extent practicable, even where such components do not individually violate air quality standards, due to the cumulative impact on air quality from the Proposed Project.

#### Significance Determination after Mitigation

Significant and unavoidable.

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### **Impact 3.3-3 Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable ambient air quality standard**

The Study Area is in nonattainment for ozone, PM10, and PM2.5. As shown in **Table 3.3-15**, construction emissions for PM10 from the Proposed Project could be above the Significance Thresholds applicable to the SDAB if the proposed construction schedule is maintained. Construction emissions would be temporary in nature, and localized emissions would move as the construction progresses and work moves among different Groups. Due to the potential for construction schedule shifts and the need for more specific information to fully assess the potential impacts from the Proposed Project pump station and treatment facilities, however, air quality impacts are considered significant and unavoidable. **Mitigation Measure MM 3.3-2** would reduce these impacts, but remaining uncertainty over construction schedules, combined with the scale of the program, dictates that potential increases PM10 (and other criteria pollutants) would be significant even with implementation of this mitigation measure.

#### Significance Determination before Mitigation

Potentially significant.

### Mitigation Measures

**Mitigation Measure MM 3.3-2** (see **Impact 3.3-2**) shall apply to all components of the Proposed Project, and shall be implemented by the lead agency of each individual component, as applicable.

### Significance Determination after Mitigation

Significant and unavoidable.

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### **Impact 3.3-4 Potential to expose sensitive receptors to substantial pollutant concentrations**

There are numerous sensitive receptors within the Study Area that may be impacted by emissions from the Proposed Project. Sensitive receptors include schools, hospitals, senior care facilities, day care facilities, and other facilities that serve children, the elderly, and other at-risk populations. Due to uncertainty over the final location of project components, mapping at this time to identify sensitive receptors is unlikely to accurately represent which sensitive receptors may be affected by the Proposed Project, although a list of schools within the Groups is identified in **Table 3.8-4** in *Section 3.8 Hazards and Hazardous Materials*. Therefore the impact is considered potentially significant, and requires mitigation. **Mitigation Measure MM 3.3-2** would be required to reduce the potential impacts as much as practicable, including both construction measures and operational changes that would reduce potential impacts to sensitive receptors. Because the Proposed Project would result in significant and unavoidable impacts to air quality (see **Impacts 3.3-2** and **3.3-3**), even with implementation of the identified mitigation measure, sensitive receptors within the Project Area would be exposed to substantial pollutant concentrations and the impact would be significant and unavoidable.

### Significance Determination before Mitigation

Potentially significant.

### Mitigation Measures

**Mitigation Measure MM 3.3-2** (see **Impact 3.3-2**) shall apply to all components of the Proposed Project, and shall be implemented by the lead agency of each individual component, as applicable.

### Significance Determination after Mitigation

Significant and unavoidable.

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### **Impact 3.3-5 Potential to create objectionable odors affecting a substantial number of people**

Odors are generally produced during construction activities, sources of which may include solvents, diesel-powered equipment and vehicles, coatings, and materials. VOCs emitted during construction may also be odorous. Given the urbanization and built-out nature of much of the Study Area, a significant portion of the Proposed Project's construction activities would likely occur within or near populated areas, although construction-related odors will be temporary in nature. Treatment facility upgrades will increase the volume of wastewater treated by the facilities in question, and may produce objectionable odors. There are no anticipated odor impacts from operation of facilities that already exist, but will increase their capacity through the Proposed Project, because these facilities already treat and store wastewater and recycled water. Additional volumes would not be anticipated to substantially increase the odors associated with operation of these facilities, if current odor control measures are expanded to

accommodate the increased capacity of the facility. New treatment facilities would be designed and constructed in compliance with applicable regulations and standards, including relevant policies in applicable general plans. These standards, regulations, and policies are likely to reduce potential odors from new treatment facilities, however, there remains potential for these new facilities to become a new source of objectionable odors, and mitigation would be required to reduce these impacts to less-than-significant. To reduce potential impacts to less than significant levels, **Mitigation Measure MM 3.3-5** would be implemented. With implementation of **Mitigation Measure MM 3.3-5**, potential impacts would be less than significant.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure 3.3-5** shall apply to all project components that include treatment facility construction and shall be implemented by the lead agency responsible for the applicable treatment facility.

**MM 3.3-5 Incorporate Odor Control into Facility Design.** Consideration of objectionable odors shall be incorporated into the design of treatment facilities and treatment facility expansions. Appropriate odor control measures shall be implemented for those treatment facilities located in close proximity to sensitive receptors, and residential and commercial areas, and that are found to be likely to produce objectionable odors during project-level CEQA review. Examples of odor control measures could include installation of odor-controlled ventilation systems and air filters, enclosing certain facilities within structures, use of closed systems, implementation of BMPs, or others, as appropriate and applicable.

#### Significance Determination after Mitigation

Less than significant.



Program Environmental Impact Report

Table 3.3-17: Relevant Goals, Objectives, and/or Policies from General Plans

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside (2002)</b>		
Cooperate with County, State, and federal agencies in continuing programs of air quality improvement.	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad (2006)</b>		
<ul style="list-style-type: none"> <li>• Air Quality Policy C.6: The City shall monitor all construction to ensure that proper steps are taken by developers to reduce short-term construction related impacts to air resources. During cleaning, grading, earth moving, or excavation developers shall:                             <ul style="list-style-type: none"> <li>○ Control fugitive dust by regular watering, paving construction roads, or other dust preventive measures;</li> <li>○ Maintain equipment engines in proper tune;</li> <li>○ Seed and water until vegetation cover is grown;</li> <li>○ Spread soil binders;</li> <li>○ Wet the area down, sufficient enough to form a crust on the surface with repeated soakings, as necessary, to maintain the crust and prevent dusk pick-up by the wind;</li> <li>○ Street sweeping, should silt be carried over to adjacent public thoroughfares;</li> <li>○ Use water trucks or sprinkler systems to keep all areas where vehicles move damp enough to prevent dust raised when leaving the site;</li> <li>○ Wet down areas in the late morning and after work is completed for the day;</li> <li>○ Use of low sulfur fuel (0.5 percent by weight) for construction equipment.</li> </ul> </li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT
<b>City of Encinitas (1995)</b>		
<ul style="list-style-type: none"> <li>• Goal 5: The City will make every effort to participate in programs to improve air and water quality in the San Diego region.                             <ul style="list-style-type: none"> <li>○ Policy 5.1: The City will monitor and cooperate with the ongoing efforts of the US Environmental Protection Agency, the SDAPCD, and CARB in improving air quality in the regional air basin. The City will implement appropriate strategies from the San Diego County SIP which are consistent with the goals and policies of this plan.</li> </ul> </li> </ul>	E, H	San Elijo WRF
<b>City of Escondido (2012)</b>		
<ul style="list-style-type: none"> <li>• GOAL 7: Improved air quality in the city and the region to maintain the community's health and reduce GHG emissions that contribute to climate change.                             <ul style="list-style-type: none"> <li>○ Policy 7.1: Participate in regional planning efforts and coordinate with the SDAPCD and SANDAG in their efforts to reduce air quality impacts and attain state and federal air quality standards.</li> <li>○ Policy 7.4: Locate uses and facilities/operations that may produce toxic or hazardous air pollutants an adequate distance from each other and from sensitive uses such as housing and schools as consistent with CARB recommendations.</li> </ul> </li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

**Program Environmental Impact Report**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Vista (2011)</b>		
<ul style="list-style-type: none"> <li>• RCS Goal 1: Improve air quality and protect persons and the environment from the effects of air pollution               <ul style="list-style-type: none"> <li>○ RCS Policy 1.4: Amend the Grading Ordinance as needed to reduce fugitive dust generated as a result of construction projects. Require implementation of BMPs to stabilize disturbed land, included but not limited to short-term methods during construction (e.g., watering active construction areas, covering open stockpiles, and applying non-toxic soil stabilizers on unpaved access roads and temporary parking areas) and permanent methods post-construction (e.g., vegetation or revegetation, installation of hardscape, etc.)</li> </ul> </li> </ul>	O	<i>None</i>
<b>City of San Marcos (2012)</b>		
<ul style="list-style-type: none"> <li>• Goal COS-4: Improve regional air quality and reduce greenhouse gas (GHG) emissions that contribute to climate change               <ul style="list-style-type: none"> <li>○ Policy COS-4.1: Continue to work with the U.S. EPA, CARB, SANDAG, and SDAPCD to meet State and federal ambient air quality standards.</li> </ul> </li> </ul>	I, M, N	<i>None</i>
<b>City of Solana Beach</b>		
The City of Solana Beach's General Plan does not include specific air quality goals and policies relevant to the Proposed Project.	H, K	<i>None</i>
<b>County of San Diego (2011)</b>		
<ul style="list-style-type: none"> <li>• GOAL COS-14 Sustainable Land Development. Land use development techniques and patterns that reduce emissions of criteria pollutants and GHGs through minimized transportation and energy demands, while protecting public health and contributing to a more sustainable environment.               <ul style="list-style-type: none"> <li>○ COS-14.8 Minimize Air Pollution: Minimize land use conflicts that expose people to significant amounts of air pollutants.</li> <li>○ COS-14.9 Significant Producers of Air Pollutants. Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.</li> </ul> </li> <li>• GOAL COS-15 Sustainable Architecture and Buildings. Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment.               <ul style="list-style-type: none"> <li>○ COS-15.6 Design and Construction Methods. Require development design and construction methods to minimize impacts to air quality.</li> </ul> </li> <li>• GOAL COS-20 Governance and Administration: Reduction of local GHG emissions contributing to climate change that meet or exceed requirements of the <i>Global Warming Solutions Act of 2006</i>.               <ul style="list-style-type: none"> <li>○ COS-20.3 Regional Collaboration. Coordinate air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions.</li> </ul> </li> </ul>	H, J, K, O	<i>None</i>

## 3.4 Biological Resources

This section provides a description of the biological resources sensitivity of the Study Area and identifies sensitive species and habitats present in the Study Area. This section also provides information on the relevant regulations and evaluates potential impacts from project implementation. Because the project entails excavation to install pipelines and associated facilities, there is a potential to affect biological resources in the area. Mitigation measures are included to reduce impacts to levels that are less than significant.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential biological resources impacts.

### 3.4.1 Physical Environmental Setting – Biological Resources

The following sections describe the existing setting of the Study Area, and characterize habitats present in the area, along with the plants and wildlife that are known or likely to be present. The description of the biological resources setting is based on the findings of the Biological Resources Assessment prepared by PCR Services Corporation (2015), which is included in **Appendix D**.

#### Biological Resources - Habitat

Within the portion of San Diego County that drains west to the Pacific Ocean, there are two habitat conservation planning programs: the Multiple Habitat Conservation Program (MHCP) applies to incorporated lands in northwestern San Diego County and the Multiple Species Conservation Program (MSCP) applies to all remaining non-military lands draining westward (see *Section 3.10 Land Use and Planning* for additional detail). The Study Area is in the northern portion of San Diego County and falls within the boundaries of the North County MHCP and two MSCP subarea plans: the adopted South County MSCP (County of San Diego 1998) and the draft North County MSCP (not yet approved) (County of San Diego NDa). The portion of the Study Area within the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach and Vista is within the North County MSCP. A small portion of the Study Area east of Escondido and south of Rancho Santa Fe is within the South County MSCP.

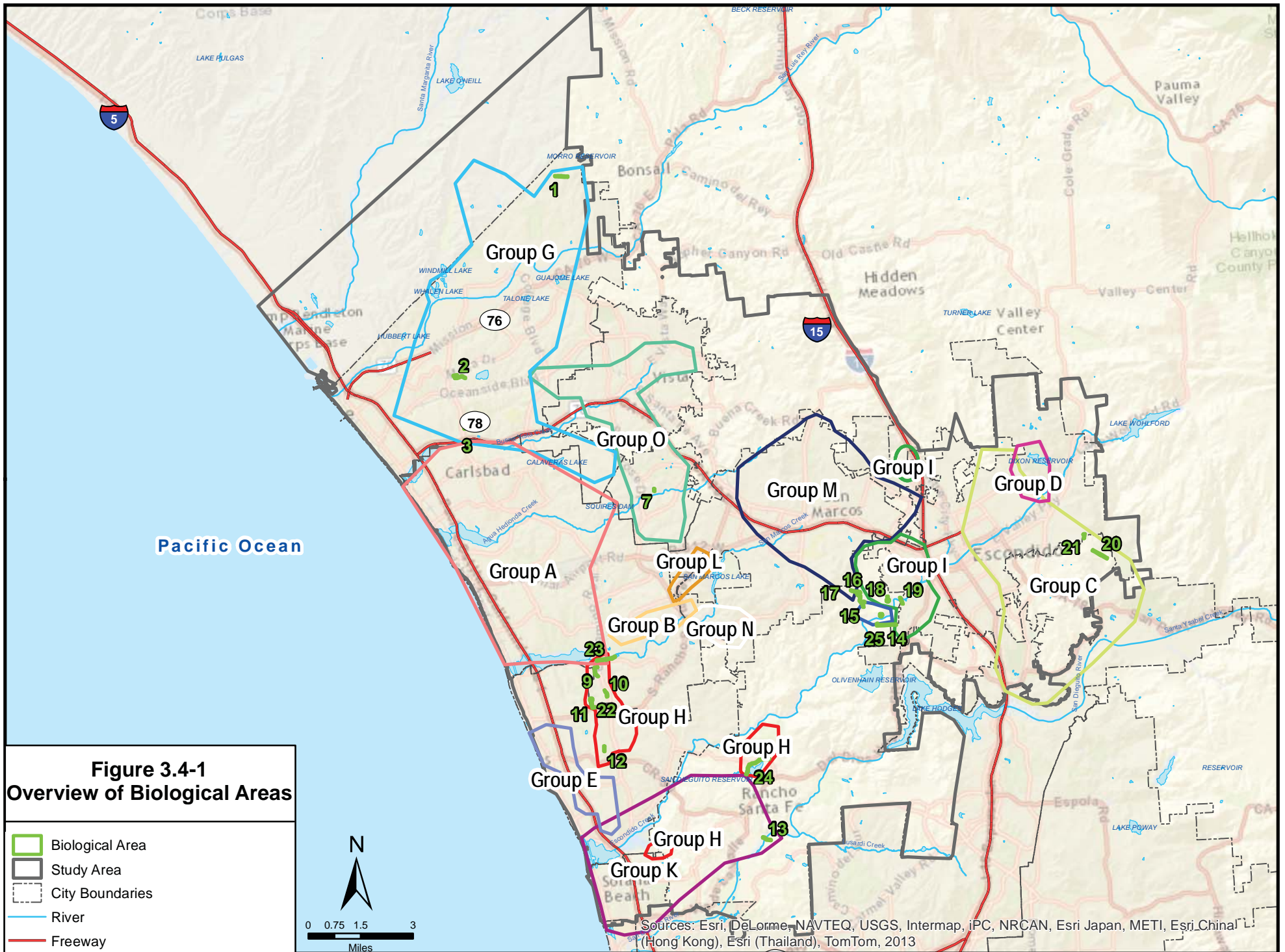
The majority of the Study Area is within roadways and other developed areas with no remaining native plant communities. Portions of the Study Area that crossed natural or semi-natural plant communities were mapped by PCR (2015). Descriptions of communities in the Study Area are presented below, and are taken from PCR (2015). Communities that are considered sensitive in the California Natural Diversity Data Base (CNDDDB) are identified. **Figure 3.4-1** provides an overview of the portions of the Study Area that contain biological resources, and identifies 21 “Biological Areas” that contain natural habitat. The Biological Areas include all components of the Proposed Project, including pipelines, treatment facilities, and any additional facilities for which the location is known as specified in *Chapter 2, Project Description*. Maps of each area are included in **Appendix D**.

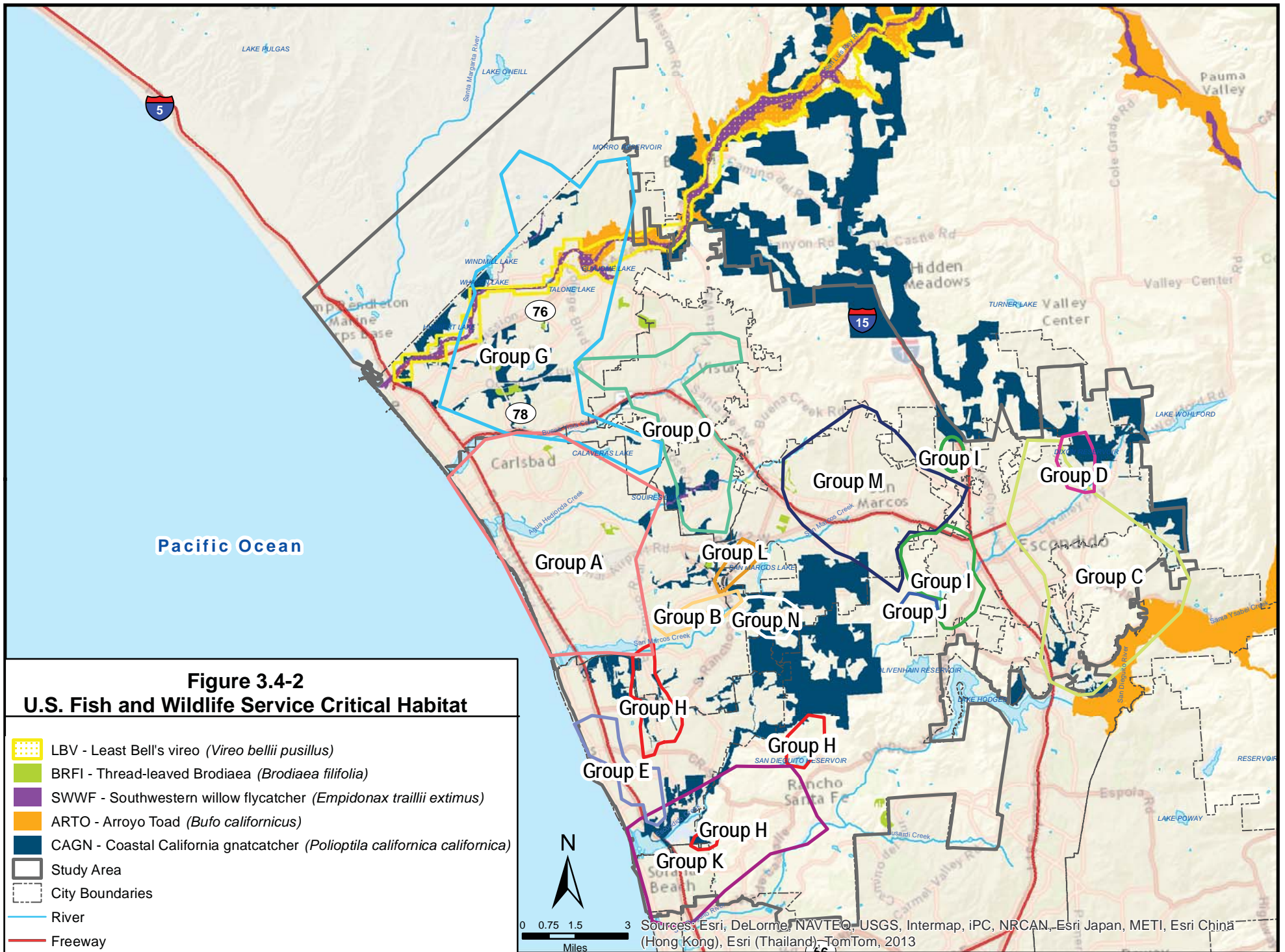
The United States Fish and Wildlife Service (USFWS) established Critical Habitats for several federally listed plant and wildlife species. Critical Habitats, which are geographic areas that contain features essential for the conservation of a threatened or endangered species, are mapped for five species within the study area, which are listed below and shown on **Figure 3.4-2**.

- Coastal California gnatcatcher (*Polioptila californica californica*)
- Least Bell’s vireo (*Vireo bellii pusillus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)

- Arroyo toad (*Anaxyrus californicus*)
- Thread leaved brodiaea (*Brodiaea filifolia*)

Below are the natural or semi-natural plant communities located within the Study Area.





### **Diegan Coastal Sage Scrub**

Diegan Coastal Sage Scrub is the local expression of the more widespread Coastal Sage Scrub of California. This community is characterized by low to moderately sized shrubs adapted to a Mediterranean regime of summer drought and winter rains by being active during the rainy season. Typically found on low moisture-availability sites with clay rich soils, this community intergrades at higher elevations with chaparral. Characteristic species include California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) together with laurel sumac (*Malosma laurina*), white sage (*Salvia apiana*) and black sage (*Salvia mellifera*). This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the draft North County MSCP and South County MSCP.

### **Diegan Coastal Sage Scrub: Baccharis-dominated**

This community is similar to Diegan coastal sage scrub but dominated by coyote bush (*Baccharis pilularis*) and is usually found on disturbed or nutrient-poor soils. This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the draft North County MSCP and South County MSCP.

### **Northern Mixed Chaparral**

The northern mixed chaparral plant community is dominated by a variety of woody shrubs, from 6 to 12 feet in height, with small, hard, evergreen leaves. The vegetation is dense and nearly impenetrable and there is usually little to no understory. The dominant plant types include chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus berberidifolia*), several types of lilac (*Ceanothus* spp.), and manzanita (*Arctostaphylos* spp.). This community is targeted for conservation in the draft North County MSCP and South County MSCP.

### **Chamise Chaparral**

Chamise chaparral is a chaparral community composed almost exclusively of chamise with few, if any, other shrub species present and with little or no understory. This community is targeted for conservation in the draft North County MSCP and South County MSCP.

### **Southern Maritime Chaparral**

Southern maritime chaparral is a fairly low and open chaparral only found in weathered sands within the coastal fog belt. It is dominated by wart-stemmed ceanothus (*Ceanothus verrucosus*) and Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*). This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the draft North County MSCP and South County MSCP.

### **Coastal and Valley Freshwater Marsh**

Coastal and valley freshwater marsh, a riparian community, is usually permanently flooded by fresh water and is dominated by perennial, emergent monocots up to 15 feet in height. The vegetation is often dense, forming a completely closed canopy. This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the draft North County MSCP and South County MSCP.

### **Southern Willow Scrub**

Southern willow scrub, a riparian community, is associated with streams and creeks and is comprised of dense thickets of broadleaved, winter-deciduous shrubs and trees dominated by several types of willow (*Salix* spp.), with scattered emergent Fremont cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the draft North County MSCP and South County MSCP.

### **Fresh Water**

Fresh water, or open water, is comprised of year round bodies of fresh water of low salinity in the form of lakes and ponds that have a less than 10 percent cover of vegetation.

### **Coast Live Oak Woodland**

This woodland is dominated by coast live oak (*Quercus agrifolia*), an evergreen oak that reaches 30 to 75 feet in height. The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac, or blue elderberry (*Sambucus nigra* ssp. *caerulea*). In areas with a history of grazing the understory can be continuous and dominated by non-native brome grasses (*Bromus* spp.) and several other introduced and invasive broadleaf species. This community is targeted for conservation in the draft North County MSCP and South County MSCP.

### **Non-Native Grassland**

Non-native grassland has a sparse to dense cover of invasive annual grasses such as brome grasses (*Bromus* spp.) and slender oat (*Avena barbata*) and is overall less than 3 feet in height. The community can also support non-native and native broadleaved annual plants including mustards (*Brassica* spp.) and lupines (*Lupinus* spp.). This community is equivalent to annual grassland, a habitat targeted for conservation by the draft North County MSCP and South County MSCP.

### **Disturbed Habitat**

Disturbed areas have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association. Disturbed areas often consist of dirt roads, unvegetated areas with compacted bare ground, or areas of sparse vegetation with evidence of recent human activities limiting natural processes from occurring.

### **Urban/Developed**

Developed areas have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Examples include roads, buildings, graded areas, and places covered by large amounts of debris or other materials.

### **Orchards and Vineyards**

Orchards and vineyards include areas supporting fruit trees and vines under cultivation as well as minor dirt roads giving direct access to the trees and vines. The area is typically dominated by one (or several) tree or shrub species. Understory growth of both vineyards and orchards often includes short grasses and other herbaceous plants volunteering between rows.

### **Biological Resources - Wildlife**

The majority of the Study Area is developed and therefore provides limited habitat for wildlife adapted to urban settings in the ornamental trees planted within residential areas and parks, the citrus and avocado trees in the orchards, and along roadways. Native scrub provides live-in and foraging habitat for a variety of wildlife species, and to a limited extent, the disturbed areas found throughout the Study Area also provide wildlife habitat where weedy, opportunistic plant species briefly establish and provide some foraging and cover for wildlife.

### **Biological Resources – Communities of Special Concern**

Sensitive plant communities in the Study Area are identified by the CNDDDB and by the North County and South County MSCP. The MSCPs use a tiered approach to plant communities to identify conservation priorities, and the tiers for each community are listed below.



### CNDDDB Sensitive Plant Communities

- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub: Baccharis dominated
- Fresh Water Marsh
- Southern Maritime Chaparral
- Southern Willow Scrub

### Draft North County MSCP and South County MSCP Conserved Plant Communities

- Diegan Coastal Sage Scrub – Tier II
- Diegan Coastal Sage Scrub: Baccharis dominated – Tier II
- Northern Mixed Chaparral – Tier III
- Chamise Chaparral – Tier III
- Fresh Water Marsh – Tier I
- Southern Maritime Chaparral – Tier I
- Southern Willow Scrub – Tier I
- Coast Live Oak Woodland – Tier I
- Non-native (Annual) Grassland – Tier III

During early preparation for the biological surveys, a total of 25 Biological Areas were identified. However, following the field surveys, only 21 Biological Areas (as listed below) remained that contained biological resources; the others were completely urbanized. **Table 3.4-1** lists Biological Areas in which at least one sensitive plant community was identified.

**Table 3.4-1: Biological Areas with Sensitive Plant Communities**

Biological Area No.	Group	Agency	Plant Communities
1	G	City of Oceanside	Diegan Coastal Sage Scrub, Coastal and Valley Freshwater Marsh, Southern Willow Scrub
2 <sup>+</sup>	G	City of Oceanside	Diegan Coastal Sage Scrub, Southern Willow Scrub
3 <sup>+</sup>	G	City of Oceanside	Diegan Coastal Sage Scrub
7 <sup>+</sup>	O	Vista ID	Diegan Coastal Sage Scrub, Southern Willow Scrub
9 <sup>+</sup>	H	Olivenhain MWD	Diegan Coastal Sage Scrub, Diegan Coastal Sage Scrub: Baccharis Dominated, Southern Willow Scrub, Coastal and Valley Freshwater Marsh
10 <sup>+</sup>	H	Olivenhain MWD	Diegan Coastal Sage Scrub: Baccharis Dominated, Southern Willow Scrub
11 <sup>+</sup>	H	Olivenhain MWD	Chamise Chaparral
12 <sup>+</sup>	H	Olivenhain MWD	Southern Maritime Scrub
13 <sup>++</sup>	K	Santa Fe ID	Southern Willow Scrub
14 <sup>++</sup>	I	Rincon del Diablo MWD	Diegan Coastal Sage Scrub, Northern Mixed Chaparral, Non-native Grassland
15 <sup>*</sup>	J	Rincon del Diablo MWD	Diegan Coastal Sage Scrub, Freshwater Marsh, Oak Woodland
16/17 <sup>*</sup>	I	Rincon del Diablo MWD	Diegan Coastal Sage Scrub, Oak Woodland
18 <sup>*</sup>	I	Rincon del Diablo MWD	Northern Mixed Chaparral

Biological Area No.	Group	Agency	Plant Communities
19*	I	Rincon del Diablo MWD	Southern Willow Scrub, Oak Woodland, Non-native Grassland
20*	I	Rincon del Diablo MWD	Diegan Coastal Sage Scrub
21*	C	City of Escondido	Coast Live Oak Woodland
22+	H	Olivenhain MWD	Chamise Chaparral
23+	G	City of Oceanside	Diegan Coastal Sage Scrub, Non-native Grass
24+	G	City of Oceanside	Southern Willow Scrub
25	J	Rincon del Diablo MWD	Coastal Sage Scrub-Chaparral Transition

\* In a MSCP area

+ In a MHCP hardline or softline area

Source: PCR 2015

### Wetlands and Riparian Areas

There are numerous drainage features within the Study Area that would potentially be regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) or California Department of Fish and Wildlife (CDFW). Streams and their associated riparian areas are jurisdictional features, as are associated wetlands.

**Table 3.4-2** lists Biological Areas that contain potentially jurisdictional drainages, riparian habitat and wetlands.

**Table 3.4-2: Biological Areas with Potential Drainages, Riparian, and Wetland Habitat**

Biological Area No.	Group	Agency	Riparian and/or Wetland Habitat Present
1	G	City of Oceanside	Drainage, Riparian, Wetland
2+	G	City of Oceanside	Drainage, Riparian, Wetland
3+	G	City of Oceanside	Drainage
7+	O	Vista ID	Drainage, Riparian, Wetland
9+	H	Olivenhain MWD	Drainage, Riparian, Wetland
10+	H	Olivenhain MWD	Riparian
13**	K	Santa Fe ID	Drainage, Riparian, Wetland
15*	J	Rincon del Diablo MWD	Drainage, Riparian, Wetland
16/17*	I	Rincon del Diablo MWD	Drainage, Wetland
19*	I	Rincon del Diablo MWD	Drainage, Riparian, Wetland
21*	C	City of Escondido	Drainage, Riparian, Wetland
23+	G	City of Oceanside	Drainage, Riparian, Wetland
24+	G	City of Oceanside	Drainage, Riparian, Wetland

\* In a MSCP area

+ In a MHCP hardline or softline area

Source: PCR 2015

### Biological Resources – Special Status Species

#### Sensitive Plant Species

Plant species with the potential to occur in the Study Area were identified using database searches and review of the North County and South County MSCPs; focused plant surveys were not conducted. A

complete list of species is provided in **Appendix D**. Two species are of particular interest due to the presence of suitable habitat:

- Nevins barberry (*Berberis nevini*): federal endangered, State endangered, South County MSCP narrow endemic, draft North County MSCP targeted conserved, and found in scrub and chaparral
- Encinitas baccharis (*Baccharis vanessae*): federal threatened, State endangered, South County MSCP narrow endemic, North County MSCP targeted conserved, and found in southern maritime chaparral.

No suitable habitat, i.e., vernal (seasonal) pool, was found for thread-leaved brodiaea (*Brodiaea filifolia*), a species that is federal threatened, State endangered, U.S. Fish and Wildlife Service (USFWS) designated Critical Habitat, South County MSCP narrow endemic, North County MSCP targeted conserved. Critical Habitat for this species occurs in the Study Area in Group G. **Table 3.4-3** lists Biological Areas that have a potential to contain sensitive Plants

**Table 3.4-3: Biological Areas with Potential for Sensitive Plants**

Biological Area No.	Group	Agency
1	G	City of Oceanside
2 <sup>+</sup>	G	City of Oceanside
7 <sup>+</sup>	O	Vista ID
9 <sup>+</sup>	H	Olivenhain MWD
10 <sup>+</sup>	H	Olivenhain MWD
11 <sup>+</sup>	H	Olivenhain MWD
12 <sup>+</sup>	H	Olivenhain MWD
13 <sup>**</sup>	K	Santa Fe ID
14 <sup>**</sup>	I	Rincon del Diablo MWD
15 <sup>*</sup>	J	Rincon del Diablo MWD
16/17 <sup>*</sup>	I	Rincon del Diablo MWD
18 <sup>*</sup>	I	Rincon del Diablo MWD
19 <sup>*</sup>	I	Rincon del Diablo MWD
20 <sup>*</sup>	I	Rincon del Diablo MWD
21 <sup>*</sup>	C	City of Escondido
22 <sup>+</sup>	H	Olivenhain MWD
23 <sup>+</sup>	G	City of Oceanside
24 <sup>+</sup>	G	City of Oceanside
25	J	Rincon del Diablo MWD

\* In a MSCP area

+ In a MHCP hardline or softline area

Source: PCR 2015

### Sensitive Wildlife Species

Wildlife species with the potential to occur in the Study Area were identified using database searches, and review of the North County and South County MSCPs; focused surveys were not conducted. A complete list of species is provided in **Appendix D**. A list of species of particular interest is provided below.

## Birds

- Coastal California gnatcatcher (*Polioptila californica*): federal threatened, State species of special concern, South County MSCP, draft North County MSCP. Suitable habitat for the coastal California gnatcatcher includes coastal sage scrub. Potential habitat observed. USFWS established Critical Habitat for this species currently overlays Biological Areas Nos. 2, 3, 9, 10, 11, and 12. Critical Habitat also overlays the Study Area in several other locations where the alignment would use existing roadways, which were not identified as Biological Areas.
- Least Bell's vireo (*Vireo bellii pusillus*): federal endangered, State endangered bird, South County MSCP, draft North County MSCP. Suitable habitat for the least Bell's vireo includes riparian habitats. Potential habitat observed. USFWS established Critical Habitat for this species is mapped along a portion of Group G facilities where a pipeline alignment follows River Road as it approaches the San Luis Rey River in Oceanside. However, due to the otherwise developed condition of this section of the alignment; it was not identified as a Biological Area.
- Southwestern willow flycatcher (*Empidonax trailli extimus*): federal endangered, State endangered bird, South County MSCP, draft North County MSCP. Suitable habitat for the southwestern willow flycatcher includes riparian and open water. Potential habitat observed. Critical Habitat for this species overlays the Study Area in several locations where the alignment would use existing roadways, which were not identified as Biological Areas.
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*): State endangered bird, South County MSCP and the draft North County MSCP. Suitable habitat for the western yellow-billed cuckoo includes mature riparian habitat. Potential habitat observed.
- Burrowing owl (*Athene cunicularia*): Species of special concern bird, South County MSCP, draft North County MSCP. Suitable habitat for the burrowing owl includes non-native grassland. Potential habitat observed.
- California rufous-crowned sparrow (*Aimophila ruficeps cansecens*): Species of special concern bird, South County MSCP, draft North County MSCP. Suitable habitat for the California rufous-crowned sparrow includes chaparral habitat. Potential habitat observed.
- Bell's sage sparrow (*Artemisiospiza belli belli*): Species of special concern. Suitable habitat for the Bell's sage sparrow includes coastal sage scrub and chaparral. Potential habitat observed.
- Other Species: In addition to the above species, all migratory nesting birds are afforded protection under the federal Migratory Bird Treaty Act (MBTA) and by the CDFW. The Study Area has the potential to support migratory bird species, including both raptor and songbirds, due to the presence of many trees in the developed and landscaped roads and communities.

## Reptiles

- Southwestern Pond Turtle (*Clemmys marmorata pallid*): Species of special concern, South County MSCP, draft North County MSCP. Suitable habitat for the southwestern pond turtle includes open water. Potential habitat observed (limited).
- San Diego Horned Lizard (*Phrynosoma coronatum*): Species of special concern, South County MSCP, draft North County MSCP. Suitable habitat for the San Diego horned lizard includes chaparral. Potential habitat observed.
- Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*): Species of special concern, South County MSCP, draft North County MSCP. Suitable habitat for the orange-throated whiptail includes coastal sage scrub and chaparral. Potential habitat observed.

### Amphibians

- Arroyo Toad (*Anaxyrus californicus*): Federal endangered, species of special concern, South County MSCP, draft North County MSCP. USFWS Critical Habitat. Suitable habitat for the arroyo toad includes riparian habitat. Potential habitat observed (limited). Critical Habitat for this species overlays the Study Area in several other locations where the alignment would use existing roadways, which were not identified as Biological Areas.

### Mammals

- Pacific Pocket Mouse (*Perognathus longimembris pacificus*): Federal endangered species of special concern, South County MSCP. Suitable habitat for the pacific pocket mouse includes coastal sage scrub. Potential habitat observed.
- Stephen’s Kangaroo Rat (*Dipodomys stephensi*): Federal endangered, draft North County MSCP. Suitable habitat for the Stephen’s kangaroo rat includes non-native grassland and coastal sage scrub. Potential habitat observed.
- San Diego Desert Woodrat (*Neotoma lepida intermedia*): species of special concern. Suitable habitat for the San Diego desert woodrat includes coastal sage scrub and chaparral. Potential habitat observed.
- Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*): species of special concern. Suitable habitat for the northwestern San Diego pocket mouse includes coastal sage scrub. Potential habitat observed.
- San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*): Species of special concern, draft North County MSCP. Suitable habitat for the San Diego black-tailed jackrabbit includes coastal sage scrub and non-native grasslands. Potential habitat observed.

Table 3.4-4 shows areas that have the potential to support sensitive wildlife.

**Table 3.4-4: Biological Areas with Potential for Sensitive Wildlife**

Biological Area No.	Group	Agency	Habitat Types with Potential for Sensitive Wildlife
1	G	City of Oceanside	Open Water, Riparian, Coastal Sage Scrub, Chaparral
2 <sup>+</sup>	G	City of Oceanside	Riparian, Coastal Sage Scrub
3 <sup>+</sup>	G	City of Oceanside	Coastal Sage Scrub, Grassland
7 <sup>+</sup>	O	Vista ID	Riparian, Coastal Sage Scrub
9 <sup>+</sup>	H	Olivenhain MWD	Riparian, Coastal Sage Scrub
10 <sup>+</sup>	H	Olivenhain MWD	Coastal Sage Scrub
11 <sup>+</sup>	H	Olivenhain MWD	Chaparral
12 <sup>+</sup>	H	Olivenhain MWD	Chaparral
13 <sup>**</sup>	K	Santa Fe ID	Riparian
14 <sup>**</sup>	I	Rincon del Diablo MWD	Coastal Sage Scrub, Chaparral, Grassland
15 <sup>*</sup>	J	Rincon del Diablo MWD	Riparian, Coastal Sage Scrub,
16/17 <sup>*</sup>	I	Rincon del Diablo MWD	Coastal Sage Scrub
18 <sup>*</sup>	I	Rincon del Diablo MWD	Chaparral
19 <sup>*</sup>	I	Rincon del Diablo MWD	Riparian
20 <sup>*</sup>	I	Rincon del Diablo MWD	Coastal Sage Scrub

Biological Area No.	Group	Agency	Habitat Types with Potential for Sensitive Wildlife
21*	C	City of Escondido	Riparian (potential)
22+	H	Olivenhain MWD	Chaparral
23+	G	City of Oceanside	Coastal Sage Scrub, Grassland, Chaparral (potential)
24+	G	City of Oceanside	Riparian
25	J	Rincon del Diablo MWD	Coastal Sage Scrub, Chaparral

\* In a MSCP area

+ In a MHCP hardline or softline area

Source: PCR 2015

### **Biological Resources – Habitat Linkages and Wildlife Movement**

Due to its large geographic size, the Study Area likely supports the movement of numerous types of wildlife. The MSCP identifies wildlife linkages in the Study Area. Several east to west trending creeks and rivers, notably the San Luis Rey and San Dieguito Rivers, provide riparian corridors reaching far inland from their mouths at the Pacific Ocean. However, the network of roads and highways in the area provides a potential barrier restricting the movement of terrestrial wildlife. Few areas of any size within the Study Area are undeveloped. Ornamental vegetation covers much of the area and provides habitat for many bird species.

#### **3.4.2 Regulatory Framework – Biological Resources**

This section describes laws and regulations at the federal, state, and local level that may apply to the Proposed Project.

##### **Federal**

##### **Clean Water Act**

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands.

##### *Section 401*

Section 401 of the CWA allows for evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the U. S. In California, the SWRCB and its nine RWQCBs issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and its water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that may result in the discharge to waters of the United States (including wetlands) must also obtain a Section 401 water quality certification to ensure that any such discharge will comply with the applicable provisions of the CWA. Compliance with Section 401 is required for all projects that have a federal component and may affect state water quality.

##### *Section 404*

CWA section 404 regulates the discharge of dredged and fill materials into waters of the United States (waters of the U.S.), which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 C.F.R. § 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 C.F.R. Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under provisions of CWA section 404. Construction activities involving

placement of fill into jurisdictional waters of the U.S. are regulated by the USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to section 401 of the CWA.

### **Endangered Species Act**

The Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531–1544) provides for conservation of species that are endangered or threatened throughout all or a significant portion of their range, as well as the protection of habitats on which they depend. USFWS and the National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. In general, USFWS manages land and freshwater species, whereas NMFS manages marine and anadromous species. Because the project is not expected to affect marine or anadromous fish, ESA coordination is expected to involve only the USFWS. As defined by Section 3 of the ESA, “endangered” refers to species that are "in danger of extinction within the foreseeable future throughout all or a significant portion of its range," whereas “threatened” refers to “those animals and plants likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges.” Several species listed under the ESA occur or have the potential to occur in the Study Area.

#### *Section 7*

ESA Section 7 requires federal agencies to consult with USFWS before performing any action (e.g., funding a program or issuing a permit) to ensure that federal actions do not jeopardize the continued existence of a species or destroy or adversely modify critical habitat. Authorization to take an endangered or threatened species can be obtained through Section 7 consultation. The USFWS may issue a Biological Opinion (BO) with an incidental take statement to the federal agency issuing a permit or approval for a Proposed Project. The federal consulting agency then incorporates the BO and incidental take statement into any authorization or permits.

#### *Critical Habitat*

When a species is proposed for listing as endangered or threatened under the ESA, USFWS must consider whether there are areas of habitat that are essential to the species’ conservation. Those areas may be proposed for designation as “critical habitat.” Under Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its designated critical habitat. These requirements apply only to federal agency actions, and only to habitat that has been designated. Critical habitat requirements do not apply to citizens engaged in activities on private land that do not involve a federal agency. For experimental populations designated pursuant to Section 10(j), critical habitat may be designated for “essential” experimental populations, but may not be designated for “nonessential” experimental populations.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) (Title 16, United States Code [USC], Part 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 Code of Federal Regulations [CFR] 21, 50 CFR 10). Most actions that result in taking of, or the permanent or temporary possession of, a protected species constitute violations of the MBTA. The MBTA also prohibits destruction of occupied nests. The Migratory Bird Permit Memorandum dated April 15, 2003, clarifies that destruction of most unoccupied bird nests (without eggs or nestlings) is permissible under the MBTA; exceptions include nests of federally threatened or endangered migratory birds, bald eagles (*Haliaeetus leucocephalus*), and golden eagles (*Aquila chrysaetos*). The USFWS is responsible for overseeing compliance with the MBTA. On December 8,

2004, the U.S. Congress passed the Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447), which excludes all migratory birds non-native or human-introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. The USFWS published a list of the bird species excluded from the MBTA on March 15, 2005 (70 FR 12710).

### **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions. Under the Bald and Golden Eagle Protection Act, it is a violation to “...take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest or egg, thereof...”

### **State Policies and Regulations**

#### **California Environmental Quality Act—Sections 15065 and 15380**

Title 14, Section 15065 of the California Code of Regulations (CEQA Guidelines) requires that a lead agency shall determine whether a project may have a significant effect on the environment and require an EIR to be prepared for the project if there is substantial evidence, in light of the whole record, that the project has the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, and/or substantially reduce the number or restrict the range of an endangered, rare or threatened species.

Title 14, Section 15380 of the California Code of Regulations defines the terms “species”, “endangered”, “rare”, and “threatened” as they pertain to CEQA. Section 15380 also provides a greater level of consideration for state-listed or federally-listed species, and for any species that can be shown to meet the criteria for listing, but which has not yet been listed. The criteria for considering a species endangered, rare, or threatened under CEQA are as follows:

When its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or

Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as defined in the ESA.

Species that meet the criteria listed above are often considered Species of Special Concern by CDFW. “Species of Special Concern” is an administrative designation and carries no formal legal status. Generally, Species of Special Concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined in Section 15380 of the CEQA Guidelines. However, some older lists of Species of Special Concern were not developed using criteria relevant to CEQA, and the information used in generating those lists is out of date. Therefore, the current circumstances of each unlisted Species of Special Concern must be considered in the context of Section 15380 criteria and not automatically assumed to be rare, threatened or endangered.

#### **California Fish and Game Commission**

The California Constitution establishes the California Fish and Game Commission (Commission) (California Constitution Article 4, § 20). The Fish and Game Code delegates the power to the Commission to regulate the taking or possession of birds, mammals, fish, amphibian and reptiles (Fish &



G. Code, § 200). The Commission has adopted regulations setting forth the manner and method of the take of certain fish and wildlife in the California Code of Regulations, Title 14. Likewise, the Commission has exclusive statutory authority under the Fish and Game Code to designate species as endangered or threatened under the California Endangered Species Act (CESA) (Fish & G. Code, § 2070). Under the Commission's general regulatory powers function, it establishes seasons, bag limits, and methods of take for game animals and sport fish (i.e., hunting and fishing regulations).

### **California Fish and Game Code**

#### *Section 700 - Species Protection*

The Fish and Game Code establishes CDFW (Fish & G. Code, § 700) and states that the fish and wildlife resources of the state are held in trust for the people of the state by and through CDFW (Fish & G. Code, § 711.7, subd. (a)). Fish and Game Code Section 1802 states that CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. All licenses, permits, tag reservations, and other entitlements for the take of fish and game authorized by the Fish and Game Code are prepared and issued by CDFW (Fish & G. Code, § 1050, subd. (a)). Provisions of the Fish and Game Code establish special protection to certain enumerated species, such as Section 5515, which lists fully protected fish species.

#### *Section 1602 – Lake or Streambed Alteration*

Fish and Game Code Section 1602 states that "an entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" unless CDFW receives written notification regarding the activity and the entity pays the applicable fee. If CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, CDFW issues an agreement to the entity that includes reasonable measures necessary to protect the resource.

#### *Section 1900-1913 – Native Plant Protection Act*

The Native Plant Protection Act (NPPA) of 1977 (Fish & G. Code, §§ 1900-1913) directs CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this state." The NPPA authorizes the Commission to designate plants as 'endangered' or 'rare' and prohibits 'take' of any such plants, except as authorized in limited circumstances.

CDFW and the California Native Plant Society (CNPS), a non-governmental organization, jointly maintain California Rare Plant Rank (CRPR) lists. These lists include plant species of concern in California. Vascular plants included on these lists are defined as follows:

- List 1: Plants considered extinct or extirpated in California.
- List 1B: Plants that are rare, threatened, or endangered in California and elsewhere.
- List 2: Plants that are rare, threatened, or endangered in California, but more common elsewhere.
- List 3: Plants about which more information is needed - review list.
- List 4: Plants of limited distribution - watch list.

Plants appearing on Lists 1 and 2 are, in general, considered to meet the CEQA Guidelines section 15380(b) criteria and adverse effects to these species may be considered significant. Impacts to plants that are on Lists 3 and 4 are also considered during CEQA review, although because these species are typically not as rare as those on Lists 1 and 2, impacts to them are less frequently considered potentially significant.

#### *Section 2050 et seq. – California Endangered Species Act*

CESA (Fish & G. Code, § 2050 et seq.) is intended to conserve, protect, restore, and enhance species designated as endangered or threatened, and their habitat (Fish & G. Code, § 2052). The Commission has

exclusive statutory authority to designate species as endangered or threatened under CESA (California Constitution, article IV, § 20, subd. (b); Fish & G. Code, § 2070). Animal species designated as endangered or threatened under CESA are listed in California Code of Regulations, Title 14, Section 670.5. Plant species designated as endangered or threatened under CESA, or designated as a rare plant species under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.), are listed in California Code of Regulations, Title 14, section 670.2.

CESA directs all state agencies, boards, and commissions to seek to conserve endangered and threatened species, and to utilize their authority in furtherance of that policy (Fish & G. Code, § 2055). For purposes of CESA, "conserve," "conserving," and "conservation" mean to implement all methods and procedures necessary to increase the abundance of any endangered or threatened species to levels at which the protections provided by CESA are no longer necessary. These methods and procedures include, but are not limited to, all activities associated with scientific resources management, such as research; census; law enforcement; habitat acquisition; restoration and maintenance; propagation; live trapping; and transplantation; and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking (Fish & G. Code, § 2061). CESA emphasizes that state agencies should not approve projects as proposed that would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat that would prevent jeopardy (Fish & G. Code, § 2053).

Species designated as endangered or threatened under CESA, and species designated as candidates for listing or delisting under CESA, are subject to what is commonly known as CESA's "take" prohibition. In general, this prohibition provides that no person shall import into the state, or export out of the state, or take, possess, purchase, or sell within the state (or attempt to do any of those acts), any species, or any part or product thereof, designated by the Commission as protected under CESA, except as otherwise provided by law (Fish & G. Code, §§ 2080, 2085; see also Cal. Code Regs., Tit. 14, § 783.1). "Take" is defined specifically in the Fish and Game Code to mean "hunt, pursue, catch, capture, or kill," or an attempt to do any such act; violations of CESA's take prohibition are criminal misdemeanors under state law. Unlike the ESA, CESA applies the take prohibitions to species under petition for listing (candidates) in addition to listed species. Section 2081 of the Fish and Game Code expressly allows CDFW to authorize, by permit, the incidental take of endangered, threatened, and candidate species if all of certain conditions are met.

#### *Other Sections*

Other sections of the Fish and Game Code describe protection for specific types of wildlife. For example, Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their active or inactive nests and eggs, from all forms of take ('take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill [Fish & G. Code, § 86]). Raptors (i.e., eagles, falcons, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Certain species are designated as fully protected under Fish and Game Code Sections 3511 (birds), 5515 (fish), 4700 (mammals), and 5050 (amphibians) and it is illegal to take these species. Non-game mammals are also protected by Fish and Game Code Section 4150.

#### **Local**

San Diego County has two habitat conservation planning programs: 1) the MHCP applies to participating cities in northwestern San Diego County, and 2) the MSCP applies to all remaining non-military lands.

These programs were developed to provide conservation for multiple species and provide preservation of natural vegetation communities in San Diego County, and are implemented pursuant to subregional plans and subarea plans.

The combination of subregional and subarea plans for the MHCP and MSCP programs serve as a multiple species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the federal ESA, as well as a Natural Community Conservation Planning (NCCP) plan under the NCCP Act of 1991 and the CESA. Participating jurisdictions submit these plans to the wildlife agencies, USFWS and CDFW, in support of applications for permits and authorizations to incidentally “take” listed threatened or endangered species or other species of concern outside of the preserve system in exchange for conserving the species inside the preserve system. Once USFWS and CDFW approve the plans and authorize “take,” the participating jurisdiction may use it to permit public or private projects that comply with the subregional and subarea plans. The conservation and management responsibilities, assurances of implementation, and corresponding authorizations for all parties are contained in an implementing agreement between each take authorization holder and the wildlife agencies.

The MHCP and MSCP plans serve as umbrella documents to guide the preparation of subarea plans by each participating jurisdiction. To receive permit authorization, subarea plans must be consistent with the conservation and policy guidelines of the MHCP and MSCP plans and be approved by the wildlife agencies (CDFW and USFWS). Five cities have prepared subarea plans for the MHCP that have been submitted for public review including Carlsbad, Encinitas, Escondido, Oceanside, and San Marcos. Of these, the Carlsbad Subarea Plan is a final, approved document with permit authorization (amended December 1999).<sup>1</sup> Final approved subarea documents within the South County MSCP include the County of San Diego Subarea Plan, the City of San Diego Subarea Plan, and the City of Chula Vista Subarea Plan. MSCP and MHCP compliance would, therefore, be required pursuant to these approved plans for any permits or authorizations that are requested from the County or Cities implementing the approved plans. Approval of compliance and any necessary mitigation measures would be negotiated during the permitting process. Exemptions may be applicable for certain activities; specifically the County of San Diego outlines exemptions in their Biological Mitigation Ordinance (BMO). Projects in areas that do not have approved subarea plans and for which impacts are proposed to sensitive biological resources would be required to apply independently for permits to any agency regulating those biological resources.

**Figure 3.4-3** shows the location of the MHCP and MSCP planning areas that are relevant to the Proposed Project.

### Multiple Species Conservation Program

The County of San Diego has implemented a MSCP that covers three designated sub-areas: the North County MSCP, the East County MSCP, and the South County MSCP (County of San Diego 2014). The Study Area falls within both the North County MSCP, which does not currently have an approved MSCP Plan, and the South County MSCP, which has had an adopted MSCP Plan since 1998. As indicated above in **Tables 3.4-1** through **3.4-4**, several of the groups lie within the South County and North County MSCPs; these groups are listed below and shown on **Figure 3.4-3**.

<sup>1</sup> According to information from SANDAG at <http://www.sandag.org/?projectid=97&fuseaction=projects.detail>

**Table 3.4-5: Relationship between Proposed Project Groups and MSCP**

Group	Agency	Contains Facilities Located in North County MSCP	Contains Facilities Located in South County MSCP
A	Carlsbad MWD	No	No
C	City of Escondido	No	Yes
D	City of Escondido	No	No
E	San Elijo JPA	No	No
G	City of Oceanside	No	No
H	Olivenhain MWD	Yes	No
I	Rincon del Diablo MWD	Yes	No
J	Rincon del Diablo MWD	Yes	No
K	Santa Fe ID	Yes	Yes
M	Vallecitos WD	Yes	No
N	Vallecitos WD	No	No
O	Vista ID	No	No

The MSCP plans establish a preserve system that is intended to provide a contiguous protected area rather than having project-by-project biological mitigation areas that individually may not provide adequate protection to sensitive species (County of San Diego 1998). The South County MSCP Plan establishes and the North County MSCP Plan proposes conservation areas that constitute the preserve system in each sub-area; the preserve areas are referred to as Pre-Approved Mitigation Areas or PAMAs. Development is not prohibited within the PAMAs, but rather, the MSCP plans establish ratios of developed area to preserve area and other stipulations that must be maintained within the PAMAs to ensure conformance with the MSCP (County of San Diego NDb).

The MSCP is intended to provide take of covered species and their habitats associated with development assuming consistency with the subarea plans, and conformance with the plans is accomplished in part through the BMO. The take of covered species for the South County MSCP applies to the lands in the Metro-Lakeside-Jamul Segment, as well as the major and minor amendment areas for the Lake Hodges and South County Segments. Take of covered species within major or minor amendment areas may be authorized only after the area has become part of the Segment Plan through the appropriate amendment process, which requires consistency with the South County MSCP plan and conformance with the BMO requirements. A total of 85 covered species are included in the South County MSCP, and the Lake Hodges Segment provides conservation benefits for an additional 29 species that are known to occur in the Segment. The current list for covered species in the draft North County Plan includes 63 species.<sup>2</sup>

**Multiple Habitat Conservation Program**

The MHCP is a comprehensive conservation planning process that addresses the needs of multiple plant and animal species in northwestern San Diego County (SANDAG 2003). The MHCP applies to incorporated lands in northwestern San Diego County; for the Proposed Project, the MHCP applies to the incorporated cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Several of these cities have adopted city-specific measures to conserve natural biotic communities and sensitive plant and wildlife species in the form of MHCP subarea plans that are based on the subregional plan. The MHCP is administered by the San Diego Association of Governments (SANDAG)

<sup>2</sup> As available online January 2015 at [http://www.sandiegocounty.gov/content/sdc/pds/mscp/NCMSCP\\_documents.html](http://www.sandiegocounty.gov/content/sdc/pds/mscp/NCMSCP_documents.html)

and addresses approximately 112,000 acres of land throughout incorporated lands located within San Diego County.

The Proposed Project falls within the area covered by the MHCP Plan that is often referred to as the North County MHCP. As with the MSCP Plan, through the adoption and implementation of the North County MHCP, local jurisdictions are able to receive incidental take authorizations from USFWS and CDFW. The North County MHCP identifies specific Focused Planning Areas (FPAs), which are areas of primary conservation efforts. FPAs are divided into hardline areas (calling for 90 - 100 percent conservation) and softline areas (less than 90 percent conservation) (SANDAG, 2003).

Each grouping of the Proposed Project is included within the MHCP Plan; however, not all of the groups are located within FPAs. The location of each grouping with respect to the hardline and softline areas defined in the North County MHCP Plan is described in detail in *Section 3.10, Land Use and Planning*. Given the extent of MHCP lands within the Study Area, every grouping except Group J has either hardline or softline areas, and most groups have both. Information pertaining to MHCP hardline and softline areas is listed below and shown on **Figure 3.4-3**.

**Table 3.4-6: Relationship between Proposed Project Groups and MHCP**

Group	Agency	Contains Facilities Located in Hardline Areas	Contains Facilities Located in Softline Areas
A	Carlsbad MWD	Yes	Yes
C	City of Escondido	Yes	Yes
D	City of Escondido	Yes	Yes
E	San Elijo JPA	Yes	No
G	City of Oceanside	Yes	Yes
H	Olivenhain MWD	Yes	No
I	Rincon del Diablo MWD	Yes	Yes
J	Rincon del Diablo MWD	No	No
K	Santa Fe ID	Yes	Yes
M	Vallecitos WD	Yes	Yes
N	Vallecitos WD	Yes	Yes
O	Vista ID	Yes	Yes

**Biological Mitigation Ordinance**

As discussed above, the MSCP is intended to provide take of covered species and their habitats associated with development assuming consistency with the subarea plans, and conformance with the plans is accomplished in part through the Biological Mitigation Ordinance (BMO). All critical populations of sensitive species included in the BMO require avoidance, and in non-critical areas require minimization consistent with the subarea plans and BMO. Sensitive species include narrow endemic plant species within the County’s subarea, and San Diego County Sensitive Plant Species (as defined by the BMO). Specific conditions for species are outlined in the Federal Fish and Wildlife Permit for the MSCP that is attached to the South County MSCP plan, and guidelines for sensitive plant populations are also provided in Sec. 86.507 of the BMO, including for critical populations of sensitive plant species, avoidance of sensitive plants, and mitigation for sensitive plant species. Specific mitigation measures are conditioned by the County of San Diego Director at the time of project approval based on an analysis of the sensitivity and size of the species’ population.

### **Tree Ordinances**

The cities of San Diego, Escondido, Carlsbad, Encinitas, Vista, San Marcos, and Del Mar have tree ordinances that protect certain tree types and require permits for removal and mitigation of impacts to protected trees.

### **General Plans**

Local General Plans include Open Space and Conservation Elements or Resource Conservation Elements that address biological resources. General Plans within the Study Area include the County of San Diego and the cities of Carlsbad, Oceanside, Escondido, Encinitas, San Marcos, Solana Beach, and Vista. The goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.4-9** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

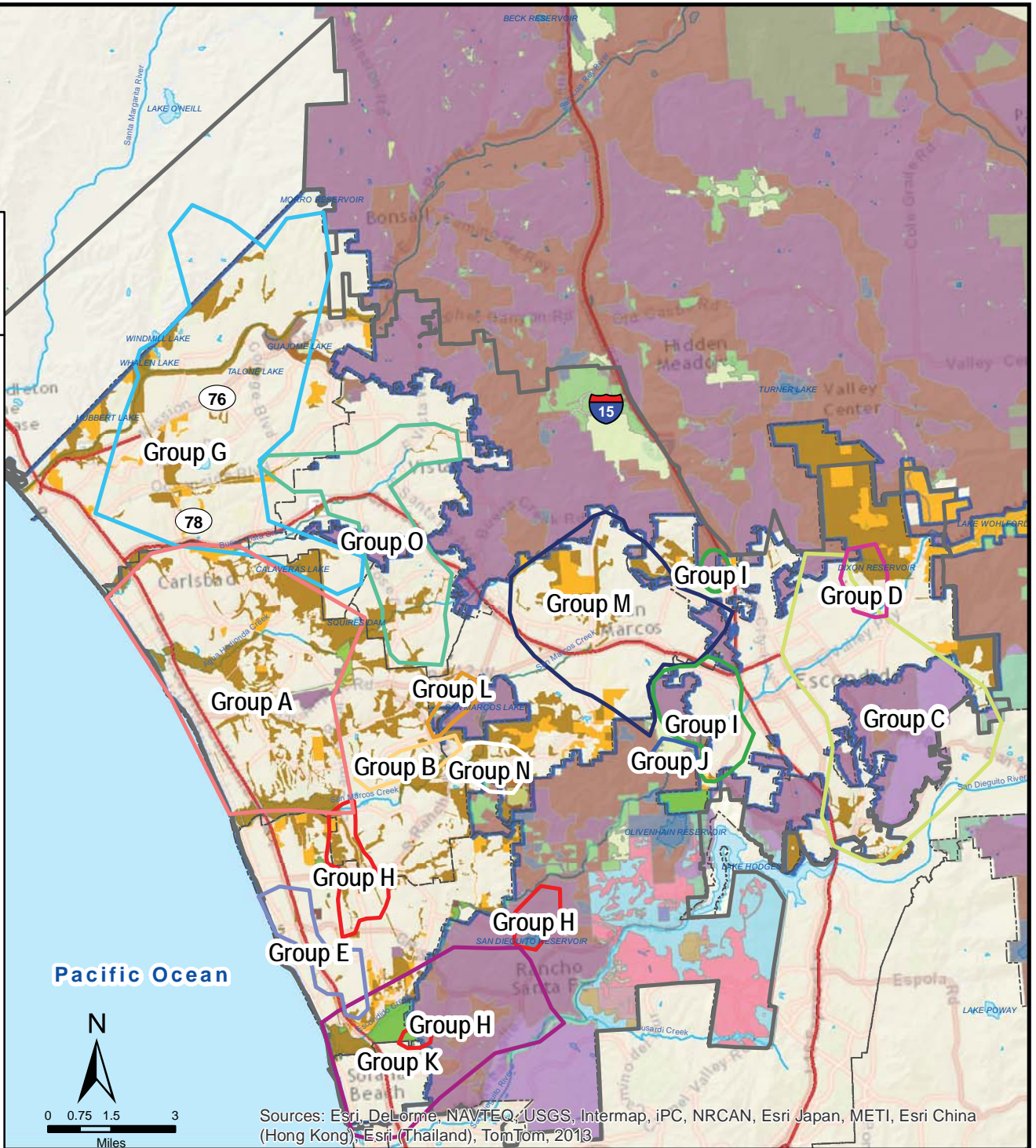
**Figure 3.4-3  
Multiple Habitat Conservation Program  
and  
Multiple Species Conservation Plan**

**Multiple Species Conservation Plan**

- Conserved Subject to Agreement with Wildlife Agencies
- Hardline Preserve
- Major Amendment Area
- Minor Amendment Area
- Minor Amendment Area Subject to Special Considerations
- Open Space Easement outside PAMA
- Otay Ranch Areas Where no Take Permits will be Issued
- Outside Pre-Approved Mitigation Area (PAMA)
- Pre-Approved Mitigation Area
- Pre-Approved Mitigation Area (PAMA)
- Pre-negotiated (Hardlined) Take Authorized Areas
- Preserve Areas
- Santa Fe Valley 'D' Designator
- Santa Fe Valley Open Space II
- Special Districts
- Take Authorized Area
- Tribal Lands
- US Forest Service
- Unincorporated Land in Metro-Lakeside-Jamul Segment

**Multiple Habitat Conservation Program**

- Hardline Areas (90% to 100% Conservation)
- Softline Areas (Less than 90% Conservation)
- Multiple Habitat Conservation Program (MHCP) Boundary
- Study Area
- City Boundaries
- River
- Freeway



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

### 3.4.3 Impact Analysis – Biological Resources

#### Methodology for Analysis

The assessment began with a review of relevant literature on the biological resources of the Proposed Project and the surrounding vicinity. Initially, available databases were queried for all pertinent information regarding the locations of known observations of sensitive species within the USGS quadrangles in which the Study Area is located as well as those in the surrounding region. These databases included the CNDDDB, which is a CDFW sensitive resources account database, the USFWS species account database, and the CNPS Online Inventory of Rare and Endangered Plants. The locations of USFWS designated critical habitat for federal listed species were also considered, as were applicable MSCP plans including MSCP lists of “Identified Species”, most of which are also recognized by CNDDDB and CNPS. Federal register listings, survey protocols, and additional species data provided by the USFWS and CDFW were reviewed in conjunction with anticipated federally- and State-listed species potentially occurring within the Study Area. In addition, regional flora and fauna field guides were used to assist in the identification of species and suitable habitats. Combined, the sources reviewed provided the baseline from which to inventory the biological resources potentially occurring within the Study Area.

Using GIS data, a desk study was conducted by overlaying the locations of all short-term proposed pipeline alignments and supporting infrastructure components of the Proposed Project onto aerial imagery to study their locations and determine the potential for biological resources. The majority of the components follow existing roadways or lie within existing facilities; the project description states that proposed pipelines would be installed in existing public rights-of-way (ROWs) and newly acquired easements (where necessary) and would be buried except for circumstances such as channel bridge crossings. Potential areas of interest, defined as Biological Areas for the purpose of this report, were identified where components were located in undeveloped land that appeared to have some degree of natural quality such as intact plant communities or habitats that could support sensitive species, sensitive plant communities, or riparian/aquatic resources under the jurisdiction of the USACE, RWQCB, or CDFW. The Biological Resources Report identified 21 Biological Areas that have a potential to support biological resources that could be impacted by the Project. The locations of the Biological Areas are depicted on **Figure 3.4-1**.

Much of the Proposed Project occurs within developed urban settings where plant communities pertinent to this analysis are non-existent and consequently these areas were not mapped or assessed in the field. Any potential sensitive plant communities adjacent to the urban/developed areas were noted during the literature review. A general biological field survey was conducted to assess the potential for the 21 Biological Areas to support sensitive plant and wildlife species; sensitive habitats; or USACE, RWQCB or CDFW jurisdictional areas. Coverage was ensured using color aerial photographs, with special attention given to sensitive habitats or those areas potentially supporting sensitive flora or fauna.

Plant communities in the 21 Biological Areas were mapped on aerial photographs. The project description identifies a standard construction ROW of up to 40 feet for linear improvements. To allow for future adjustments in the position of alignments and to accommodate construction support activities, a buffer of approximately 100 feet on either side of the linear alignments, for a total of 200 feet, was surveyed in the Biological Areas. A larger buffer area of approximately 250 feet was surveyed for non-linear components. However, for the purpose of this analysis, the standard construction ROW of 40 feet was assumed to provide a more realistic extent of impacts to biological resources. Should the alignments and/or construction limits change in the future beyond 40 feet (20 feet either side) of the components analyzed in this report, then a new impact analysis will be necessary. Furthermore, if these limits extend beyond the buffer areas outlined above, new survey data would also be required to conduct the impact analysis.

The analysis of wildlife movement is based on information compiled from literature, previous documentation from studies conducted within the region, analysis of aerial photographs and topographic



maps, and direct observations made in the field. The relationship of the Study Area to large open space areas in the immediate vicinity was evaluated in terms of connectivity and habitat linkages. The focus of this study is to determine if the alteration of current land use within the Study Area would have significant impacts on the regional movement of wildlife. During the field visit, locations of animal sign and potential travel routes and linkage areas were noted. Resource maps and aerial photographs for the vicinity were also studied. These conclusions are based on the knowledge of desired topography and resource requirements for wildlife potentially using the Study Area and vicinity.

Preliminary jurisdictional assessments were conducted during the survey to determine the presence of potentially jurisdictional drainages or wetlands regulated by the USACE, RWQCB, and/or CDFW. Features observed within the Biological Areas in the Study Area that would be potentially regulated were noted and mapped on an aerial photograph. Formal jurisdictional delineations were not conducted.

The presence of protected, regulated, or otherwise sensitive plant or wildlife species and natural plant communities occurring or potentially occurring within the Study Area is based on an evaluation of the habitat present and the known locations of sensitive resources within the vicinity of the Study Area. Protected sensitive species are classified by either federal or State resource management agencies, or both, as threatened or endangered, under the provisions of the ESA and CESA. The sensitive species discussed here have been afforded special recognition by federal, State, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes usually resulting from habitat loss.

### **Thresholds of Significance**

For the purposes of this analysis, an impact to biological resources would be significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NMFS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW, USFWS, or NMFS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with local policies or ordinances protecting biological resources; or
- Conflict with the provisions of an adopted HCP or NCCP.

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to biological resources that could result in conjunction with the project. Mitigation measures are identified where appropriate. A summary of mitigation measures is provided in **Table ES-1** in the *Executive Summary*.

#### **Impact 3.4-1 Potential to have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species.**

During early preparation for the biological surveys, a total of 25 Biological Areas were identified. However, following the field surveys, only 21 Biological Areas (as listed below) remained that contained biological resources; the others were completely urbanized. No impacts to sensitive plant species are

anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of natural communities to support any plants, assuming work occurs within 40 feet of the proposed alignments as part of the construction ROW. Of the 21 Biological Areas, 20 were determined to have a potential to support sensitive plant species based on the type and quality of habitat. If present, those sensitive plant species could potentially be impacted by the Proposed Project, if vegetation within suitable habitats supporting these species is disturbed during construction. Biological Area 3 (in Group G) was determined not to be suitable habitat for sensitive plants since it supported only a small area of degraded Diegan coastal sage scrub and was surrounded by urban development. This impact is potentially significant, but would be reduced to less than significant through implementation of **Mitigation Measure MM 3.4-1a** which requires pre-construction surveys and mitigation as necessary for sensitive plant species.

No impacts to sensitive wildlife species are anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of natural communities to support habitat for any species, apart from nesting and migratory birds discussed below, and assuming work occurs within 40 feet of the proposed alignments as part of the construction ROW. All 21 Biological Areas, were determined to have a potential to support sensitive wildlife species including, but not limited to, coastal California gnatcatcher, least Bell’s vireo, or burrowing owl based on the type and quality of habitat (see **Table 3.4-7**).

**Table 3.4-7: Sensitive Wildlife Species Potentially Affected by Proposed Project**

Species	Reason	Biological Area No.
Coastal California gnatcatcher	Diegan coastal sage scrub that was determined to be of high natural quality, not intergrading with chaparral, and with California sagebrush as a sub-dominant member of the community	1, 2, 3, 7, 9, 10, 11,12, 13, 14, 15, 16/17, 18, 19, 20, 21, 22, 23, 24, 25
	USFWS-designated Critical Habitat	2, 3, 9, 10, 11, 12, 22
Least Bell’s vireo	Sufficiently dense and tall southern willow scrub	1, 2, 9, 10, 13, 19
	USFWS-designated Critical Habitat	24
Burrowing owl	Potential suitable habitat	19

If present, these sensitive species could potentially be impacted by the Proposed Project, either through direct loss of habitat, or from indirect impacts from disruption during construction. This impact is potentially significant, but would be reduced to less than significant through implementation of **Mitigation Measure MM 3.4-1b** which requires pre-construction surveys and mitigation as necessary for sensitive wildlife species.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

**Mitigation Measure MM 3.4-1a** shall apply to work in Biological Areas 1, 2, 7, 9, 10, 11, 12, 13, 14, 15, 16/17, 18, 19, 20, 21, 22, 23,24, and 25. **Mitigation Measure MM 3.4-1b** shall apply to work in all 21 Biological Areas The mitigation measures apply to all portions of the Proposed Project, both within and outside of approved MHCP and/or MSCP plans; specific measures pertaining to these plans are indicated as applicable.

**MM 3.4-1a Surveys and Mitigation for Sensitive Plant Species.** Prior to the initiation of construction, the lead agency for that Project component shall conduct habitat assessments for

sensitive plant species in areas of native habitat within construction zones, with focused surveys in areas where potentially suitable habitat for any species is identified. If the surveys determine the absence of sensitive plant species habitats or individuals, no further surveys or mitigation is required.

In the event that any sensitive plant species are found on site and it is infeasible to avoid impacts that are determined to be significant, mitigation would be required. The significance of impacts shall be based on an assessment by a professional botanist familiar with the species based on the listing status of the species and the size and regional significance of the population(s) found. The mitigation shall consist of a minimum 1:1 ratio based on plant numbers or acreage occupied by the population, as deemed appropriate, pursuant to a Mitigation and Monitoring Plan (MMP) prepared by a professional botanist. The MMP shall be consistent with recommendations provided by the regulatory agency (CDFW and/or USFWS), professional restoration ecologists, and/or professional botanists familiar with the potentially impacted species. Specific measures to be included in the MMP shall include one or more of the following elements, as appropriate for the species and population size and the type of impacts (temporary or permanent):

- Restoration of sensitive plant species on the affected site if the area is only affected temporarily during construction; this may include the collection of seed, cuttings, or entire plants from the temporary impact area prior to construction to allow for transplantation post-construction. Seeds and cuttings may be propagated at an approved nursery or botanical garden prior to transplantation.
- Protection of mitigation “set asides” and transplantation receiver site(s) as mitigation for permanent impacts, including the recordation of a conservation easement or deed restriction and related best management practices (BMPs) such as protective fencing;
- The selection of a transplantation receiver site or sites as mitigation for permanent impacts. These sites shall be chosen with an emphasis placed on both ecological suitability to allow for maximum survival rate of transplants as well as the minimization of impacts to existing quality habitat;
- Collection of seed, cuttings, or entire plants from permanent impact areas for transplantation at receiver or mitigation sites; and/or
- Propagation of the seed or cuttings salvaged from permanent impact areas by an approved nursery or botanical garden for future transplantation to receiver or mitigation sites.

If applicable to the Coalition members, mitigation ratios shall be implemented in accordance with the County of San Diego Biological Mitigation Ordinance (BMO). Impacts to sensitive plant species would need to be evaluated for compliance with the County of San Diego BMO if they are permanent, located within the County of San Diego, and do not qualify for the exemptions listed within BMO Section 86.503. If applicable, mitigation ratios shall not exceed 20 percent of the population on-site. Mitigation for any impacts shall be required at a 1:1 to 3:1 ratio depending on the sensitivity of the species and population size, as determined in a biological analysis approved by the County of San Diego Director. For impacts to sensitive plant species in Groups C and D on the County of San Diego Sensitive Plant List, mitigation shall also be in-kind at a ratio based on the sensitivity of the species and population size, as determined in a biological analysis approved by the County of San Diego Director.

**MM 3.4-1b Surveys and Mitigation for Sensitive Wildlife Species.** Prior to the initiation of construction, the lead agency for that Project component shall conduct habitat assessments for sensitive wildlife species in areas of native habitat within construction zones, with focused

surveys in areas where potentially suitable habitat for any species is identified (including but not limited to the coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl). Focused surveys shall be conducted by a qualified biologist(s) possessing valid permits as necessary, such as an Endangered Species Act Section 10(a)(1)(A) Recovery Permit (herein referred to as a USFWS permitted biologist), and following the required agency approved survey protocols. If the surveys determine the absence of sensitive wildlife species habitats or individuals, no further surveys or mitigation is required.

In the event that sensitive wildlife species are found on site and/or Critical Habitat for a sensitive species is mapped, and it is infeasible to avoid impacts, mitigation may be required. Authorization for impacts to federally-listed species (incidental take) or Critical Habitats would require a FESA Section 7 Consultation (if a federal nexus is established from an "agency action") or a Section 10(a) Habitat Conservation Plan (HCP) (in the absence of a federal nexus) through the USFWS. The Section 7 process requires a Biological Assessment and consultation with the USFWS, which would issue a Biological Opinion. USFWS may consider informal consultation for minimal or temporary impacts.

During consultation, the USFWS would gather all relevant information concerning the Proposed Project and the potential project-related impacts on the species (i.e., the project applicant would submit a species-specific Biological Assessment), prepare its opinion with respect to whether the project is likely to jeopardize the continued existence of the species (i.e., the USFWS would issue a Biological Opinion), and recommend mitigation/conservation measures where appropriate. Additionally, the need for state regulatory permits (i.e., Fish and Wildlife Code Section 1602 Streambed Alteration Agreement issued by the CDFW) would require either a Consistency Determination or Incidental Take Permit from the CDFW for state-listed species, such as least Bell's vireo, under CESA.

If coastal California gnatcatcher, least Bell's vireo, burrowing owl, or Stephen's kangaroo rat are found to occupy the site, one or more of the measures outlined below shall be incorporated into the project dependent on USFWS and/or CDFW approval. Avoidance measures shall also be incorporated to avoid impacts from construction adjacent to any occupied areas. The proposed measures may be refined during the USFWS consultation process, if required.

#### **Coastal California Gnatcatcher (CAGN)**

- Avoid CAGN occupied habitat to the greatest extent feasible and preserve any mitigation areas in-perpetuity, as appropriate (see **Mitigation Measure MM 3.4-2** below).
- Mitigate for any impacts to CAGN occupied habitat at a minimum 1:1 ratio of habitat restoration or creation either on site and/or off site on land acquired for the purpose of mitigation, or through the purchase of mitigation credits at an agency approved mitigation bank. Purchase of any mitigation credits shall occur prior to any habitat removal. Mitigation on land acquired for mitigation shall include the preservation, creation, restoration, and/or enhancement of similar habitat pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP shall be prepared prior to any impacts to the habitat, and shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. The goal of the mitigation shall be to preserve, create, restore, and/or enhance similar habitat with equal or greater function and value than the impacted habitat.
- Provide long-term management of mitigation habitat, if appropriate.
- Avoid direct mortality of individual CAGN during construction by:

- Removing any vegetation within CAGN occupied habitat outside the breeding season (the breeding season is February 15 to August 31) to the greatest extent feasible; and
- Monitoring by a qualified biologist during vegetation removal to flush out any non-breeding birds away from the clearing activities.
- Avoid indirect impacts to CAGN including noise impacts during construction and edge effects post-construction, by implementing measures to buffer and avoid human-wildlife conflicts as appropriate. Proposed measures are as follows:

*During Construction*

- Construction noise shall not exceed 60 dB(A) Leq in avoided occupied coastal California gnatcatcher habitat between February 15 and August 31 unless noise attenuation measures are implemented to reduce noise levels below this level, or the USFWS approves noise levels above this threshold. Noise attenuation measures may include, but are not limited to, establishing construction set-back buffers, equipment noise mufflers, and noise walls, as determined necessary by an acoustic specialist and in consultation with the project biologist. Monitoring by a qualified biologist shall also occur during construction to ensure noise levels are maintained below the threshold. Alternatively, construction noise levels above 60 dB(A) Leq may be approved by USFWS if monitoring by a USFWS permitted biologist for this species determines that the construction noise is not impacting the expected breeding behavior of the birds.

*Post Construction*

- Restricting access to any native habitat areas adjacent to new above-ground facilities, such as tanks, for example through installation of a fence around the perimeter and/or signs.
- Direction of all night lighting associated with new above-ground facilities away from adjacent habitat.
- Implementation of an awareness program to educate the occupants/employees of new above-ground facilities about the conservation values associated with any adjacent habitat areas.

**Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-Billed Cuckoo**

- Avoid occupied habitat to the greatest extent feasible and preserve any mitigation areas in-perpetuity, as appropriate (see **Mitigation Measure MM 3.4-2** below).
- Mitigate for any impacts to occupied habitat at a minimum 1:1 ratio of habitat restoration or creation either on site and/or off site on land acquired for the purpose of mitigation, or through the purchase of mitigation credits at an agency approved mitigation bank. Purchase of any mitigation credits shall occur prior to any habitat removal. Mitigation on land acquired for mitigation shall include the preservation, creation, restoration, and/or enhancement of similar habitat pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP shall be prepared prior to any impacts to the habitat, and shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. The goal of the mitigation shall be to preserve, create, restore, and/or enhance similar habitat with equal or greater function and value than the impacted habitat.
- Provide long-term management of mitigation habitat, if appropriate.
- Avoid direct mortality of individual Least Bell's Vireo, Southwestern Willow Flycatcher, or Western Yellow-Billed Cuckoo during construction by:

- Removing any vegetation within occupied habitat outside the breeding season (the breeding season is March 15 to September 15); and
- Monitoring by a qualified biologist during construction in adjacent areas to avoid inadvertent removal of occupied habitat.
- Avoid indirect impacts to Least Bell's Vireo, Southwestern Willow Flycatcher, or Western Yellow-Billed Cuckoo including noise impacts during construction by implementing the following proposed measures:
  - Construction limits in and around potential habitat shall be delineated with flags and fencing prior to the initiation of any grading or construction activities.
  - Prior to grading and construction a training program shall be developed and implemented to inform all workers on the project about listed species, sensitive habitats, and the importance of complying with avoidance and minimization measures.
  - All construction work shall occur during the daylight hours. The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours determined by the City.
  - During all excavation and grading on site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors (i.e., territory for Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-Billed Cuckoo) nearest the project site.
  - The construction contractor shall stage equipment in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.
  - Noise from construction activities shall be limited to the extent possible through the maximum use of technology available to reduce construction equipment noise. Project-generated noise, both during construction and after the development has been completed, shall be in compliance with the requirements outlined in any local noise regulations to ensure that noise levels that the riparian area is exposed to do not exceed noise standards for residential areas.
  - The project shall be designed to minimize exterior night lighting while remaining compliant with local ordinances related to street lighting. Any necessary lighting (e.g., to light up equipment for security measures), both during construction and after construction has been completed, will be shielded or directed away from the nesting area and are not to exceed 0.5 foot-candles. Monitoring by a qualified lighting engineer (attained by the lead agency for that project component) shall be conducted as needed to verify light levels are below 0.5 foot-candles required within identified, occupied least Bell's vireo territories, both during construction and at the onset of operations. If the 0.5 foot-candles requirement is exceeded, the lighting engineer shall make operational changes and/or install a barrier to alleviate light levels during the breeding season.

### **Burrowing Owl**

- Focused surveys for burrowing owl shall be conducted during the breeding season by a qualified biologist with experience conducting burrowing owl surveys, prior to vegetation clearing or ground disturbing activities. Surveys shall be conducted in suitable habitat as

determined by the qualified biologist based on a field assessment of site conditions at the time of the survey, including habitats such as the ruderal and non-native grassland plant communities. The survey methodology shall follow the protocol provided as Appendix D of the Staff Report on Burrowing Owl Mitigation published by the California Department of Fish and Wildlife (March 7, 2012). Pursuant to this protocol four survey visits are required, including at least one site visit between February 15 and April 15, and a minimum of three survey visits at least three weeks apart between April 15 and July 15 (with at least one visit after June 15). The results of the focused surveys are typically considered valid for one year after completion.

- If burrowing owls are determined present following focused surveys, occupied burrows shall be avoided to the greatest extent feasible, following the guidelines in the 2012 Staff Report on Burrowing Owl Mitigation including, but not limited to, conducting pre-construction surveys, avoiding occupied burrows during the nesting and non-breeding seasons, implementing a worker awareness program, biological monitoring, establishing avoidance buffers, and flagging burrows for avoidance with visible markers. If occupied burrows cannot be avoided, acceptable methods may be used to exclude burrowing owl either temporarily or permanently, pursuant to a Burrowing Owl Exclusion Plan that shall be prepared and approved by CDFW. The Burrowing Owl Exclusion Plan shall be prepared in accordance with the guidelines in the Staff Report on Burrowing Owl Mitigation. Habitat mitigation pursuant to the MSCP shall also be provided for occupied habitats subject to the approval of the implementing agency, at a minimum 1:1 ratio.

#### **Stephen's Kangaroo Rat and Other Sensitive Small Mammal Species**

- Avoid occupied or suitable habitat to the greatest extent feasible and preserve any mitigation areas in perpetuity, as appropriate (see **Mitigation Measure MM 3.4-2** below).
- Mitigate for any impacts to occupied habitat at a minimum 2:1 ratio of habitat restoration or creation either on site and/or off site on land acquired for the purpose of mitigation, or through the purchase of mitigation credits at an agency approved mitigation bank. Purchase of any mitigation credits shall occur prior to any habitat removal. Mitigation on land acquired for mitigation shall include the preservation, creation, restoration, and/or enhancement of similar habitat pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP shall be prepared prior to any impacts to the habitat, and shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. The goal of the mitigation shall be to preserve, create, restore, and/or enhance similar habitat with equal or greater function and value than the impacted habitat.
- Provide long-term management of mitigation habitat.
- Avoid direct mortality of individual sensitive small mammals during construction by:
  - Installation of exclusionary fencing at the limits of construction within suitable habitat areas; and
  - Live-trapping within suitable habitat in construction areas and the relocation of trapped individuals to one or more biologically appropriate receiver sites (defined as suitable habitat that is known to be unoccupied, is below population carrying capacity levels, and/or where scrub vegetation has been restored and colonization by the species has not occurred). Trapping shall be conducted by a USFWS permitted or approved biologist.

- Avoid indirect impacts as a result of edge effects post-construction for new above-ground facilities adjacent to suitable habitat areas by implementing measures to buffer and avoid human-wildlife conflicts as appropriate, such as installation of fencing or signage to restrict access, shielding night lighting away from the habitat areas, and educating the occupants/employees of the facilities as to the conservation value of the habitat areas.

#### Significance Determination after Mitigation

Less than significant

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### **Impact 3.4-2 Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community**

Construction of project facilities has the potential to affect riparian habitats and other sensitive natural communities. The sensitive natural communities considered in this analysis include: riparian habitat and other sensitive plant communities as categorized in the CNDDDB, the MHCP, the draft North County MSCP, or the South County MSCP plans.

The Study Area contains several different types of sensitive communities, including riparian habitat, which is defined as potentially jurisdictional drainages, riparian habitat, and wetlands. **Table 3.4-2** (above) lists 14 Biological Areas that contain potentially jurisdictional drainages, riparian habitat, and wetlands; these areas include Groups C, G, H, I, J, K, and O.

The MSCP and MHCP plans, as well as the CNDDDB database, identify other sensitive natural communities and preservation areas. Those Biological Areas in which at least one sensitive community was found within the study area are listed in **Table 3.4-1**; these areas include Groups C, G, H, I, J, K, and O. Not all of the sensitive communities described in the Biological Areas are so designated by CDFW in the CNDDDB. Communities that not identified as sensitive by CNDDDB, but are targeted for conservation within the MHCP and MSCP, include northern mixed chaparral, chamise chaparral, southern maritime scrub, non-native annual grassland, oak woodland, and freshwater marsh. In three locations outside Biological Areas and within the draft North County MSCP, the alignments pass through, or within 40 feet of, non-native grassland; however, the extent of the non-native grassland is limited. Despite the limited nature of non-native grassland, this community is targeted for conservation within the MSCP; as such, impacts to this habitat may require mitigation. Non-native grassland habitat is present within or in proximity to two of the groups, Group G and Group I.

Any impacts to riparian habitat or sensitive plant communities are considered potentially significant. **Mitigation Measure MM 3.4-2** would ensure that impacts to sensitive communities are minimized and that if impacts cannot be avoided, compensation will be provided in accordance with the MSCP and MHCP to reduce impacts to less-than-significant levels.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.4-2** shall apply to all Proposed Project components.

**MM 3.4-2 Native Habitat Compensation.** Prior to the issuance of any grading permit in areas determined to support sensitive habitat communities, the lead agency for that Project component shall conduct a field assessment to confirm the presence/absence and extent of the communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Mitigation and Monitoring Plan (MMP) shall be prepared to offset impacts to those



sensitive plant communities. The MMP shall focus on the restoration of equivalent habitat (for temporary impacts) or the restoration, enhancement or creation of equivalent habitats outside the impact area (for permanent impacts). In addition, the MMP shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. Mitigation for impacts shall be offset in one or more of the following ways:

- Transplantation of the plant community species,
- Seeding of the plant community species,
- Planting of container plants of the plant community species, and/or
- Salvage of duff and seed bank and subsequent dispersal.
- Off-site preservation at an established mitigation bank or other area dedicated for conservation.

Mitigation ratios shall be 1:1 for temporary impacts by restoring to pre-project conditions. Ratios for permanent impacts shall be consistent with MSCP and MHCP ratios as outlined below for areas within approved subarea plans. For areas outside approved subarea plans, sensitive communities requiring mitigation would be those identified by CDFW as 'high priority'.<sup>3</sup> Mitigation for CDFW high priority communities shall be at a minimum 1:1 ratio for sensitive upland plant communities (the ratio of mitigation for upland plant communities would be subject to approval by CDFW and/or USFWS if occupied by sensitive species) and at a minimum 2:1 ratio for sensitive riparian and wetland communities (the ratio of mitigation for riparian and wetland communities proposed for impacts within areas under the jurisdiction of CDFW, USACE and/or RWQCB would be subject to approval by the regulatory agencies during the permitting process). If applicable to the Coalition members, mitigation ratios shall be consistent with MSCP and MHCP as follows:

#### Draft North County MSCP

The North County MSCP subarea plan is in draft form, negotiations are ongoing and final approval is pending at this time. In its current draft, the mitigation requirements apply to both lands mapped as Pre-Approved Mitigation Areas (PAMA) and outside PAMA areas. The land conservation categories and mitigation ratios are provided below, and are subject to change in the final plan document.

Land conservation categories:

- Pre-Approved Mitigation Area (PAMA)
- Outside PAMA
- Pre-negotiated (Hardlined) Take Authorized Areas
- Preserve Areas
- Special Districts

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<sup>3</sup> [http://www.dfg.ca.gov/biogeodata/vegcamp/natural\\_communities.asp](http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp)

Mitigation Ratios:

Habitat Tier	Impacted land within the PAMA	Impacted land outside the PAMA
Tier I <sup>1</sup>	2:1	1:1
Tier II <sup>2</sup>	1:1.5	1:1
Tier III <sup>3</sup>	1:1	0.5:1

<sup>1</sup> For plant communities identified within the Biological Areas, Tier I includes Freshwater marsh, southern maritime chaparral, southern willow scrub, and coast live oak woodland.

<sup>2</sup> For plant communities identified within the Biological Areas, Tier II includes Diegan coastal sage scrub, Diegan coastal sage scrub: Baccharis dominated, chamise chaparral

<sup>3</sup> For plant communities identified within the Biological Areas, Tier III includes northern mixed chaparral and non-native (annual) grassland – Tier III

South County MSCP Conserved Plant Communities

The South County MSCP plan is approved and being implemented at this time. The required mitigation ratios for each habitat tier under this plan are provided below and apply to areas that meet the criteria for biological resource core areas (including but not limited to PAMAs identified for conservation, major and minor amendment areas for which specific conservation lands have not yet been identified, wildlife linkages/corridors, lands that contain a high number of sensitive species, and so on (see comprehensive list in Sec. 86.506 of the BMO)).

Tier 1	Impacted Land	
Conserved Land	Meets criteria for biological resource core area	Does not meet criteria for biological resource core area
Meets criteria for biological resource core area*	2:1	1:1
Does not meet criteria for biological resource core area	3:1	2:1

Note: For plant communities identified within the Biological Areas, Tier 1 includes fresh water marsh, southern maritime chaparral, southern willow scrub and coast live oak woodland. Fresh water march and southern maritime chaparral required in-kind mitigation.

Tier 2	Impacted Land	
Conserved Land	Meets criteria for biological resource core area	Does not meet criteria for biological resource core area
Meets criteria for biological resource core area*	1.5:1	1:1
Does not meet criteria for biological resource core area	2:1	1.5:1

Note: For plant communities identified within the Biological Areas, Tier 2 includes Diegan coastal sage scrub, Diegan coastal sage scrub: Baccharis dominated, and chamise chaparral.

Tier 3	Impacted Land	
	Meets criteria for biological resource core area	Does not meet criteria for biological resource core area
Conserved Land		
Meets criteria for biological resource core area*	2:1	1:1
Does not meet criteria for biological resource core area	3:1	2:1

Note: For plant communities identified within the Biological Areas, Tier 3 includes northern mixed chaparral and non-native (annual) grassland. Non-native (annual) grassland requires mitigation at a 0.5:1 ratio.

\*Biological resource areas are defined in the County’s Biological Mitigation Ordinance.

MHCP Conserved Plant Communities

The MHCP Plan is approved and being implemented at this time. The required mitigation ratios for unavoidable impacts to each habitat category under this plan are pursuant to specific mitigation criteria defined in the subarea plans, but shall be at ratios no less than those provided below.

For impacts to Category A communities, mitigation shall consist of restoration or creation of new habitat areas to meet the “no net loss” goal. It is assumed that restored or new areas would not displace nor convert other natural habitat areas to wetland vegetation, but would replace disturbed or non-habitat areas. Restored habitat areas are assumed to be in-kind and located in an FPA, generally in the same watershed and in the relative vicinity of the impacted habitat.

For impacts to Category B, C, D, and E communities, mitigation shall consist of permanent conservation of habitat in an FPA. In some cases, habitat creation or restoration may also qualify as mitigation. For Category B communities, restored or conserved habitat will be in-kind. For Category C, D and E, conserved habitat may be out-of-kind, if the conserved habitat is located in an FPA, or outside an FPA, if it is shown to be a viable addition to the regional preserve system.

Habitat Category	Location of Impacted Habitat	
	Inside FPA <sup>1</sup>	Outside FPA
<b>Category A: Wetland/Riparian</b> Coastal salt marsh, alkali marsh, freshwater marsh, estuarine, salt pan/mudflats, riparian forest, riparian woodland, riparian scrub, vernal pool, disturbed wetland, flood channel, or fresh water	No net loss – see table below	
<b>Category B: Rare Upland</b> Beach, southern coastal bluff scrub, maritime succulent scrub, southern maritime chaparral, Engelmann oak woodland, coast live oak woodland, or native grassland	3:1	3:1
<b>Category C: Coastal Sage Scrub</b> Coastal sage scrub or coastal sage scrub/chaparral mix	2:1	2:1
<b>Category D: Chaparral</b> Chaparral excluding southern maritime chaparral\)	1:1	1:1
<b>Category E: Annual Grasslands</b> Annual non-native grassland	0.5:1	0.5:1
<b>Category F: Other Lands</b> Disturbed land including ruderal, agricultural land, or eucalyptus	None <sup>2</sup>	None <sup>2</sup>

<sup>1</sup> Primary conservation actions for natural habitat inside a FPA are assumed to be impact avoidance and minimization of unavoidable impacts. Inside a FPA, habitat that is conserved through impact avoidance may be used, subject to the jurisdiction’s mitigation guidelines, to satisfy the mitigation obligation associated with habitat impacts of development elsewhere onsite.

<sup>2</sup> A local jurisdiction may require mitigation or levy of an in-lieu mitigation fee for impacts to this habitat category if it finds that such actions are necessary to meet the goals of the MHCP or the subarea plan.

Wetland Vegetation Community <sup>1</sup>	Mitigation Ratio <sup>2</sup>
Coastal salt marsh	4:1
Alkali marsh	4:1
Estuarine	4:1
Saltpan/mudflats	4:1
Oak riparian forest	3:1
Riparian forest	3:1
Riparian woodland	3:1
Riparian scrub	1:1 to 2:1
Fresh water	1:1
Freshwater marsh	1:1 to 2:1
Flood channel	1:1 to 2:1
Disturbed wetlands	1:1 to 2:1
Vernal pool	2:1 to 4:1

<sup>1</sup> These communities are subject to the goal of no net loss in acreage, function, and biological value. The highest priority will be given to impact avoidance and minimization. Replacement of habitat subject to unavoidable impact will occur through restoration or creation of substitute habitat areas, generally of the same kind and in the vicinity of the impacted habitat.

<sup>2</sup> Mitigation ratios applicable in areas subject to review by the California Coastal Commission will be addressed in the cities' respective subarea plans. Such ratios may differ from those noted here.

#### Significance Determination after Mitigation

Less than significant.

#### **Impact 3.4-3 Potential to have a substantial adverse effect on federally protected wetlands**

The Biological Areas surveyed for potential impacts to federally-protected wetlands include all components of the Proposed Project, including pipelines, treatment facilities, and any additional facilities for which the location is known as specified in *Chapter 2, Project Description*. The description below contains specific information regarding impacts that could take place as a result of pipeline construction, given that this type of construction would have the largest potential to impact wetlands; however, this analysis also includes potential impacts to wetlands that are adjacent or within proximity to other structures such as treatment plants. Biological Areas that include treatment plants or other above-ground facilities within proximity to wetlands include: 1 (San Luis Rey WWTP), 2 and 3 (El Corazon Site), 11 (Wanket Tank), 12 (Wiegand Tank), and 14/15 (Harmony Grove WRF).

No impacts to wetlands or other potentially jurisdictional features are anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of such features, assuming work is limited to within 40 feet of the areas studied in this assessment as part of the construction ROW. Based on field reconnaissance, a review of aerial photography, and preliminary locations for project facilities, nine potential wetland areas in the form of coastal and inland freshwater marshes or southern willow scrub were observed within the Biological Areas of the Study Area. Formal jurisdictional delineations would need to be conducted at these locations to confirm the presence/absence and extent of any jurisdictional areas regulated by the USACE, RWQCB and/or CDFW.

In addition to potential wetlands, at least 13 potentially jurisdictional drainage features were observed in 12 Biological Areas (No. 1 had two potential drainages) within the Study Area that may be regulated by the USACE, RWQCB, and/or CDFW. Formal jurisdictional delineations would need to be conducted at

these locations to confirm the presence/absence and extent of any areas under USACE, RWQCB, and/or CDFW jurisdiction.

Wetland and non-wetland drainage features are regulated by USACE under Section 404 of the CWA, in addition to Section 401 of the CWA regulated by the San Diego RWQCB and Section 1602 of the California Fish and Game Code regulated by CDFW. Based on the Proposed Project activities, it is anticipated that impacts to jurisdictional wetlands and drainages could be avoided by the use of existing overhead bridge crossings or by trenchless methods (jack and boring or HDD). If overhead crossings are implemented, no impacts would be expected to any wetland or non-wetland features.

If the trenchless method is implemented, jack-and-bore or HDD activities would occur outside of USACE/RWQCB/CDFW jurisdiction, thereby avoiding direct impacts to jurisdictional waters. Although no direct impacts to jurisdictional waters are anticipated, there is a slight potential for impacts as a result of “frac-out” (uncontrolled release of drilling fluids into the environment). Because of the potential for frac-out CDFW may require a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code for any stream crossings using trenchless construction techniques. **Mitigation Measure MM 3.4-3** ensures that any potential impacts to jurisdictional features are minimized. With implementation of this mitigation measure, potential impacts would be reduced to a less than significant level.

If direct impacts cannot be avoided and an open cut method is implemented, permits would be required from the regulatory agencies if the drainage features are determined to be jurisdictional, including a CWA Section 404 permit from USACE, a CWA Section 401 permit from RWQCB, and/or a Streambed Alteration Agreement permit from CDFW. Impacts from the open cut method would involve trenching the jurisdictional features to install the pipe below grade, and backfilling the trench once installation is complete. Impacts from trenching would be temporary and the jurisdictional features would be restored to pre-project conditions. Restoring the temporary impact areas to pre-project conditions would be expected to satisfy the compensatory mitigation requirements pursuant to the regulatory permitting processes, subject to approval by the agencies. Any permanent impacts to the jurisdictional features would likely require on- and/or off-site replacement (e.g., at an agency-approved mitigation bank) at a ratio of no less than 1:1.

Impacts would also need to be in compliance with the County of San Diego BMO and the Resource Protection Ordinance (RPO) for areas the County of San Diego defines as wetlands, which includes areas exhibiting one or more of the following: presence of hydrophytes, undrained hydric soils, and/or saturation or inundation of water at some time during the growing season of each year.<sup>4</sup> The RPO outlines permitted uses in wetland, requirements for providing wetland buffers and uses within the buffers. The draft North County MSCP also outlines guidelines for buffer widths to be determined based on the functions and values present in the wetland area that it serves to protect, ranging from no less than 50 feet in lower quality wetlands to 100-200 feet for higher quality wetlands.

**Mitigation Measure MM 3.4-3** ensures that any potential impacts to jurisdictional features are minimized. Through compliance with these existing regulations, impacts would be less-than-significant.

#### Significance Determination before Mitigation

Potentially significant

#### Mitigation Measures

**Mitigation Measure MM 3.4-3** shall apply to Biological Areas 1, 2, 3, 7, 9, 13, 15, 16/17, 19, 21, 23, and 24.

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<sup>4</sup> Ordinance No. 9830 (New Series). An Ordinance Amending and Codifying The Resource Protection Ordinance, A compilation of Ordinance Nos. 7968, 7739, 7685 and 7631.

**MM 3.4-3 Complete Jurisdictional Determination and Mitigation as Applicable.** Prior to any ground disturbing activities, the lead agency for that Project component shall conduct a formal jurisdictional delineation to confirm the presence and extent of features regulated by USACE, RWQCB, and/or CDFW. If implementation of the project component results in unavoidable impacts to jurisdictional waters, the lead agency for that Project component shall obtain a CWA Section 404 permit from USACE, a CWA Section 401 permit from RWQCB, and/or Streambed Alteration Agreement permit from CDFW. The following mitigation shall be incorporated into the permitting, subject to approval by the regulatory agencies:

- On- and/or off-site replacement of USACE/RWQCB jurisdictional “waters of the U.S.”/“waters of the State” at a ratio no less than 1:1 (“no net loss”) for permanent impacts, and for temporary impacts to restore the impact area to pre-project conditions (i.e., pre-project contours and revegetate as appropriate). Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank.
- On- and/or off-site replacement of CDFW jurisdictional streambed and associated riparian habitat at a ratio no less than 2:1 for permanent impacts, and for temporary impacts to restore the impact area to pre-project conditions (i.e., pre-project contours and revegetate as appropriate). Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank.

If potential jurisdictional features are avoided through jack and boring and/or HDD methods, the following measure shall be incorporated into the project:

- Prior to any ground disturbing activities, the USACE, RWQCB, and CDFW shall be notified of the proposed jack and boring and/or horizontal directional drilling (HDD) activities beneath jurisdictional features. If required by CDFW, a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code would be obtained. A plan to deal with potential frac-out release or other emergency shall be prepared by the contractor (or project engineer) for submittal to USACE, RWQCB, and CDFW, if requested, prior to the activities outlining the project as well as the provisions in place to avoid/contain pollutants in case of an accident (e.g., should frac-out release occur).

Impacts and avoidance of wetland areas shall also comply with the County of San Diego County Biological Mitigation Ordinance and Resource Protection Ordinance, as applicable to the Coalition members, with regards to permitted uses and buffer avoidance widths.

#### Significance Determination after Mitigation

Less than significant.

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#### **Impact 3.4-4 Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.**

Implementation of the Proposed Project would result in potential disturbances to local wildlife movement during construction, but those species adapted to urban areas would be expected to persist on site following construction, particularly within the open space areas. In the major drainages where wildlife corridors exist, pipelines would be installed by jack and boring or HDD to avoid surface disturbance and therefore impacts to wildlife would be less than significant. The Study Area is not known to support wildlife nursery area(s) and no impacts would occur, therefore no mitigation measures would be required. Pipelines would be buried and thus not inhibit wildlife movement in undeveloped areas after their

installation has been completed. None of the aboveground facilities would interfere with a wildlife corridor. The Project thus would not have an adverse effect on wildlife movement.

The Study Area supports potential nesting habitat for songbirds and raptors in the trees and shrubs within landscaped areas and in native communities within the Biological Areas. Disturbing or destroying active nests of migratory birds is a violation of the MBTA. In addition, nests and eggs are protected under Fish and Game Code Section 3503. Nesting activity typically occurs from February 15 to August 31 for songbirds, and January 15 to August 31 for raptors. Where possible, construction activities, especially vegetation removal, should be conducted outside of the nesting season. However, if construction activities must occur during the nesting season, impacts are considered potentially significant in the absence of mitigation. **Mitigation Measure MM 3.4-4** would ensure impacts to nesting songbirds and raptors are avoided or minimized. With the implementation of **Mitigation Measure MM 3.4-4**, potential impacts would be reduced to a less-than-significant level.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.4-4** shall apply to all construction of project facilities.

**MM 3.4-4 Avoid Migratory Bird Nesting Season or Complete Surveys Before Construction Activities.** If feasible, construction within or adjacent to vegetation suitable for migratory birds shall occur outside the nesting season (i.e., construction shall occur between September 1 through January 14) to avoid potential direct and indirect impacts to nesting birds. If vegetation removal is required during the nesting season, a qualified biologist shall survey all suitable habitats for the presence of nesting birds before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) around the nest shall be delineated, flagged, and avoided until the nesting cycle is complete, or as determined appropriate by the biologist. Biological monitoring shall also occur until the nesting cycle is complete.

#### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.4-5 Potential to conflict with local policies or ordinances protecting biological resources**

Trees are located throughout the Study Area within the developed (i.e., landscaped) and undeveloped portions (i.e., Biological Areas) portions. At this time the nature, number, and locations of any trees that may require removal is unknown. The cities of Escondido, Carlsbad, Encinitas, Vista, San Marcos, and Del Mar have tree ordinances protecting certain tree types, and requiring permits for removal and mitigation thereof (see **Table 3.4-8**).

**Table 3.4-8: Local Policies and Ordinances Subject to Proposed Project**

Jurisdiction	Policy/Ordinance	Group	Treatment Plant <sup>2</sup>
City of Oceanside		G	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
City of Carlsbad	Tree Protection Ordinance	A	Carlsbad WRF Gafner WRF <sup>2</sup> Encina WPCF Meadowlark WRF and AWT
City of Encinitas	Tree Protection Ordinance	E, H	San Elijo WRF
City of Escondido	Tree Protection Ordinance	C, D, I, M	HARRF Escondido AWTF Harmony Grove WRF
City of Vista	Tree Protection Ordinance	O	None
City of San Marcos	Tree Protection Ordinance	I, M, N	None
City of Solana Beach		H, K	None
County of San Diego		H, J, K, O	None

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

<sup>2</sup> If there are no trees within the area of the plant expansion, such as at the Gafner WRF, the Tree Protection Ordinance would not apply.

Any impacts to protected trees would be considered potentially significant in the absence of mitigation. Therefore, **Mitigation Measure MM 3.4-5**, which requires a tree inventory and may require a Tree Protection Plan or tree removal permit, would be required to ensure impacts to trees are minimized. With the implementation of this mitigation measure, potential impacts would be reduced to a less-than-significant level.

Through compliance with the MSCP and MHCP provisions, the Proposed Project would also be consistent with any relevant policies from applicable General Plans (refer to **Table 3.4-9**, below) or municipal codes regarding biological resources. As such, it is not anticipated that the Proposed Project would potentially conflict additional local policies or ordinances protecting biological resources.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

**Mitigation Measure MM 3.4-5** shall apply to all construction of project facilities in Groups A, C, D, E, G, H, I, J, K, M, N, and O per **Table 3.4-8**.

**MM 3.4-5 Conduct Inventory of Trees Having the Potential to Be Impacted, Prepare Tree Protection Plans, and Acquire Permits as Required by Applicable Municipality or Jurisdiction.** Prior to any ground disturbing activities, the lead agency for that Project component shall have a certified arborist conduct a tree inventory of any regulated trees within the project component’s impact area in accordance with Tree Protection Ordinances of the applicable municipality or jurisdiction. Permits shall be obtained, as needed, for tree removal. At such time any and all requirements shall be completed, including but not limited to the preparation of tree protection plans or acquisition of permits.



#### Significance Determination after Mitigation

Less than significant.

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#### **Impact 3.4-6 Potential to conflict with an adopted or approved habitat conservation plan**

The majority of the Study Area is located within the MHCP and/or MSCP, the majority being within the MHCP and the draft North County MSCP and with only a few portions within the South County MSCP. Biological Area Nos. 13 and 20 lie within the Metro-Lakeside-Jamul Segment of the adopted South County MSCP. Biological Areas Nos. 14, 15, 16, 17, 18, and 19 lie within the draft North County MSCP. Adopted or draft City-specific MSCP subarea plans also exist, for example adopted plans in the cities of Carlsbad, San Diego, Del Mar, Oceanside, and Escondido; and draft plans in San Marcos and Fairbanks Ranch.

The analysis in this PEIR is based on the foundation documents for the MHCP and MSCPs; specific City subarea plans were not directly considered since this is a programmatic analysis. However, since the City subarea plans are based on the MSCP and MHCP plans, they are therefore considered consistent in terms of sensitive biological resources and mitigation required; City subarea plans may provide additional details or guidelines on mitigation requirements and should be considered during project implementation. In addition, the Proposed Project would be required to comply with existing state and federal laws and regulations pertaining to biological resources. For these reasons, the analysis in this report is considered adequate to identify potential habitat conservation requirements pertaining to plant communities and targeted plant and wildlife species; it is expected that a detailed habitat analysis would occur during the project-specific phase.

Sensitive natural communities within the South County MSCP and draft North County MSCP would be avoided to the greatest extent feasible; unavoidable impacts are likely to be limited to temporary constructed-related activities with any affected areas restored following completion. For permanent unavoidable impacts, **Mitigation Measure MM 3.4-2** is expected to provide adequate compensation because it is in compliance with the MSCP and MHCP required mitigation ratios. In addition, the Proposed Project would be required to comply with existing regulations and permitting requirements, such as those pertaining to sensitive plant and wildlife species and jurisdictional drainages that are also resources conserved under the MSCP and MHCP. With incorporation of mitigation, the Proposed Project is not expected to conflict with any provisions of the MSCP or MHCP plans.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.4-2** (above) shall apply to all Proposed Project components.

#### Significance Determination after Mitigation

Less than significant.

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**Table 3.4-9: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
The City of Oceanside’s General Plan Environmental Resource Management Element: <ul style="list-style-type: none"> <li>• <b>Goal:</b> Evaluated the state of the environment and formulate a program of planned management, wise utilization, and preservation of our natural resources to ensure the health, safety, and welfare of present and future generations.                             <ul style="list-style-type: none"> <li>○ <b>Vegetation and Wildlife Habitats Objective 1:</b> Conserve and enhance vegetation and wildlife habitats, especially areas of rare, endangered, or threatened species.</li> </ul> </li> </ul>	G	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
The City of Carlsbad’s General Plan Open Space and Conservation Element: <ul style="list-style-type: none"> <li>• <b>A.7:</b> A city which makes every possible effort to preserve sensitive flora and fauna.</li> <li>• <b>A.9:</b> A city which protects wildlife habitat through the preservation and enhancement of significant feeding, nesting, and breeding areas.</li> <li>• <b>A.10:</b> A city which preserves, to the maximum extent possible, the existing level of biodiversity.</li> </ul> Relevant objectives include: <ul style="list-style-type: none"> <li>• <b>B.6:</b> To minimize environmental impacts to sensitive resources within the City.</li> <li>• <b>B.11:</b> To protect rare, threatened or endangered plant and animal communities in accordance with the Habitat Management Plan.</li> <li>• <b>B.12:</b> To ensure that whenever possible, new development does not adversely impact sensitive environmental resources.</li> <li>• <b>B.13:</b> To coordinate city habitat management planning efforts with federal, state and local agencies, and other planning efforts of the City.</li> </ul> Relevant Policies and Programs include: <ul style="list-style-type: none"> <li>• <b>C.18:</b> Conserve and encourage the use of appropriate forms of vegetation and sensitive grading techniques needed to: (a) prevent erosion, siltation and flooding, (b) protect air and water resources, and (c) protect and enhance visual resources.</li> <li>• <b>C.19:</b> Preserve natural resources by: protecting fish, wildlife, and vegetation habitats; retaining the natural character of waterways, shoreline features, hillsides, and scenic areas and viewpoints; safeguarding areas for scientific and educational research; respecting the limitations for air and water resources to absorb pollution; encouraging legislation that will assist logically in preserving these resources and, protecting archeological and paleontological resources.</li> <li>• <b>C.25:</b> Coordinate the protection of wetlands, woodlands, riparian areas, and other sensitive habitat areas with appropriate state and federal protection agencies.</li> <li>• <b>C.33:</b> Assure that, at minimum, there is no net loss of wetlands acreage or value, and the net gain of wetlands acreage is the long-term goal of the City.</li> <li>• <b>C.34:</b> Require all development projects to comply with the city’s Habitat Management Plan.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Encinitas</b></p> <p>The City of Encinitas' General Plan Resource Conservation Element:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3:</b> The City will make every effort possible to preserve significant mature trees, vegetation and wildlife habitat within the Planning Area. (Coastal 30240) <ul style="list-style-type: none"> <li>○ <b>Policy 3.1:</b> Mature trees of community significance cannot be removed without City authorization.</li> <li>○ <b>Policy 3.2:</b> Mature trees shall not be removed or disturbed to provide public right- of- way improvements if such improvements can be deferred, redesigned, or eliminated. This policy is not meant to conflict with the establishment of riding/ hiking trails and other natural resource paths for the public good, or with the preservation of views.</li> <li>○ <b>Policy 3.6:</b> Future development shall maintain significant mature trees to the extent possible and incorporate them into the design of development projects.</li> </ul> </li> <li>• <b>Goal 9:</b> The City will encourage the abundant use of natural and drought tolerant landscaping in new development and preserve natural vegetation, as much as possible, in undeveloped areas. Coastal Act/ 30240/ 30251) <ul style="list-style-type: none"> <li>○ <b>Policy 9.4:</b> Encourage and adopt standards for the use of drought tolerant and/ or natural landscaping and efficient irrigation systems throughout the City. Coastal Act/ 30231/ 30240)</li> <li>○ <b>Policy 9.8:</b> Brush clearing and grading for agricultural, construction and non- construction purposes shall be subject to City review. ( Coastal Act/ 30240)</li> </ul> </li> <li>• <b>Goal 10:</b> The City will preserve the integrity, function, productivity, and long term viability of environmentally sensitive habitats throughout the City, including kelp-beds, ocean recreational areas, coastal water, beaches, lagoons and their up-lands, riparian areas, coastal strand areas, coastal sage scrub and coastal mixed chaparral habitats. (Coastal Act/ 30230/ 30231/ 30240) <ul style="list-style-type: none"> <li>○ <b>Policy 10.6:</b> The City shall preserve and protect wetlands within the City's planning area. "Wetlands" shall be defined and delineated consistent with the definitions of the U. S. Fish and Wildlife Service, U. S. Army Corps of Engineers, the Coastal Act and the Coastal Commission Regulations, as applicable, and shall include, but not be limited to, all lands which are transitional between terrestrial and aquatic systems where the water table is usually at or: near the surface or the land is covered by shallow water. There shall be no net loss of wetland acreage or resource value as a result of land use or development, and the City's goal is to realize a net gain in acreage and value whenever possible.</li> <li>○ <b>Policy 10.9:</b> The City will encourage the preservation and the function of San Elijo Lagoon and Batiquitos Lagoon and their adjacent uplands as viable wetlands, ecosystems and habitat for resident and migratory wildlife, by prohibiting actions (subject to the detailed provisions of RM policy 10.6) which: <ul style="list-style-type: none"> <li>▪ involve wetland fill or increased sedimentation into wetlands;</li> <li>▪ adversely decrease stream flow into the wetlands;</li> <li>▪ reduce tidal interchange;</li> <li>▪ reduce internal water circulation; or</li> <li>▪ adversely affect existing wildlife habitats. (Coastal Act/ 30231)</li> </ul> </li> </ul> </li> </ul>	<p>E, H</p>	<p>San Elijo WRF</p>

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Escondido</b>		
<p>The City of Escondido's General Plan Resource Conservation Element:</p> <ul style="list-style-type: none"> <li>• <b>Goal 1:</b> Preservation and enhancement of Escondido's open spaces and significant biological resources as components of a sustainable community. <ul style="list-style-type: none"> <li>○ <b>Biological and Open Space Resources Policy 1.6:</b> Preserve and protect significant wetlands, riparian, and woodland habitats as well as rare, threatened or endangered plants and animals and their habitats through avoidance. If avoidance is not possible, require mitigation of resources either on- or off-site at ratios consistent with State and federal regulations, and in coordination with those agencies having jurisdiction over such resources.</li> <li>○ <b>Biological and Open Space Resources Policy 1.7:</b> Require that a qualified professional conduct a survey for proposed development projects located in areas potentially containing significant biological resources to determine their presence and significance. This shall address any flora or fauna of rare and/or endangered status, declining species, species and habitat types of unique or limited distribution, and/or visually prominent vegetation.</li> <li>○ <b>Biological and Open Space Resources Policy 1.8:</b> Require that proposed development projects implement appropriate measures to minimize potential adverse impacts on sensitive habitat areas, such as buffering and setbacks. In the event that significant biological resources are adversely affected, consult with appropriate state and federal agencies to determine adequate mitigation or replacement of the resource.</li> <li>○ <b>Biological and Open Space Resources Policy 1.9:</b> Encourage proposed development projects to minimize the removal of significant stands of trees unless needed to protect public safety and to limit tree removal to the minimum amount necessary to assure continuity and functionality of building spaces.</li> <li>○ <b>Biological and Open Space Resources Policy 1.10:</b> Prohibit any activities in riparian areas other than those permitted by appropriate agencies to protect those resources.</li> <li>○ <b>Biological and Open Space Resources Policy 1.12:</b> Promote the use of native plants for public and private landscaping purposes within the city.</li> </ul> </li> </ul>	C, D, I, M	HARRF Escondido AWTF Harmony Grove WRF
<b>City of Vista</b>		
<p>The City of Vista's General Plan:</p> <ul style="list-style-type: none"> <li>• <b>RCS Goal 5:</b> Preserve and protect, to the extent practicable, the range of natural biological communities and species native to the City and region; and conserve viable populations of endangered, threatened, and key sensitive species and their habitats. <ul style="list-style-type: none"> <li>○ <b>RCS Policy 5.1:</b> Continue to require development that is proposed in areas identified or expected to contain sensitive vegetation and wildlife communities to consult with wildlife agencies (i.e., United States Fish and Wildlife Service [USFWS] and the California Department of Fish and Game [CDFG]) early in the development review process regarding special status plant and wildlife species; conduct biological assessments, as appropriate; and develop and implement project-specific mitigation measures that are completed and functional prior to impacts, to mitigate impacts on threatened and endangered species.</li> <li>○ <b>RCS Policy 5.2:</b> In areas that are adjacent to sensitive vegetation and/or wildlife communities, continue to require development, uses, and activities to be designed and managed to ensure minimal impacts to those resources. Examples include, but are not limited to the following: <ul style="list-style-type: none"> <li>▪ Provide buffers or barriers between the development and the biological resources. Buffers from the edge of the existing habitat should be established based on scientific analysis of the existing site conditions and the development proposal by a qualified biologist. New buildings or parking areas should not be permitted within any buffer area.</li> </ul> </li> </ul> </li> </ul>	O	<i>None</i>

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<ul style="list-style-type: none"> <li>▪ Prohibit parking lots and other developed areas from draining into sensitive resources.</li> <li>▪ Require land uses that use chemicals or fertilizers or generate by-products that are potentially toxic or harmful to wildlife, sensitive species, and habitats to incorporate measures to mitigate those impacts.</li> <li>▪ Require development to incorporate measures that avoid degradation of habitats from erosion and sedimentation.</li> <li>▪ Ensure that sensitive species are protected from night lighting from nearby development.</li> <li>▪ Mitigate noise impacts from development, uses, or activities on nearby sensitive species through noise reduction measures and/or restriction of hours during the breeding season of sensitive species.</li> <li>▪ Require development that is adjacent to sensitive resources to landscape their sites with native, non-invasive vegetation that is similar to or compatible with the adjacent resources; and prohibit horticultural regimes (irrigation, fertilization, pest control, and pruning) that could alter site conditions in natural areas.</li> <li>○ <b>RCS Policy 5.4:</b> Preserve, protect, and enhance the City’s urban forest (on both public and private property).</li> <li>○ <b>RCS Policy 5.7:</b> To the extent practicable, and as determined by the City, avoid sensitive habitats and species during the planning, design, and construction of new public infrastructure (such as sewers, storm drain and flood control facilities, utilities, and roads), unless alternative locations are not practical.</li> </ul>		
<b>City of San Marcos</b>		
<p>The City of San Marcos’ General Plan Open Space and Conservation Element:</p> <ul style="list-style-type: none"> <li>• <b>Goal COS-1:</b> Identify, protect, and enhance significant ecological and biological resources within San Marcos and its adaptive Sphere of Influence. <ul style="list-style-type: none"> <li>○ <b>Policy COS-1.2:</b> Ensure that new development, including Capital Improvement Projects; maintain the biotic habitat value of riparian areas, oak woodlands, habitat linkages, and other sensitive biological habitats.</li> </ul> </li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
<p>The City of Solana Beach’s General Plan:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.1:</b> To protect and conserve the city’s natural and cultural resources <ul style="list-style-type: none"> <li>○ <b>Objective 4.0:</b> Encourage sound environmental planning practices in all developments. <ul style="list-style-type: none"> <li>▪ <b>Policy 4.a:</b> The city shall use the environmental review procedures established by the California Environmental Quality Act (CEQA) to ensure that potential adverse effects upon natural and cultural resources are identified.</li> <li>▪ <b>Policy 4.c:</b> Technical reports made available to the public in conjunction with environmental documentation shall include summaries written for laypersons (e.g., soils and geology reports that minimize the use of technical jargon).</li> </ul> </li> <li>○ <b>Objective 5.0:</b> Preserve important biological habitat and protect sensitive, rare, and endangered species of flora and fauna. <ul style="list-style-type: none"> <li>▪ <b>Policy 5.a:</b> The city shall require that all development proposals provide adequate mitigation measures for identified significant biological resources, including selective preservation, replanting, sensitive site planning techniques, the provision of replacement habitat, and/or other appropriate measures.</li> <li>▪ <b>Policy 5.c:</b> The city shall establish a heritage tree program which identifies mature trees that are to be preserved and protected from public and private development activities. Further, this program shall set forth procedures to be followed by the city staff in the site plan review process to ensure compliance with the program and shall outline appropriate measures to preserve mature trees.</li> </ul> </li> </ul> </li> </ul>	H, K	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>County of San Diego</b>		
<p>County of San Diego's General Plan Conservation and Open Space Element:</p> <ul style="list-style-type: none"> <li>• <b>Goal COS-1 Inter-Connected Preserve System:</b> A regionally managed, inter-connected preserve system that embodies the regional biodiversity of San Diego County               <ul style="list-style-type: none"> <li>○ <b>COS-1.2 Minimize Impacts.</b> Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.</li> <li>○ <b>COS-1.9 Invasive Species.</b> Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.</li> </ul> </li> <li>• <b>Goal COS-2 Sustainability of the Natural Environment:</b> Sustainable ecosystems with long-term viability to maintain natural processes, sensitive lands, and sensitive as well as common species, coupled with sustainable growth and development.               <ul style="list-style-type: none"> <li>○ <b>COS-2.1 Protection, Restoration and Enhancement.</b> Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.</li> <li>○ <b>COS-2.2 Habitat Protection through Site Design.</b> Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.</li> </ul> </li> <li>• <b>Goal COS-3 Protection and Enhancement of Wetlands.</b> Wetlands that are restored and enhanced and protected from adverse impacts.               <ul style="list-style-type: none"> <li>○ <b>COS-3.2 Minimize Impacts of Development.</b> Require development projects to:                   <ul style="list-style-type: none"> <li>▪ Mitigate any unavoidable losses of wetlands, including its habitat functions and values</li> <li>▪ Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants such as nutrients, hydromodification, land and vegetation clearing, and the introduction of invasive species.</li> </ul> </li> </ul> </li> </ul>	<p>H, J, K, O</p>	<p><i>None</i></p>

## 3.5 Cultural Resources

This section provides a description of the cultural resources sensitivity of the Study Area and identifies known archaeological and historical resources in the Study Area. This section also provides information on the relevant regulations and evaluates potential impacts from project implementation. Because the project entails excavation to install pipelines and associated facilities, there is a potential to affect cultural resources in the area. Mitigation measures are included to reduce impacts to less than significant.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to cultural resources.

### 3.5.1 Physical Environmental Setting – Cultural Resources

The following sections describe the existing setting of the Study Area. The description of the cultural resources setting is based on the findings of the Cultural Resources Assessment prepared by PCR Services Corporation (2014), which is included in **Appendix E**.

#### Regional Setting

##### Prehistoric

Cultural resources are traces of human occupation and activity. Native American occupation sites appear to have been selected for accessibility, protection from seasonal flooding and the availability of resources. Archaeological sites include lithic and ground stone scatters, bedrock milling stations, abandoned village sites, cemeteries and village habitations.

Little is known about Paleo-Indian peoples in inland southern California. The earliest evidence of human occupation occurs in the Archaic Period, which dates from about 11,000 to 3,500 years before present (YBP). During this period large game animals such as mammoths went extinct; subsistence and social practices continued to be organized around hunting and gathering, but the resource base was expanded to include a wider range of resources. Cultural complexes during this period are San Dieguito (11,000 – 7,500 YBP) and La Jolla (7,500 to 3,000 YBP). The transition from the San Dieguito to La Jolla life appears to have been an adaptation to drying climates, which resulted in a movement of desert peoples to coastal regions. Coastal groups focused on mollusks as a food source, while inland groups relied on gathering wild seeds and acorns.

The late prehistoric period extends from about 3,500 YBP to 1769 A.D. During this period the cultural complex during this period transitioned to San Luis Rey, which started in about 1400 A.D.

##### Ethnographic

The Study Area is in the Luiseño territory, and neighboring portions of the Kumeyaay. The Luiseño habitat in northern San Diego County covered every ecological zone from the ocean, sandy beaches, shallow inlets, coastal chaparral, grassy valleys, and oak groves. Game animals and acorns were the most important staples. The Kumeyaay territory generally covered southern portions of the county, extending into Mexico. Both groups developed a varied material culture that included an array of tools made from stone, wood, bone and shells, which served to procure and process the region's resources. Need for shelter and clothing was minimal because of the mild climate.

##### Historic

Europeans arrived in the Study Area in 1542 when the Spanish explorer, Juan Rodriguez Cabrillo arrived by sea during his navigation of the California coast. Subsequent explorers were Sebastian Vizcaino, who arrived in 1602, and Gaspar de Portola who interacted with local indigenous people when he passed through their territory in 1769. Mission San Luis Rey was established about 13 miles west of the Study

Area in 1798. From about 1800 to the early 1860s the native population was integrated into the missions, and multiple epidemics substantially reduced their numbers. During this period European, Mexican and American settlements were established.

In the early 19<sup>th</sup> century the Spanish divided up California into large parcels of land known as “Ranchos”, which were managed in a semi-feudal manner by men who had been deeded land by first the Spanish crown, and later the Mexican government. The Study Area includes Rancho Agua Hedionda, Rancho El Rincon del Diablo, Rancho Margarita y Las Flores, Rancho San Dieguito, Rancho los Vallecitos de San Marcos, Rancho Buena Vista, and Rancho Guajome.

In 1821 Mexico became independent from Spain and began to dismantle the mission system. Missions became secularized and were transformed into small towns, while Native Americans were marginalized into reservations or into American society. During this time large number of Americans moved to California, and many married into the Rancho families, which transformed land ownership in Mexican California. The United States annexed California after the Mexican-American War in 1850, at which time many of the Rancho lands were already controlled by Americans.

In 1850, California was admitted to the Union, the City of San Diego was incorporated, and San Diego County was established. Other communities in the Study Area were settled over the 19<sup>th</sup> and early 20<sup>th</sup> centuries. Escondido and Oceanside were incorporated in 1888, Carlsbad in 1952, San Marcos and Vista in 1963, and Encinitas and Solana Beach in 1986.

Over the same period efforts to develop water in the Study Area resulted in the formation of various water agencies, including Rincon del Diablo Municipal Water District, Carlsbad Municipal Water District, Olivenhain Municipal Water District, Santa Fe Irrigation District, Vallecitos Water District, and Vista Irrigation District.

## **Project Vicinity**

### **Archaeological Resources**

Archaeological resources in the Study Area were identified through a cultural resources records search performed by the California Historical Resources Information System-South Coastal Information Center (CHRIS-SCIC). The records search indicated that 58 known archaeological resources have been recorded within or adjacent to the Study Area. A total of 326 archaeological resources have been recorded within one-quarter mile of the Proposed Project facilities. Because these resources were recorded over a period of almost 60 years, the current condition of the resources is uncertain.

### **Historical Resources**

There are several known historical resources in the Study Area. These include:

- Rancho Santa Fe Land Improvement Co. Spec House #1;
- Ranch Santa Fe, California State Historic Landmark #982, an historic planned community, which encompasses two historic districts – the Village Commercial District and Lillian Rice Designed Buildings;
- The First San Diego Aqueduct, which was previously evaluated as eligible for the National Register of Historic Places;
- Enchanted Oaks, a Victorian residence constructed in 1890, which has been found eligible for the National and California Registers; and
- Rancho Francisco Pio/Whelan Ranch, which was constructed around 1880 and is listed under National Register Status Code 4D2, “a contributor to a fully documented district that may become eligible for listing when more historical or architectural research is performed on the district”.



In addition, there are a number of structures in the area that are at least 50 years old and thus would need to be evaluated to determine if they are historic:

- Maerke Dam reservoir (previously called Squires Dam reservoir) is located in an isolated area of Carlsbad near the border with Oceanside and Vista and was built in 1963. The dam and reservoir may be a historic resource;
- Residence at 2439 E. Washington was built in or before 1964, making it at least 50 years of age and a possible resource;
- A number of buildings in the block bounded by N. Citrus Avenue, E. Washington Avenue, E. George Washington Avenue, and Escondido Creek were built in or before 1964 and therefore may be historic resources;
- Housing development bounded by N. Citrus Avenue, Washington Avenue and Pitman Street (including Scott Way and Hillward Street), was also built by 1964 and may contain historic resources;
- City of Oceanside Fire Station 3, which was constructed in 1962;
- Residence at 1450 Mackinnon Avenue, constructed in 1948; and
- Holiday Pet Hotel, at 551 Union Street, was constructed in 1951.

### **Paleontological Resources**

Based on a review of the San Diego National History Museum's database, there are 185 known fossil localities in the vicinity of the potential locations for project facilities. Because the known fossil deposits located in the Study Area have already been recovered and are curated at the museum, there is no potential for the project to affect these resources. However, it is possible that additional unrecorded resources are present in the area because native soils and sediments in the area are within geologic units that have a moderate, moderate to high and high potential for retaining fossils.

## **3.5.2 Regulatory Framework – Cultural Resources**

### **Federal**

#### **Section 106 of the National Historic Preservation Act of 1966 (Section 106)**

Section 106 of the National Historic Preservation of 1966 (NHPA) and its implementing regulations, 36 CFR Part 800, require a federal agency with jurisdiction over a federal, federally assisted or federally licensed undertaking to take into account the effect of the undertaking on properties listed on or eligible for the National Register of Historic Places (National Register) and prior to approval of an undertaking to afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking.

### **State**

#### **California Register of Historical Resources**

The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State's jurisdiction.

Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change." The criteria for eligibility for the California Register are based upon National Register criteria. Certain resources are

determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must also be judged with reference to the particular criteria under which it is proposed for eligibility

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5.1
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

### California Environmental Quality Act

The California Environmental Quality Act (CEQA) is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC Sections 21000 *et seq.*). As defined in Section 21083.2 of the PRC, a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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<sup>1</sup> Those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register.

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, CEQA Guidelines Section 15064.5 broadens the approach to CEQA by using the term “historical resource” instead of “unique archaeological resource.” The CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of section 21084.1 of the PRC and section 15064.5 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site is to be treated in accordance with the provisions of PRC section 21083.s, which defines a unique archaeological resource. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (CEQA Guidelines §15064.5(c)(4)).

### **Local**

Local regulations that are relevant to Cultural Resources as related to the Proposed Project include General Plans and regulations applicable to landmarks and historical resources.

### **General Plans**

The Study Area falls within the jurisdiction of General Plans from the County of San Diego and the cities of Escondido, Encinitas, Solana Beach, Carlsbad, Oceanside, Vista, and San Marcos. Cultural Resources are generally addressed in the Resource or Open Space and Conservation Elements of a General Plan. The goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.5-1** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **City of Escondido Landmark Criteria**

The City of Escondido’s Municipal Code, Article 40. Historic Resources Section 33-794, establishes designation criteria (Criteria 1 to 7 below) for locally significant properties, including historical resources, historical districts, signs, landscape features, and archeological resources. Prior to granting a resource local register or historical landmark status, the city council shall consider the definitions for historical resources and historical districts and shall find that the resource conforms to one (1) or more of the criteria listed in this section. A structural resource proposed for the local register shall be evaluated against criteria number one (1) through seven (7) and must meet at least two (2) of the criteria. Signs proposed for the local register shall meet at least one (1) of the criteria numbered eight (8) through ten (10). Landscape features proposed for the local register shall meet criterion number eleven (11).

Archaeological resources shall meet criterion number twelve (12). Local register resources proposed for local landmark designation shall be evaluated against criterion number thirteen (13) (City of Escondido 2012). The criteria are as follows:

- Escondido historical resources that are strongly identified with a person or persons who significantly contributed to the culture, history, prehistory, or development of the City of Escondido, region, state or nation;
- Escondido building or buildings that embody distinguishing characteristics of an architectural type, specimen, or are representative of a recognized architect's work and are not substantially altered;
- Escondido historical resources that are connected with a business or use that was once common but is now rare;
- Escondido historical resources that are the sites of significant historic events;
- Escondido historical resources that are fifty (50) years old or have achieved historical significance within the past fifty (50) years;
- Escondido historical resources that are an important key focal point in the visual quality or character of a neighborhood, street, area or district;
- Escondido historical building that is one of the few remaining examples in the city possessing distinguishing characteristics of an architectural type;
- Sign that is exemplary of technology, craftsmanship or design of the period when it was constructed, uses historical sign materials and is not significantly altered;
- Sign that is integrated into the architecture of the building, such as the sign pylons on buildings constructed in the Modern style and later styles;
- Sign that demonstrates extraordinary aesthetic quality, creativity, or innovation;
- Escondido landscape feature that is associated with an event or person of historical significance to the community or warrants special recognition due to size, condition, uniqueness or aesthetic qualities;
- Escondido archaeological site that has yielded, or may be likely to yield, information important in prehistory;
- Escondido significant historical resource that has an outstanding rating of the criteria used to evaluate local register requests. (Ord. No. 2000-23, § 4, 9-13-00; Ord. No. 2008-16, § 4, 7-16-08)

### **City of Escondido Historic Resources Surveys**

The City of Escondido and their consultants completed surveys of approximately 1,000 pre-1940 built environment resources in 1983. The survey was updated and refined in 1990, leading to the Escondido Historical Register (including 267 listings), historic preservation program, a residential historic district, and the adoption of the Mills Act Incentive Program. The 2001 survey focused on updating the 1990 survey information, and incorporating built environment resources attaining an age of 50 years since the previous survey. This study placed particular emphasis on resources dating between 1940 and 1955. Further, the 2001 survey proposed eight potential Historic Districts for consideration as City of Escondido Historic Districts. As of April 2012, none of the potential districts have been formally designated. However, an area known as the Old Escondido Historic District has been formally established as a Historic District, and is the only designated Historic District in North County San Diego (Atkins 2012).

## County of San Diego Resource Protection Ordinance

The County of San Diego's Resource Protection Ordinance is designed to help preserve and protect sensitive lands, and limit impacts. Environmentally sensitive land under this ordinance includes wetlands, floodplains, steep slope lands, sensitive habitat lands, and lands containing significant prehistoric and historic sites.

### 3.5.3 Impact Analysis – Cultural Resources

#### Methodology for Analysis

This analysis evaluates expected changes in the physical environmental resulting from the project against the thresholds of significance identified below, to determine if direct and indirect changes from existing conditions would constitute potentially significant effects. Project changes are described and potential impacts, if any, are identified. Where impacts would be considered potentially significant, mitigation measures are identified to reduce impacts to a less-than-significant level.

The inventory of cultural resources was performed by qualified archaeologists and historical resources specialists with PCR Services Corporation, who did an extensive review of background information that included the following:

- A cultural resources records search through the CHRIS-SCIC, which reviewed all recorded archaeological and historical resources within the preliminary pipeline alignments and within a quarter-mile radius;
- A sacred lands file search through the Native American Heritage Commission, along with follow-up consultation with the 21 Native American ground and or individuals identified as having affiliation with the Study Area vicinity;
- Historic background research with local governments and historical societies; and
- Paleontological resources records search through the Department of Paleontology at the San Diego Natural History Museum.

#### Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines an impact on cultural resources would be considered significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries

A project with an effect that may cause a substantial adverse change in the significance of a cultural resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a cultural resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired (CEQA Guidelines Section 15064.5). The significance of a cultural resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or,
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of cultural resources pursuant to section PRC 5020.1(k) or its identification in a cultural resources survey meeting the requirements of PRC 5024.1(g), unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or,
- Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to cultural resources that could result in conjunction with the project. Mitigation measures are identified where appropriate.

#### **Impact 3.5-1 Potential to cause a substantial adverse change in the significance of a historical resource**

Several components within the Proposed Project (Groups A, C, D, G, I, and K) would have the potential to cause a substantial adverse change in a specific historical resource, as described below. Additionally, unevaluated potentially eligible historical resources may be effected by above ground structures in any group; these shall be evaluated in project-level analysis as the individual project components move forward. As applicable, the project components shall also be consistent with relevant policies of the adopted General Plans and municipal codes.

##### **Group A**

Group A would include construction activities in the vicinity of the existing Maerkle Dam/Squires Reservoir. Because the existing dam could be a historic resource, there is a potential that the construction of new facilities would adversely affect this resource. This impact is potentially significant, but would be reduced to less than significant with implementation of **Mitigation Measure MM 3.5-1a** which requires preparation of a Phase I Historical Resources Assessment.

##### **Group C**

Construction of facilities could affect the First San Diego Aqueduct, which is crossed by a pipeline alignment. The aqueduct has been determined to be eligible for the National Register of Historic Places. This is a potentially significant impact, but can be reduced to less than significant with implementation of **Mitigation Measure MM 3.5-1b** which requires historical resources monitoring for First San Diego Aqueduct.

##### **Group D**

The potential site for the Escondido AWTF is near a cluster of potential historic resources that have not been evaluated; a number of residences in the area are 50 or more years old, and would need to be evaluated to determine if they are historic. Impacts to any historic structures would be potentially significant, but would be reduced to less than significant with implementation of **Mitigation Measure MM 3.5-1a** which requires preparation of a Phase I Historical Resources Assessment.

##### **Group E**

The proposed pipeline alignment for Group E is adjacent to two potential historic resources, a residence constructed in 1948, and the Holiday Pet Hotel, constructed in 1951. Impacts to any historic structures would be potentially significant, but would be reduced to less than significant with implementation of

**Mitigation Measure MM 3.5-1a** which requires preparation of a Phase I Historical Resources Assessment.

### Group G

The proposed El Corazon site is near a potential historic resource, the City of Oceanside Fire Station 3. Impacts to any historic structures would be potentially significant, but would be reduced to less than significant with implementation of **Mitigation Measure MM 3.5-1a** which requires preparation of a Phase I Historical Resources Assessment.

Expansion of the existing San Luis Rey WWTP and AWT could affect a known historic resource, Rancho Francisco Pio/Whelan Ranch. The integrity of the setting of the property is likely already compromised by the proximity of the existing facility and any expansion may further affect this historic resource. This impact is potentially significant, but would be reduced to less than significant with implementation of **Mitigation Measure MM 3.5-1d** which requires Plan Review and Evaluation of Historical Resources.

### Group H

Group H partially falls within Rancho Santa Fe, which is a designated California State Historic Landmark, and falls under a Protective Covenant. Any projects within Rancho Santa Fe has the potential to impact historical resources and settings. **Mitigation Measure MM 3.5-1c** which requires Plan Review and Evaluation of Historical Resources would be implemented to ensure that impacts are less than significant.

### Group I

Expansion of the HARRF could affect Enchanted Oaks, which is a Victorian residence that appears to be eligible for the National Register. This impact is potentially significant, but would be reduced to less than significant with implementation of **Mitigation Measure MM 3.5-1a** which requires preparation of a Phase I Historical Resources Assessment.

### Group K

Recycled water pipelines run through the Rancho Santa Fe Civic Center, which is a designated California Landmark. The entire Rancho Santa Fe community is under a Protective Covenant, which may require further review of the project. Although design of the road layout is a character-defining feature of the community, installation of subsurface pipelines would not affect the road layout, and is thus not expected to result in a significant impact to a historic resource. Nevertheless, once details of project design are known, **Mitigation Measure MM 3.5-1c** which requires Plan Review and Evaluation of Historical Resources would be implemented to ensure that impacts are less than significant.

### Above Ground Structures in All Groups

There are no recorded historical resources within ¼ mile of groups H, J, M, N, and O. However, there may be structures more than 50 years old, which have not been recorded or evaluated, in the vicinity of proposed activities associated with the Proposed Project that have not yet been defined. To ensure that no significant historic resources are affected, **Mitigation Measure MM 3.5-1a** which requires a Phase I Historical Resources Assessment would be implemented for any above ground structures, once locations of facilities have been finalized. This would reduce any potential impacts to historic resources to less than significant levels.

### Significance Determination before Mitigation

Potentially Significant.

### Mitigation Measures

**Mitigation Measure MM 3.5-1a** shall apply to all Proposed Project components. **Mitigation Measure MM 3.5-1b** shall apply to Group C, which would cross the First San Diego Aqueduct. **Mitigation Measure MM 3.5-1c** shall apply to facilities in Groups H and K. **Mitigation Measure MM 3.5-1d** shall apply to facilities in Group G. Construction-related mitigation measures described below shall be implemented by members of the Coalition responsible for construction of applicable facilities.

**MM 3.5-1a Conduct a Phase I Historical Resources Assessment.** The lead agency for each above ground project component shall conduct a Phase I Historical Resources Assessment of unevaluated potentially eligible historical resources that may be impacted by above ground structures in the Proposed Project, unless such analysis has been previously completed (i.e., at an existing treatment plant site). A Phase I Reconnaissance-Level Survey shall be performed for structures over 45-years in age located in proximity of proposed above-ground project components. A reconnaissance-level field survey for potentially historic buildings, structures, landscapes, and road infrastructure shall be conducted to determine whether the project elements would directly or indirectly impact any historic resources. The project applicant shall engage a qualified historic preservation consultant who shall assess the significance and integrity of potential historic resources. A qualified architectural historian, historic architect, or historic preservation professional is someone who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years of experience in conducting historic surveys. If an identified property is found ineligible, no further evaluation would be required; however, if eligible historical resources are identified, a project-level impacts analysis shall be conducted for compliance with CEQA. If adverse impacts/effects are identified in the project-level impact analysis, the project may be redesigned to avoid or reduce potential impacts/effects to less than significant, in accordance with the Standards, or mitigation measures would be required. Such mitigation measures could include visual screening (tree rows), but would be highly variable, based on the types of impacts identified in the project-level evaluation. A project that conforms to the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* is considered fully mitigated under CEQA. The minimum level of effort for the Phase I assessment shall include historical resources records searches through the South Central Coastal Information Center, the development of historic context for the project area, and a pedestrian survey of the project area. The assessment would include potentially eligible historic resources which were not previously evaluated.

**MM 3.5-1b Conduct Historical Resources Monitoring for First San Diego Aqueduct.** The City of Escondido shall retain a qualified architectural historian who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity in the vicinity of the First San Diego Aqueduct. Specifically, the monitoring shall take place along the project facilities associated with Group C that could impact the First San Diego Aqueduct. The First San Diego Aqueduct was determined to be eligible for the National Register of Historic Places under criterion A in 2012 (PCR 2015) and the Proposed Project has the potential to materially impair a small segment of it. Any important historic fabric uncovered associated with the First San Diego Aqueduct shall be fully recorded in photographic images and written manuscript notes to supplement the HAER documentation of the First San Diego Aqueduct (previously prepared/required to be prepared for another project) (PCR 2015). A qualified architectural historian or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for Architectural History, pursuant to 36 CFR 61, shall prepare the necessary written and illustrated documentation in a construction monitoring report. This document shall briefly record the history of the First San Diego Aqueduct and the construction methods as well document its present physical condition through site plans; historic maps and photographs; sketch maps; 35mm photography; and written data and text. The completed documentation shall be submitted to the



CHRIS-SCIC and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

**MM 3.5-1c Conduct Plan Review and Evaluation of Historical Resources – Olivenhain MWD and Santa Fe ID.** Rancho Santa Fe is a California State Historic Landmark, and therefore, improvements on or adjacent to Rancho Santa Fe have the potential to directly impact the historical resources and setting, and therefore, improvements on or adjacent to Rancho Santa Fe must be designed to comply with the Secretary of the Interior's *Standards*. Prior to designing or implementing projects in this area, which includes facilities associated with Group H and Group K, Olivenhain MWD and Santa Fe ID shall engage a qualified historic preservation consultant to review the proposed projects. Likewise, Rancho Francisco Pio/Whelan Ranch and Enchanted Oaks are previously identified resources that may require re-evaluation by qualified surveyors if determined necessary based upon the proposed improvement and its potential to affect these resources. A qualified preservation consultant is an architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years of experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The lead agency for each project component shall undertake and complete construction in a manner consistent with the preservation consultant's recommendations to ensure that the Project meets the *Secretary of the Interior's Standards for Rehabilitation*. The preservation consultant shall review the final construction drawings for conformance to the Secretary of the Interior's Standards and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior's *Standards* is considered fully mitigated under CEQA.

**MM 3.5-1d Conduct Plan Review and Evaluation of Historical Resources – City of Oceanside.** Prior to designing or implementing projects in this area, which includes facilities associated with Group G, City of Oceanside shall engage a qualified historic preservation consultant to assess identified resources for eligibility as historical resources and review the proposed projects for potential impacts to eligible historical resources. A qualified preservation consultant is an architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years of experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The lead agency for each project component shall undertake and complete construction in a manner consistent with the preservation consultant's recommendations to ensure that the Project meets the *Secretary of the Interior's Standards for Rehabilitation*. The preservation consultant shall review the final construction drawings for conformance to the Secretary of the Interior's Standards and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior's *Standards* is considered fully mitigated under CEQA.

#### Significance Determination after Mitigation

Less than significant.

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#### **Impact 3.5-2 Potential to cause a substantial adverse change in the significance of an archaeological resource**

There are 58 known archaeological resources within or adjacent to the Proposed Project facilities. The current condition and exact location of these resources is unknown, and excavation parameters for the proposed facilities have not been definitively established. However, it can be assumed that components of the Proposed Project that include excavation into native soils/sediments have the potential to impact these

58 resources, and buried archaeological resources that have not been previously identified. **Mitigation Measures MM 3.5-2a** through **MM 3.5-2e** are escalating mitigation measures that shall be implemented in accordance with archaeological resources found within the Study Area. The results of **Mitigation Measure 3.5-2a** would determine whether or not **Mitigation Measures MM 3.5-2b** through **MM 3.5-2e** would be required. Cumulatively, these mitigation measures ensure that potential archaeological resources are evaluated prior to construction activities and that measures are in place such that if archaeological resources are encountered during ground-disturbing activities, these resources will not be impacted. As such, these mitigation measures would reduce potentially significant impacts to archaeological resources to a less than significant level.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.5-2a** shall apply to all components that require excavation activity (clearing/grubbing, grading, trenching or boring) into native soils and that have the potential to exhibit native ground surface within or in the immediate vicinity of the excavation footprint. **Mitigation Measure MM 3.5-2b** shall apply if resources are identified and determined to be eligible for listing, pending the results of **Mitigation Measure MM 3.5-2a**. **Mitigation Measures MM 3.5-2c** and **MM 3.5-2d**, which include provisions for training, monitoring, and treatment of any archaeological resources during construction, shall apply to areas that are determined to have a moderate or high potential to encounter buried archaeological resources, based on the assessment conducted as part of **Mitigation Measure MM 3.5-2a**. Because there is a possibility of encountering resources even in areas that have not been identified as having a high sensitivity, **Mitigation Measure MM 3.5-2e** shall apply to Proposed Project components requiring excavation, where no archaeological monitor is present. The aforementioned mitigation measures shall be implemented by the lead agency of each relevant project component, as applicable.

**MM 3.5-2a Conduct a Phase I Archaeological Resources Assessment.** The lead agency for each project component shall conduct a Phase I Archaeological Resources Assessment of the given improvement footprint to identify any archaeological resources within the footprint or immediate vicinity to support the project-level CEQA, unless such analysis has been previously completed (i.e., at an existing treatment plant site). The minimum level of effort for the Phase I assessment shall include a cultural resources records searches through the South Central Coastal Information Center (if needed to update the records search performed for this PEIR), a Sacred Lands File search through the Native American Heritage Commission and follow-up Native American consultation, and a pedestrian survey of the Study Area (Note: surveys may not be required in areas that do not have the native ground surface exposed such as paved streets). In addition, the responsible lead agency for each project component shall review available geotechnical studies, site plans, and drilling/grading studies relevant to their project component(s) to determine the nature and depth of the construction activities to assist in determining the depths of fill versus native soils across the improvement footprint. If no resources are identified as a result of the records search or survey, it does not preclude the existence of buried resources within the improvement footprint. If this is the case, a qualified archaeologist will determine the potential for the project to encounter buried resources during construction based on the results of the record searches, land use history, depth of native versus fill soils, and the proposed excavation parameters. If no resources are identified, no further analyses or mitigation shall be warranted, unless it can be determined that the project has a high or moderate potential to encounter buried archaeological resources; however, if resources are identified during the Phase I assessment, a Phase II assessment shall be conducted for compliance with CEQA.

**MM 3.5-2b Conduct a Phase II Archaeological Resources Assessment and Mitigation.** If resources are identified during the Phase I assessment, a Phase II Archaeological Resources Assessment may be warranted if impacts from the improvements cannot be avoided. The Phase II assessment shall evaluate the resource(s) for listing in the CRHR and to determine whether the resource qualifies as a “unique archaeological resource” pursuant to CEQA. If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II evaluation may not be necessary. Methodologies for evaluating a resource can include, but are not limited to: subsurface archaeological test excavations, additional background research, and coordination with Native Americans and other interested individuals in the community. The methods and results of a Phase II evaluation shall be described in a technical report that will support the Cultural Section of the CEQA environmental document.

If, as a result of the Phase II evaluation, resources are determined eligible for listing in the California Register (thus qualifying them as “historical resources” pursuant to CEQA Guidelines Section 15064.5) or are considered “unique archaeological resources” pursuant to Section 21083.2 of the Public Resources Code, potential impacts to the resources shall be analyzed and if impacts are significant (i.e., the improvement would cause a “substantial adverse change” to the resource) and cannot be avoided, mitigation measures shall be developed and implemented to reduce impacts to the resources to a level that is less than significant.

If resource avoidance, resource “capping” (covering a resource with a layer of fill soils before building on the resource), or incorporating a resource into a park plan or open space is deemed not feasible, then an archaeological resources mitigation program shall be developed. Such mitigation programs typically include additional subsurface archaeological excavations (i.e., data recovery) that serve to recover significant archaeological resources before they are damaged or destroyed by the proposed improvement. Documentation and recovered materials (artifacts and other specimens) are placed with a suitable museum for future study and research. Data recovery is typically recommended as a mitigation measure and is typically implemented after CEQA has been completed, but prior to issuance of grading or building permits. The methods and results of a data recovery program shall be described in a technical report that shall be submitted to the Coalition and filed with the CHRIS-SCIC to show satisfactory compliance with the archaeological mitigation measures for a given project. It is possible that the archaeological excavations associated with the Phase II assessment could remove enough archaeological material from the resource as to negate the need to conduct a subsequent excavation.

**MM 3.5-2c Conduct Archaeological Sensitivity Training for Construction Personnel.** The lead agency for each project component shall retain a qualified archaeologist who shall conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session shall be carried out by a cultural resources professional with expertise in archaeology, will focus on how to identify archaeological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event. The training session will include a Power Point presentation and/or handouts for all attendees. The basic topics to be addressed in the session include: a brief cultural and archaeological history of the area and the Study Area ; cultural resource compliance obligations; training in potential resources that may be encountered through the use of photographs or other illustrations; the duties of archaeological monitors; notification and other procedures to follow upon discovery of resources; and, the general steps that would be followed to conduct a salvage investigation if one is necessary.

**MM 3.5-2d Monitor and Report Construction Excavations for Archeological Resources.** The lead agency for each project component shall retain a qualified professional archaeological monitor who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the proposed improvement. The frequency

of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the archaeological monitor.

In the event that archaeological resources are unearthed during ground-disturbing activities, ground disturbing activities shall be halted or redirected away from the vicinity of the find so that the find can be evaluated. Work shall be allowed to continue outside of the vicinity of the find. All archaeological resources unearthed by Project construction activities shall be evaluated by the archaeologist. The Coalition shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. Treatment may include implementation of archaeological data recovery excavations to remove the resource or preserve it in place. The landowner, in consultation with the Coalition and archaeologist, shall designate repositories in the event that archaeological material is recovered.

The archaeological monitor shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted to the Coalition and CHRIS-SCIC, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register of Historical Resources and CEQA, and treatment of the resources.

**MM 3.5-2e Cease Ground-Disturbing Activities and Report if Archeological Resources are Encountered.** If archaeological resources are encountered by construction personnel during implementation of the Project, ground-disturbing activities should temporarily be redirected from the vicinity of the find. Recognition of archaeological resources by construction personnel would be based on the training received under **Mitigation Measure MM 3.5-2c**. The lead agency for each project component shall immediately notify a qualified archaeologist of the find. The archaeologist should coordinate with the Coalition as to the immediate treatment of the find until a proper site visit and evaluation is made by the archaeologist. Treatment may include the implementation of an archaeological testing or data recovery program. All archaeological resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the CHRIS-SCIC. The archaeologist shall prepare a final report about the find to be filed with the District and the CHRIS-SCIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the resource's eligibility for listing in the California Register of Historical Resources and whether the resource qualifies as a unique archaeological resource. The landowner, in consultation with the Coalition and the archaeologist, shall designate repositories to curate any material in the event that resources are recovered. The archaeologist shall also determine the need for archaeological monitoring for any ground-disturbing activities in the area of the find thereafter.

#### Significance Determination after Mitigation

Less than significant.

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#### **Impact 3.5-3 Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature**

There are 185 known fossil localities in the vicinity of the Proposed Project with 18 of them either within the Study Area or immediately adjacent (PCR 2015). These 18 localities have already been recovered from known fossiliferous geologic units and therefore no longer exist at their former location. As a result,

the Proposed Project would not cause an impact to these known paleontological resources. However, it is possible that additional unrecorded resources exist in the immediate vicinity of these known resources in similar fossiliferous geologic units.

The geologic units that underlie the Study Area have varying degrees of potential for retaining paleontological resources. Excavations into the following native soil/sediments associated with the Proposed Project have a “moderate”, “moderate to high”, and “high” potential for retaining fossils:

- Lusardi Formation (Upper Cretaceous), Kl – moderate
- Point Loma Formation (Upper Cretaceous), Kp – high
- Meta-sedimentary portion, metamorphosed and unmetamorphosed rocks, undivided (Mesozoic), Mzu - high
- Old alluvial flood-plain deposits, undivided (late to middle Pleistocene), Qoa – high
- Old paralic deposits (late to idle Pleistocene), Qop2-4, Qop6-7 – high
- Very old alluvial floodplain deposits, undivided (middle to early Pleistocene), Qvoa – moderate
- Very old paralic deposits, Unit 10 (middle to Early Pleistocene), Qvop10 – moderate
- Delmar Formation (middle Eocene), Td – high
- Santiago Formation (middle Eocene), Tsa – moderate to high
- Torrey Sandstone (middle Eocene), Tt - moderate

**Mitigation Measures MM 3.5-3a** and **MM 3.5-3b** would reduce potentially significant impacts to paleontological resources that are accidentally discovered during project implementation to a less than significant level.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measures MM 3.5-3a** and **MM 3.5-3b** shall apply to Proposed Project components requiring excavation activity into native soil, as defined above. Native soils exclude developed sites and developed roadway ROWs. The aforementioned mitigation measures shall be implemented by the lead agency of each relevant project component, as applicable.

**MM 3.5-3a Conduct Paleontological Sensitivity Training for Construction Personnel.** The lead agency for each project component shall retain a qualified paleontologist who shall conduct a Paleontological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session, shall be carried out by a cultural resources professional with expertise in paleontology, and will focus on how to identify paleontological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event. The training session will include a Power Point presentation and/or handouts for all attendees. The basic topics to be addressed in the session include: a brief cultural and geologic history of the area and the Coalition’s cultural resource compliance obligations; training in potential resources that may be encountered through the use of photographs or other illustrations; the duties of paleontological monitors; notification and other procedures to follow upon discovery of resources; and, the general steps that would be followed to conduct a salvage investigation if one is necessary.

**MM 3.5-3b Monitor and Report Construction Excavations for Paleontological Resources.** A qualified professional paleontologist shall be retained to monitor excavation activities in certain areas of the project that would encounter fossiliferous geologic units that have been assigned “moderate”, “moderate to high”, and “high” potential as detailed in this report. Monitoring shall consist of visually

inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources or fossiliferous geologic units, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources encountered. Full-time monitoring can be reduced to part-time inspections or ceased entirely if determined adequate by the paleontological monitor.

If a potential fossil is found, the grading and excavation activities shall be temporarily diverted or redirected away from or around the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. At the paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing.

Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected shall be donated to a public, non-profit institution with a research interest in the materials, such as the San Diego Natural History Museum. Accompanying notes, maps, and photographs shall also be filed at the repository.

Upon completion of the above activities, the paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the lead agency for the project component, the San Diego Natural History Museum, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

#### Significance Determination after Mitigation

Less than significant.

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#### **Impact 3.5-4 Potential to disturb any human remains**

No known human remains have been identified within the project alignments or within a quarter-mile radius. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which may be encountered during construction excavations associated with the Proposed Project. It is also possible to encounter buried human remains during construction given the proven prehistoric and historic occupation of the region, the identification of multiple surface and subsurface archaeological resources within a quarter-mile of the Study Area (including large habitation/village sites), and the favorable natural conditions that would have attracted prehistoric and historic inhabitants to the area. **Mitigation Measure MM 3.5-4** would reduce potentially significant impacts to previously unknown human remains that may be unexpectedly discovered during project implementation to a less than significant level.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.5-4** shall apply to all construction of all components that would involve ground disturbing activities and shall be implemented by the lead agency of each relevant project component, as applicable.

**MM 3.5-4 Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered.** If human remains are unearthed during implementation of the Proposed Project, the lead agency for the project component shall comply with State Health and Safety Code Section

7050.5. The lead agency for the project component shall immediately notify the County Coroner and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the lead agency, inspect the site of the discovery of the Native American remains and may recommend to the lead agency means for treating or disposing, with appropriate dignity, the human remains and any associated funerary objects. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the lead agency to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and cultural items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the lead agency has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The lead agency shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment. MLDs in the region typically recommend reburial of the remains as close to the original burial location as feasible accompanied by a ceremony. The MLD shall file a record of the reburial with the NAHC and the project archaeologist shall file a record of the reburial with the CHRIS-SCIC.

If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the lead agency, the lead agency or its authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

#### Significance Determination after Mitigation

Less than significant.

**Table 3.5-1: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
<p>Under the City of Oceanside’s General Plan, the Environmental Resource Management Element (Element) has a goal to “evaluate the state of the environment and formulate a program of planned management, wise utilization, and preservation of natural resources to ensure the health, safety, and welfare of present and future generations” (City of Oceanside 2002). The Element also has an objective for the City’s cultural sites which emphasize the conservation and protection of cultural resources for scientific, historic, and educational purposes in the future. The Element also recommends an action program for the City to: 1) encourage the use of “O” zoning and open space easements for the preservation of cultural sites; 2) encourage private organizations to acquire, restore and maintain historical sites; and 3) encourage research by groups (including museums, university students, etc.) to find and record archaeological sites and for the purpose of sending this information to the appropriate County of San Diego agencies for inclusion in the San Diego County Natural Resource Inventory. The Element mentions that the Oceanside area is rich in historical sites. Among these are three prominent sites, including the Mission San Luis Rey de Francia, Rancho Guajome and the Grave of Francisco de Ulloa. Archaeological sites have been identified by the Museum of Man in the Fire Mountain area, near San Francisco Peak and in the Guajome Lake Region. The Element indicates that surveys to identify cultural sites in the City are incomplete and therefore the identification and excavation of present and future sites should be conducted by qualified scientific personnel (City of Oceanside 2002).</p>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<p>The Open Space and Conservation Element for the City of Carlsbad (City of Carlsbad 2006):</p> <ul style="list-style-type: none"> <li>• <b>Objective B.1</b> To encourage property owners to utilize all available incentives for the preservation of historic resources.</li> <li>• <b>Objective B.2</b> To promote the use of historic resources for the education, pleasure and welfare of the people of the City.</li> <li>• <b>Objective B.3</b> To cooperate with historic societies, schools, libraries and citizens to stimulate public interest in historic preservation.</li> <li>• <b>Objective B.4</b> To enhance the community's recognition that objects of historic importance increase both fiscal and community value.</li> <li>• <b>Objective B.5</b> To enhance the City's appeal to tourists and visitors in order to support and stimulate business and industry.                         <ul style="list-style-type: none"> <li>○ <b>Policy C.1:</b> Prepare and maintain a Cultural Resource Survey.</li> <li>○ <b>Policy C.2:</b> Create and maintain a local registry of cultural resources.</li> <li>○ <b>Policy C.3:</b> Provide landmark identification of designated cultural resources.</li> <li>○ <b>Policy C.4:</b> Encourage the use of tax incentives, regional, state and federal programs which promote cultural preservation to upgrade and redevelop property vitality.</li> <li>○ <b>Policy C.5:</b> Encourage the formation of historic districts for the protection of resources and promotion of tourism.</li> <li>○ <b>Policy C.6:</b> Encourage the rehabilitation of historic structures through adoption of the Historical Building Code.</li> <li>○ <b>Policy C.7:</b> Incorporate the Cultural Resource Guidelines in the environmental review of development applications.</li> <li>○ <b>Policy C.8:</b> Maintain historical reference materials on file in the main branch of the Carlsbad City Library.</li> </ul> </li> <li>• <b>Policy C.9:</b> Implement the following measures for paleontological sites:</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.



Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p>1. Phase 1 - Phase 1 shall consist of a qualified paleontologist doing a literature and records search, surface study, subsurface testing if necessary, the recordation of any sites, and a recommendation regarding the need for further work.</p> <p>2. Phase 2 - If it is determined during Phase 1 that further work is necessary it shall consist of the following:</p> <p>a) A qualified paleontological monitor shall be present at a pregrading conference with the developer, grading contractor, and the environmental review coordinator. The purpose of this meeting will be to consult and coordinate the role of the paleontologist in the grading of the site. A qualified paleontologist is an individual with adequate knowledge and experience with fossilized remains likely to be present to identify them in the field and is adequately experienced to remove the resources for further study. No grading permits shall be issued until the monitoring plan has been approved by the Planning Director.</p> <p>b) A paleontologist or designate shall be present during those relative phases of grading as determined at the pregrading conference. The monitor shall have the authority to temporarily direct, divert or halt grading to allow recovery of fossil remains. At the discretion of the monitor, recovery may include washing and picking of soil samples for micro-vertebrate bone and teeth. The developer shall authorize the deposit of any resources found on the project site in an institution staffed by qualified paleontologists as may be determined by the Planning Director. The contractor shall be aware of the random nature of fossil occurrences and the possibility of a discovery of remains of such scientific and/or educational importance which might warrant a long term salvage operation or preservation. Any conflicts regarding the role of the paleontologist and/or recovery times shall be resolved by the Planning Director.</p> <p>3. Phase 3 - Prior to occupancy of any buildings a paleontological monitoring report shall be submitted to the Planning Director and the Carlsbad Historic Preservation Commission. This report shall describe all the materials recovered and provide a tabulation of the number of hours spent by paleontological monitors on the site.</p> <p><b>Policy C.10:</b> Prohibit the alteration of properties of state or national significance, unless reviewed under requirements of the California Environmental Quality Act.</p>		
<p><b>City of Encinitas</b></p>		
<p>The Resource Management Element of the General Plan (City of Encinitas 1995):</p> <p><b>Preservation of Cultural Resources</b></p> <ul style="list-style-type: none"> <li>• <b>Policy 7.1</b> – Requires that historical, archaeological and paleontological resources are documented and salvaged if threatened to be destroyed by development (Coastal Act/30250).</li> <li>• <b>Policy 7.2</b> – Conduct a survey to identify historic structures and archaeological/cultural sites throughout the community and ensure that every action is taken to ensure their preservation (Coastal Act/30250/30253(5)).</li> <li>• <b>Policy 7.3</b> - The City will pursue the development of a historic resources program for the identification, preservation, and restoration of buildings, structures, and places within the City that have historical significance.</li> </ul> <p>In addition, as reported in the Cultural Assessment Report developed by PCR (PCR 2015), the draft Resource Management Element of the Draft General Plan includes the following relevant policies:</p> <ul style="list-style-type: none"> <li>• <b>Policy 20.1 - Cultural Resource Preservation:</b> Requires that historical, archaeological and paleontological resources are documented and salvaged if threatened to be destroyed by development. This policy also requires for an inventory of archaeological and cultural resource areas to be maintained (Coastal Act/30250).</li> <li>• <b>Policy 20.2 - Historic Resources Program:</b> Focuses on developing a historic resources program for the identification, preservation, and restoration of buildings, structures, and places within the City.</li> </ul>	<p>E, H</p>	<p>San Elijo WRF</p>

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>• <b>Policy 20.3 - Archaeological Resource Preservation:</b> This policy requires the preservation of archaeological resources from loss or destruction and the incorporation of appropriate mitigation measures to protect resources.</li> <li>• <b>Policy 20.4 - Development Review:</b> This policy requires review of development projects located within high sensitive areas to determine extent of significant cultural resources and potential impacts a project may have on resources.</li> <li>• <b>Policy 20.5 - Grading:</b> An archaeological survey shall have to be conducted for projects that involve a significant amount of grading.</li> <li>• <b>Policy 20.6 - Mitigation and Preservation of Cultural Resources:</b> This policy requires for development to avoid archaeological resources, and if avoidance is not possible development must mitigate impacts to resources.</li> <li>• <b>Policy 20.7 - Treatment and Preservation of Resources:</b> Archaeological collections must be treated and preserved in a culturally appropriate manner.</li> <li>• <b>Policy 20.8 - Treatment of Cultural Resources:</b> Consultation with affected communities, including local tribes to determine the appropriate treatment of cultural resources if identified, is required.</li> <li>• <b>Policy 20.9 - Tribal Consultation:</b> Pursuant to Senate Bill 18, this policy requires consultation with affected communities including local tribes for projects which could result in land use decisions, including General Plan updates and amendments, and specific plans and amendments.</li> <li>• <b>Policy 20.10 - Treatment of Human Remains:</b> Human remains must be treated with dignity and respect. Disposition of human remains must be conducted in coordination with the Most Likely Descendant and conforming with state and federal regulations.</li> <li>• <b>Policy 20.11 - Interpretive Programs:</b> This policy encourages the development of educational interpretive programs.</li> <li>• <b>Policy 20.12 - Historical Resources Inventory:</b> Prepare and update an inventory of historic significant sites and/or structures.</li> <li>• <b>Policy 20.13 - Historic Preservation:</b> When feasible and if appropriate incorporate the historic resources into the design of buildings and public improvements.</li> </ul>		
<p><b>City of Escondido</b></p>		
<p>The City of Escondido Resource Conservation Element (City of Escondido 2012):</p> <ul style="list-style-type: none"> <li>• <b>Cultural Resources Policy 5.1:</b> Maintain and update the Escondido Historic Sites Survey to include significant resources that meet local, state, or federal criteria.</li> <li>• <b>Cultural Resources Policy 5.2:</b> Preserve significant cultural and paleontological resources listed on the national, State, or local registers through: maintenance or development of appropriate ordinances that protect, enhance, and perpetuate resources; incentive programs; and/or the development review process.</li> <li>• <b>Cultural Resources Policy 5.3:</b> Consult with appropriate organizations and individuals (e.g., South Coastal Information Center of the California Historical Resources Information System, Native American Heritage Commission, Native American groups and individuals, and San Diego Natural History Museum) early in the development process to minimize potential impacts to cultural and paleontological resources.</li> <li>• <b>Cultural Resources Policy 5.4:</b> Recognize the sensitivity of locally significant cultural resources and the need for more detailed assessments through the environmental review process.</li> <li>• <b>Cultural Resources Policy 5.5:</b> Preserve historic buildings, landscapes, and districts with special and recognized historic or architectural value in their original locations through preservation, rehabilitation (including adaptive reuse), and restoration where the use is compatible with the surrounding area.</li> </ul>	<p>C, D, I, M</p>	<p>HAARF Escondido AWTF Harmony Grove WRF</p>

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<ul style="list-style-type: none"> <li>• <b>Cultural Resources Policy 5.6:</b> Review proposed new development and/or remodels for compatibility with the surrounding historic context.</li> <li>• <b>Cultural Resources Policy 5.7:</b> Comply with appropriate local, State, or federal regulations governing historical resources.</li> <li>• <b>Cultural Resources Policy 5.8:</b> Consider providing financial incentives, and educational information on existing incentives provided by the federal government to private owners and development in order to maintain, rehabilitate, and preserve historic resources.</li> <li>• <b>Cultural Resources Policy 5.9:</b> Educate the public on the City’s important historic resources in increase awareness for protection (City of Escondido 2012).</li> </ul>		
<p><b>City of Vista</b></p>		
<p>The Resource Conservation and Sustainability Element of the General Plan (City of Vista 2011):</p> <ul style="list-style-type: none"> <li>• <b>RCS Goal 11:</b> Continue to preserve and protect places, buildings, and objects that embody the City’s social, cultural, commercial, architectural, and agricultural history.               <ul style="list-style-type: none"> <li>○ <b>RCS Policy 11.1:</b> Continue to utilize historical resources, such as the Rancho Buena Vista Adobe, for school programs, community education, and events; and coordinate programming with other historic sites.</li> <li>○ <b>RCS Policy 11.2:</b> Continue to preserve Vista’s historic adobes and nationally registered and significant historic buildings, such as the Rancho Guajome Adobe and the Braun House. Consider national and local historic designations for eligible City-owned properties.</li> <li>○ <b>RCS Policy 11.3:</b> Support preservation of historical resources, including providing for adaptive reuse and tax incentives where appropriate.</li> <li>○ <b>RCS Policy 11.4:</b> Consider discretionary review of any demolition permits for properties identified on the City’s historic resources inventories, as applicable.</li> <li>○ <b>RCS Policy 11.5:</b> Conduct historic resource inventories to identify important historical resources and establish a Register of Historic Properties in Vista. Pursue grants and funding for inventories and preservation through the State Office of Historic Preservation.</li> <li>○ <b>RCS Policy 11.6:</b> Educate property owners as to the economic and other benefits of preserving and properly maintaining historical and culturally significant properties.</li> <li>○ <b>RCS Policy 11.7:</b> Maintain a program for the establishment of Mills Act contracts with property owners with historic properties to revitalize older areas of the City, support cultural tourism, bolster community identity, and retain the connection with the community’s past.</li> </ul> </li> <li>• <b>RCS Goal 12:</b> Acknowledge, preserve, and protect the City’s Native American heritage.               <ul style="list-style-type: none"> <li>○ <b>RCS Policy 12.1:</b> Develop a map identifying existing and potential archaeologically sensitive districts in Vista.</li> <li>○ <b>RCS Policy 12.2:</b> In collaboration with NAHC and the San Luis Rey Band of Mission Indians, adopt procedures for protecting significant archeological features, and apply to projects requiring discretionary City approval.</li> <li>○ <b>RCS Policy 12.3:</b> Ensure that the San Luis Rey Band of Mission Indians is notified of any proposed discretionary planning or grading applications affecting lands with potential archaeological resources.</li> <li>○ <b>RCS Policy 12.4:</b> If significant Native American artifacts are discovered during pre-construction or construction phases of a discretionary project or during the implementation a grading permit, the first priority shall be a) to avoid any further disturbance of those areas by re-designing the proposed development or project, and b) to have those areas placed into protected open space via an open space easement or similar protective measure. If avoidance is not feasible based on consultation with the Most Likely Descendant of such artifacts, appropriate mitigation shall be required. Any discovered Native American artifacts shall be returned to</li> </ul> </li> </ul>	O	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<p>their Most Likely Descendant and repatriated at the earliest opportunity.</p> <ul style="list-style-type: none"> <li>○ <b>RCS Policy 12.5:</b> If Native American human remains and/or associated grave goods are found during any of the activities identified in RCS Policy 12.4, the first priority shall be a) to avoid any further disturbance (i.e., grading, development) of those areas in which they are found, and b) to have the remains and/or associated grave goods preserved in place via an open space easement or similar protective land use measure. The second priority shall be that the Most Likely Descendant of the remains and/or associated grave goods, as determined by NAHC, must also have the opportunity to recommend other culturally appropriate treatment.</li> <li>● <b>RCS Goal 13:</b> Recognize the potential for paleontological resources and provide for mitigation programs to ensure collection and salvage of fossil materials. <ul style="list-style-type: none"> <li>○ <b>RCS Policy 13.1:</b> Adopt procedures to provide pre-construction mitigation.</li> <li>○ <b>RCS Policy 13.2:</b> Adopt procedures to mitigate impacts during construction, including requiring monitoring of excavation operations and salvage programs.</li> </ul> </li> </ul>		
<b>City of San Marcos</b>		
<p>General Plan for the City of San Marcos (City of San Marcos 2013):</p> <ul style="list-style-type: none"> <li>● <b>Goal COS-1:</b> Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions. <ul style="list-style-type: none"> <li>○ <b>Policy COS-11.1:</b> Identify and protect historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) in compliance with CEQA.</li> <li>○ <b>Policy COS-11.2:</b> Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of alternatives to preservation in place including but not limited to relocation, or reconstruction offsite, and/or photo-preservation.</li> <li>○ <b>Policy COS-11.3:</b> Identify opportunities for adaptive reuse of historic sites and buildings to preserve and maintain their viability.</li> </ul> </li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
<p>The Conservation and Open Space Element of the General Plan (City of Solana Beach 2001):</p> <ul style="list-style-type: none"> <li>● <b>Policy 6.a:</b> The City shall complete an inventory of historic resources and cultural landmarks, and shall establish a list of significant resources to be preserved.</li> <li>● <b>Policy 6.b:</b> Sites proposed for development are to be evaluated by certified archaeologists and/or paleontologists and appropriate mitigation measures shall be incorporated if adverse impacts to resources are identified.</li> <li>● <b>Policy 6.c:</b> The City shall implement the objectives and policies identified in the community design element of the general plan which promotes the preservation of historic landmarks, focal points, and special features.</li> <li>● <b>Policy 6.d:</b> The City shall encourage the acquisition of significant cultural resources by private and/or public entities with the interest of preserving resources.</li> <li>● <b>Policy 6.e:</b> A Historic preservation section shall be established by the City within its zoning ordinance.</li> </ul>	H, K	None
<b>County of San Diego</b>		
<p>The Conservation and Open Space Element of the County of San Diego General Plan (San Diego County General Plan 2011):</p> <ul style="list-style-type: none"> <li>● <b>GOAL COS-7:</b> Protection and Preservation of Archaeological Resources <ul style="list-style-type: none"> <li>○ <b>Policy COS-7.1:</b> Archaeological Protection. Preserve important archaeological resources from loss or destruction and require</li> </ul> </li> </ul>	H, J, K, O	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<p>development to include appropriate mitigation to protect the quality and integrity of these resources.</p> <ul style="list-style-type: none"> <li>○ <b>Policy COS-7.2:</b> Open Space Easements. Require development to avoid archeological resources whenever possible. If complete avoidance is not possible, require development to fully mitigate impacts to archaeological resources.</li> <li>○ <b>Policy COS-7.3:</b> Archaeological Collections. Require the appropriate treatment and preservation of archaeological collections in a culturally appropriate manner.</li> <li>○ <b>Policy COS-7.4:</b> Consultation with Affected Communities. Require consultation with affected communities, including local tribes to determine the appropriate treatment of cultural resources.</li> <li>○ <b>Policy COS-7.5:</b> Treatment of Human Remains. Require human remains be treated with the utmost dignity and respect and that the disposition and handling of human remains will be done in consultation with the Most Likely Descendant (MLD) and under the requirements of Federal, State and County Regulations.</li> <li>○ <b>Policy COS-7.6:</b> Cultural Resource Data Management. Coordinate with public agencies, tribes, and institutions in order to build and maintain a central database that includes a notation whether collections from each site are being curated, and if so, where, along with the nature and location of cultural resources throughout the County of San Diego.</li> <li>● <b>GOAL COS-8:</b> Protection and Conservation of the Historical Built Environment <ul style="list-style-type: none"> <li>○ <b>Policy COS-8.1:</b> Preservation and Adaptive Reuse. Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process.</li> <li>○ <b>Policy COS-8.2:</b> Education and Interpretation. Encourage and promote the development of educational and interpretive programs that focus on the rich multicultural heritage of the County of San Diego.</li> </ul> </li> <li>● <b>GOAL COS-9:</b> Protection of Paleontological Resources <ul style="list-style-type: none"> <li>○ <b>Policy COS-9.1:</b> Preservation. Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.</li> <li>○ <b>Policy COS-9.2:</b> Impacts of Development. Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.</li> </ul> </li> </ul>		

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## 3.6 Geology and Soils

This section addresses the potential for impacts from local geology and soils. As is common in Southern California, the Proposed Project is located in a seismically active area. Local building codes and regulations mitigate impacts from seismic activity such as earthquakes and landslides. To ensure that all components of the Proposed Project would comply with these regulations, mitigation measures have been included that require project design and construction to be completed in compliance with all applicable seismic hazard regulations and policies, and to implement safety measures during construction.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to geology and soils.

### 3.6.1 Physical Environmental Setting – Geology and Soils

The following sections describe the existing physical setting for the Study Area of the Proposed Project.

#### Geology

San Diego County is located along the Pacific Rim, characterized by subduction zones, in which one plate sinks under another (County of San Diego 2011a). In San Diego County, this leads to the creation of the peninsular ranges, northwest-trending mountain ranges to the east of the Study Area, approximately in the middle of the county (refer to **Figure ES-1**). The County is therefore divided into three geographic regions: Coastal Plain, Peninsular Range, and Desert Basin (Salton Trough). The Study Area lies within the Coastal Plan region and the central mountain-valley area of the Peninsular Range. These regions range from sea level to 5,000 feet in elevation. The coastal plain region is terraced, while the central mountain-valley region is characterized by ridges and basins, with the floors of the basins covered by a layer of alluvium. Geologically, the Study Area is underlain by Cenozoic marine sedimentary rocks, Mesozoic sedimentary and volcanic rocks, and intrusive igneous rock (County of San Diego 2011a).

#### Seismic Activity

Within the bounds of the Coalition member organizations, there are three mapped fault lines, all of which are located in the unincorporated area primarily served by Olivenhain MWD; however, none of these faults are mapped per the Alquist-Priolo Earthquake Fault Zoning Act (see below for more information). Additionally, there are a number of fault lines within proximity to the Study Area, including a series of Pre-Quaternary aged faults within the bounds of Camp Pendleton north of the Study Area, and some pre-quaternary and quaternary aged faults near the Peñasquitos River, south of the Study Area (County of San Diego 2007). A series of faults running northwest-southeast along the mountains in San Diego County, and smaller north-south running faults near the coast in the cities of San Diego, Chula Vista and National City are more recent than the faults nearer to the Study Area, and all contribute to potential earthquake hazards in San Diego County. Due to its location near these faults, and within the seismically active area of southern California, the entire County, including the Study Area, is subject to groundshaking (County of San Diego 2007). There is potential that a portion of the Group H component of the Proposed Project would be constructed across a Pre-Quaternary fault that extends from just southwest of Harmony Grove (Group J) to San Dieguito Reservoir (County of San Diego 2007).

#### Soils

Soils within the Study Area are primarily sandy loam and silt loams. The risk of soil liquefaction is generally low throughout the Study Area, with the exception of northwestern portions of the City of Oceanside near the San Luis Rey River, generally consistent with the area overlying the lower portion of the San Luis Rey Valley groundwater basin. This corresponds approximately to the area bounded by Highway 76, Canyon Drive, Douglas Drive, and Vandergrift Boulevard, as well as along the river from

approximately Canyon drive to the city's eastern border (County of San Diego 2007). There is also potential for liquefaction along Oceanside Boulevard from the coast east to approximately Mesa Drive and Rancho Del Oro Drive. Liquefaction potential also exists to the east of Agua Hedionda Lagoon to approximately College Boulevard, within the San Elijo Lagoon area, and along the San Dieguito River from Del Mar to approximately Zumaque Street and again east of Lake Hodges to the border of the City of San Diego, approximately the community of 4S Ranch, and in the unincorporated area near Twin Oaks, approximately at the head of Agua Hedionda Creek and south of Deer Springs Road.

San Diego County has a number of areas susceptible to landslides, which generally occur in the coastal areas in the western portion of the County, although they can occur elsewhere. Historically, the largest landslides have occurred along coastal bluffs and within various incorporated areas of the western portion of the County. Landslide potential mapping that is based on slope steepness (generally greater than 25 percent), soil type, soil-slip susceptibility, and landslide maps from the California Division of Mines and Geology (CDMG), shows that there is a greater risk for landslides within the urbanized areas of western San Diego County than in the eastern inland areas. Camp Pendleton has the greatest area of landslide risk, with moderate landslide risks in the urbanized northern portion of coastal San Diego County, and landslide risks generally increasing to the south in the City of San Diego (County of San Diego 2007).

Expansive soils can exacerbate the risk of landslides and slope failure, as well as damage infrastructure and buildings. Expansive soils are certain types of clay that expand and contract depending on their moisture content. For areas on a slope where these clays underlie more rigid topsoil, landslides may occur when moisture in the clay increases and the clay becomes unstable. This causes the overlying soil to slip, or move, leading to soil creep or landslides, and posing a risk to people, buildings, and infrastructure in the area. Mapping of expansive soils in the County shows the majority of potential expansive soils are located within the incorporated areas in western San Diego County, and the unincorporated areas located within the Study Area. Expansive soils are not generally found immediately along the coastline, with a few exceptions in Camp Pendleton, in a small portion of coastline in the Cities of Carlsbad and Del Mar, near La Jolla, and south of San Diego Bay (County of San Diego 2007).

### **3.6.2 Regulatory Framework – Geology and Soils**

#### **Federal**

There are no Federal regulations related to geology and soils that apply to the Proposed Project.

#### **State**

##### **Alquist-Priolo Special Studies Zone Act of 1972**

The Alquist-Priolo Special Studies Zone Act was adopted in 1972, and is now referred to as the Alquist-Priolo Earthquake Fault Zoning Act. The Act prevents construction of buildings used for human occupancy within an earthquake fault zone. Active faults are those that have been active within the last 11,000 years. Earthquake fault zones average 0.25 mile wide around active faults. For buildings constructed prior to 1975, this Act does not apply unless the structure is changed by 50 percent or more, except for Section 2621.9, regarding disclosure requirements, which is required for all structures designed for human occupancy (CGS, 2013).

##### **Seismic Hazards Map Act 1991**

The Seismic Hazards Map Act requires mapping of areas that may be at risk from the effects of ground failures such as earthquakes, liquefaction, and landslides. Geotechnical studies are required for projects located within a seismic hazard zone, and any seismic hazards must be delineated (PRC Ch. 7.8, 2001).



### **State Department of Conservation's Division of Mines and Geology (CDMG Guidelines for Evaluation of Geologic and Seismic Factors):**

*Dept. of Conservation "Seismic Hazard Information Needs of the Insurance Industry, Local Government, and Property Owners in California, an Analysis" 1990 (Special Publication 108)*

This publication provides a framework for creating a seismic hazards study zone program. A Seismic hazards study zone program is recommended to incorporate the data needs of insurance companies, local governments, and property owners. A special study zone approach that would help focus efforts on highest-risk areas and improve the safety of development should also be included in the program.

*Dept. of Conservation, "Guidelines for Evaluating and Mitigating Seismic Hazards in California," 1997 (Special Publication 117)*

Special Publication 117 contains guidelines for evaluating non-surface fault-rupture seismic hazards. It is designed to help evaluate and mitigate earthquake-related hazards for projects located within a designated hazard zone, as determined by the Seismic Hazards Map Act (CGS 2008).

*Note 49, Guidelines for Evaluating the Hazard of Surface Fault Rupture (1996)*

Note 49 provides guidance on what to include in a geologic investigation or report. The suggested topics and methodologies in Note 49 should be considered and addressed in detail where relevant to support conclusions and recommendations, though not all topics will be relevant in a given investigation. Note 49 should also not be considered limiting in the types of investigations that may be acceptable or appropriate for a given geological report (CGS 2002).

### **Uniform Building Code**

The Uniform Building Code requires permitting to enforce seismic safety standards for buildings.

### **California Building Code**

The California Building Code (CBC), which is included in Title 24 of the California Administrative Code, is based on the Uniform Building Code and provides for safe building standards, with greater emphasis on seismic protection for sensitive receptors such as hospitals and schools, and essential facilities.

## **Local**

### **General Plans**

The required Safety Element of general planning documents provides for the safety of the public and community through goals, objectives, plans, policies, and programs designed to document safety hazards and reduce the risks to life and property. General Plans identify areas at risk of earthquakes, earth shaking, liquefaction, and other geologic hazards, and incorporate these risks into their safety and hazards planning efforts. All of the applicable General Plans for the Proposed Project address geologic, seismicity, and faulting hazards in their Safety Element, and relevant goals, objectives, and policies are provided in **Table 3.6-1**, below.

### **Geologic Hazards Guidelines**

The County of San Diego developed guidelines for determining significance of geologic hazards for the purposes of CEQA analysis of projects. These guidelines include a summary of the applicable regulations, provide geologic and seismic hazards mapping, and include guidance on determining if an impact is significant.

### **Municipal Codes**

Municipal Codes for the cities within which the Proposed Project would occur include regulations and standards for construction. These codes include regulations on construction on hillsides and appropriate

safety measures to protect from landslides, soil slip, erosion and soil loss, as well as regulations on construction standards within seismic hazards zones.

### **Multi-Jurisdictional Hazard Mitigation Plan**

The Multi-jurisdictional Hazard Mitigation Plan is a hazard planning effort that includes participation from 20 local jurisdictions, and is coordinated through the County of San Diego. The plan is intended to achieve the following:

- Enhance public awareness and understanding of the natural and manmade hazards that may impact the County and threaten public health, safety, welfare, the economy, and key institutions;
- Create a decision tool for management that will aid in determining which actions should be implemented to address a potential disaster;
- Promote compliance with State and federal program requirements to allow the County to be eligible for grants, programs, and policies related to comprehensive hazard mitigation plans;
- Enhance local policies for hazard mitigation capability that will allow jurisdictions to implement hazard mitigation actions;
- Provide inter-jurisdictional coordination of mitigation-related programming that will ensure a coordinated effort for hazards mitigation; and
- Achieve regulatory compliance that will also allow participating jurisdictions to qualify for certain types of disaster aid.

The multi-jurisdictional hazard mitigation plan was adopted in 2010. Participating jurisdictions within the Study Area includes the jurisdictions of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, Vista, Rancho Santa Fe Fire Protection District, and the County of San Diego. This plan identifies, describes, and maps hazards relevant to the County of San Diego and its 18 incorporated cities.

### **3.6.3 Impact Analysis – Geology and Soils**

#### **Methodology for Analysis**

The potential impacts on geology and soils from the Proposed Project were evaluated using the CEQA Guidelines, and consistent with the guidance provided in the County of San Diego’s Geologic Hazards Guidelines.

#### **Thresholds of Significance**

In accordance with the CEQA Guidelines, an impact to geology and soils would be significant if the Proposed Project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42).
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water

### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Result in substantial soil erosion or the loss of topsoil:* The project would not have any substantial impact on soil erosion or the loss of topsoil because standard construction and planning processes would reduce soil loss during construction, and the use of recycled water for irrigation or indirect potable reuse would not cause any additional soil erosion.
- *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater:* The Proposed Project does not involve septic tanks or alternative wastewater disposal systems; therefore there would be no impact to soils from such systems.

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to geology and soils that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.6-1 Potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of known earthquake fault; Strong seismic ground shaking; Seismic-related ground failure, including liquefaction; or Landslides.**

##### **Earthquake Faults and Ground Shaking**

There are no Alquist-Priolo fault zones within the Study Area. However, there are other fault lines in the Study Area and within San Diego County, which make the area susceptible to earthshaking events that may be felt beyond the location of physical fault lines. The San Diego County General Plan EIR (County of San Diego 2011a) shows large mapped faults primarily west, south, and northeast of the Study Area. Most of the faults within the Study Area are pre-Quaternary faults and are located near or within Groups G, K, and N. However, all Groups are susceptible to the effects of earthquake faults and ground shaking. As mapped in the County of San Diego's Multi-Jurisdictional Hazard Mitigation Plan (County of San Diego, 2010), the entire Study Area is at risk for a probabilistic peak ground acceleration of 0.21-0.25, as peak horizontal acceleration expressed as a percentage of gravity with 10 percent probability of exceedance in 50 years. Building codes in San Diego County require all buildings be designed and constructed to withstand a minimum peak ground acceleration of 0.4, well above the peak ground acceleration anticipated within the Study Area (County of San Diego, 2010).

Given the Study Area's location within a seismically-active area that is prone to ground shaking, impacts associated with rupture of known earthquake faults and strong seismic shaking are considered potentially significant. During design of each project component, however, engineers shall comply with all applicable codes, standards, and regulations (including applicable General Plans) designed to protect structures and people from the effects of earthquakes and ground shaking events. Implementation of

**Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** will reduce potential impacts of ground shaking events that result in liquefaction or landslides by incorporating protective measures in those areas.

### **Liquefaction**

As described above, liquefaction is a potential risk in parts of the Study Area. Liquefaction potential exists primarily along the rivers and creeks in the Study Area, as well as over the San Luis Rey groundwater basin. There is also a large area with liquefaction potential over the San Elijo Valley Ground Water Basin and along Santa Ysabel Creek east of Lake Hodges.

Due to the presence of potential liquefaction zones within the Study Area and the Study Area's location within a seismically-active area, impacts associated with seismic-related ground failure are considered potentially significant. During design of each project component, however, engineers shall comply with all applicable codes, standards, and regulations (including applicable General Plans) designed to protect structures and people from the effects of liquefaction. Implementation of **Mitigation Measures MM 3.6-1a** will ensure potential impacts are less than significant by requiring soils testing/surveys and protective measures in areas with liquefaction potential.

### **Landslides**

Within the Study Area, there is a moderate risk of landslides, primarily along the slopes running generally north and south through the middle of the Study Area. Per the Geologic Hazards Guidelines from the County of San Diego (County of San Diego, 2007), all Groups contain some moderate landslide risk areas. As such, the Study Area is considered potentially susceptible to impacts associated with landslides. During design of each project component, engineers shall comply with all applicable codes, standards, and regulations (including applicable General Plans) designed to protect structures and people from the effects of landslides. Implementation of **Mitigation Measures MM 3.6-1b** will ensure potential impacts are less than significant by requiring slope stabilization in areas with landslide potential.

### Significance Determination before Mitigation

Potentially significant.

### Mitigation Measures

Due to the risk of groundshaking, liquefaction, landslides, and other seismic-related events throughout the Study Area, **Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** shall apply to all Groups within the Proposed Project and shall be implemented by the lead agency for each individual project component as applicable.

**MM 3.6-1a Assess Potential for Liquefaction and Incorporate Protective Measures.** During design of project components in areas shown as at risk for liquefaction, engineers shall assess potential for liquefaction through soils testing/surveys and incorporate protective measures as necessary. Pipelines shall be installed within consolidated, engineered backfill.

**MM 3.6-1b Stabilize Slopes During Construction.** For facilities located within landslide risk areas, slopes shall be stabilized prior to and during construction activities. Such stabilization may include grading to reduce the slope, removal of unstable soils and materials, or an appropriate slope stabilization method.

### Significance Determination after Mitigation

Less than significant.

### **Impact 3.6-2 Potential for on- or off-side landslide, lateral spreading, subsidence, liquefaction, or collapse.**

As described above, the Study Area is at risk for seismic-related events and the Study Area includes lands that are susceptible to landslides and liquefaction, and therefore associated lateral spreading. Elements of the Proposed Project could therefore be located on unstable geologic units or soils, and would potentially be susceptible to impacts associated with landslides, lateral spreading, liquefaction, and collapse. During design of each project component, however, engineers shall comply with all applicable codes, standards, and regulations (including applicable General Plans) designed to protect structures and people from the effects of unstable soil. Implementation of **Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** will further reduce potential impacts of unstable soils that result in liquefaction or landslides by incorporating protective measures in those areas.

Subsidence occurs when excessive groundwater extraction leads to compression of the groundwater basin, and the land subsides. The County of San Diego's Multi-Jurisdictional Hazard Mitigation Plan determined that subsidence is of minimal concern within the County of San Diego due to the region's granitic soils, which are less prone to subsidence. Further, the plan found a lack of historical record of subsidence within the region (County of San Diego, 2010). The Proposed Project would not extract groundwater to a degree that would cause subsidence, because groundwater extraction would be associated with potable reuse activities that would recharge groundwater basins to the same degree to which water would be extracted, and would therefore not contribute to the primary cause of subsidence. Therefore, there would be no impact related to subsidence from the Proposed Project, and no mitigation related to subsidence is required.

#### Significance Determination before Mitigation

Potentially significant impact.

#### Mitigation Measures

**Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** shall apply to all components of the Proposed Project and shall be implemented by the lead agency for each individual project component as applicable.

#### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.6-3 Risks to life or property from expansive soil.**

Per the County of San Diego's Guidelines for Determining Significance: Geologic Hazards (County of San Diego, 2007), most of the Study Area overlies potentially expansive soils. The coastal portions of the Study Area are generally not located on potentially expansive soils, with exceptions near the Encina WPCF and Carlsbad WRF, within Group A. There are also expansive soils in the areas between Highway 78 and Lake Hodges, west of Harmony Grove. All of the Groups associated with the Proposed Project are located in areas with potentially expansive soils, which may create a risk to the Proposed Project components. During design of each project component, however, engineers shall comply with all applicable codes, standards, and regulations designed to protect structures and people from the effects of expansive soil. Implementation of **Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** would further reduce the potential impacts of unstable soils that result in liquefaction or landslides by incorporating protective measures in those areas.

#### Significance Determination before Mitigation

Less than significant.

Mitigation Measures

**Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** shall apply to all components of the Proposed Project.

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**Table 3.6-1: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
<p>The Environmental Resource Management Element (2002) of the City of Oceanside General Plan:</p> <ul style="list-style-type: none"> <li>• Objective 1 [Seismic and Geologic Hazard]: Consider seismic and geologic hazards when making land use decisions particularly in regard to critical structures.</li> <li>• Objective 2 [Seismic and Geologic Hazard]: Minimize the risk of occupancy of all structures from seismic and geologic occurrences.</li> <li>• Objective 3 [Seismic and Geologic Hazard]: Provide to the public all available information about existing seismic and geologic conditions.</li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<p>The Public Safety Element of the City of Carlsbad General Plan:</p> <ul style="list-style-type: none"> <li>• Goal A: A City which minimizes injury, loss of life, and damage to property resulting from potential geologic and seismic disasters.</li> <li>• Objective B.2: To establish a development project review process that allows consideration of seismic and geologic hazards at the earliest possible point in the development process, preferably before comprehensive engineering work has commenced.</li> <li>• Implementing Policy and Action Program C.2: Require project applicants to submit evidence that structures are designed to meet ground response characteristics of their individual sites.</li> <li>• Implementing Policy and Action Program C.3: Prohibit the location of critical structures directly across known faults unless a geotechnical and/or seismic investigation is performed to show that the fault is neither active nor potentially active.</li> <li>• Implementing Policy and Action Program C.5: Require applicants to conduct detailed geologic and seismic investigations at sites where the construction of critical structures (high occupancy structures and those which must remain in operation during emergencies) and structures over four stories are under consideration.</li> <li>• Implementing Policy and Action Program C.7: Require qualified professionals in the fields of Soil Engineering and Engineering Geology to review grading plans and inspect areas of excavation during and after grading, to evaluate slope stability and other geotechnical conditions that may affect site development and public safety. It is imperative in areas of known or suspected landslides and/or adverse geologic conditions to ascertain slope stability before and after development. The following determinations should be made in these cases: extent of landslide, depth-to-slide plane, soil types and strengths, presence of clay seams and ground water conditions.</li> <li>• Implementing Policy and Action Program C.12: Require installation of appropriate siltation and erosion control measures on proposed building and development sites wherever there is a potential for soil erosion.</li> <li>• Implementing Policy and Action Program C.16: Require an investigation by a qualified engineering geologist, where it has been determined that a probably seismic hazard exists.</li> <li>• Implementing Policy and Action Program C.17: Design all structures in accordance with the seismic design standards of the Uniform Building Code and State building requirements.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Encinitas</b></p> <p>Goals and policies relevant to the Study Area in the Public Safety Element of the Encinitas General Plan (1995a) are as follows:</p> <ul style="list-style-type: none"> <li>• Goal 1: Public health and safety will be considered in future Land Use Planning.</li> <li>• Policy 1.2: Restrict develop in those areas where slope exceeds 25% as specified in the Hillside/Inland Bluff overlay zone regulations of the zoning code. Encroachment into slopes as detailed in the Hillside/ Inland Bluff overlay may range from 0 percent to a maximum of 20 percent, based on a sliding scale of encroachment allowances reflective of the amount of slopes, the property within steep upon the discretionary judgment that there is no feasible alternative siting or design which eliminates or substantially reduces the need for such encroachment, and it is found that the bulk and scale of the proposed structure has been minimized to the greatest extent feasible and such encroachment is necessary for minimum site development and that the maximum contiguous area of sensitive slopes shall be preserved. Within the Coastal Zone and for the purposes of this section, " encroachment" shall constitute any activity which involves grading, construction, placement of structures or materials, paving, removal of native vegetation including clear- cutting for brush management purposes, or other operations which would render the area incapable of supporting native vegetation or being used as wildlife habitat. Modification from this policy may be made upon the finding that strict application of this Policy would preclude any reasonable use of property (one dwelling unit per legal parcel). Exceptions may also be made for development of circulation element roads, local public streets or private roads and driveways which are necessary for access to the more developable portions of a site on slopes of less than 25% grade, and other vital public facilities, but only to the extent that no other feasible alternatives exist, and minimum disruption to</li> <li>• Policy 1.12: The City will observe and apply measures to reduce earthquake structural risk through building and construction codes.</li> </ul>	E, H	San Elijo WRF
<p><b>City of Escondido</b></p> <p>The Resource Conservation Element of the Escondido General Plan (Escondido 2012a) and Land Use Element (Escondido 2012b):</p> <p><u>Resource Conservation:</u></p> <ul style="list-style-type: none"> <li>• Goal 3: A safe and healthy environment through an aggressive code enforcement program.</li> <li>• Code Enforcement Policy 4.1: Provide facilities and staffing to maintain an aggressive and visible code enforcement program to ensure that existing properties meet health and safety standards.</li> <li>• Goal 7: Minimization of adverse effects to residents, property, and critical facilities caused by geologic and seismic hazards.</li> <li>• Soils and Seismicity Policy 7.2: Minimize development of public utilities in areas where geologic and seismic hazards exist to avoid additional costs associated with installation, maintenance, and replacement.</li> </ul> <p><u>Land Use:</u></p> <ul style="list-style-type: none"> <li>• Goal 1: A community composed of distinct residential neighborhoods, business districts, and employment centers, whose urban form reflects the natural environmental setting.</li> <li>• Community Character Policy 1.12: No development shall be permitted on slopes greater than 35% or in natural 100-year floodways. If approved by the city and other appropriate local, state and federal agencies, an environmental channel may be considered within the floodway. Adequate landscaping, revegetation, flood control measures and useable open space beyond the embankments of the environmental channel shall be provided as determined by the city.</li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF



Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Vista</b>		
<p>The Vista General Plan (City of Vista 2011b):</p> <ul style="list-style-type: none"> <li>• PSFS Goal 3: Reduce damage, losses, and the risk to the community caused by seismic and other geologic hazards.</li> <li>• PSFS Policy 3.1: Require a site-specific geotechnical report, prepared by State-licensed personnel as a condition of project approval for development within areas of known or suspected geologic hazard on site.</li> <li>• PSFS Policy 3.2: Design critical facilities that will function after a major earthquake.</li> <li>• PSFS Policy 3.5: Discourage development in areas of known slope instability and/or high landslide risk.</li> </ul>	O	None
<b>City of San Marcos</b>		
<p>Safety Element of the San Marcos General Plan (City of San Marcos 2012a):</p> <ul style="list-style-type: none"> <li>• Goal S-1: Reduce risks to the community from earthquakes by regulating new development and redevelopment to prevent the creation of new geologic and seismic hazards.</li> <li>• Policy –S-1.1: Reduce the risk of impacts from geologic and seismic hazards by applying current and proper land use planning, development engineering, building construction, and retrofitting requirements.</li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
<p>The City of Solana Beach General Plan (2001):</p> <ul style="list-style-type: none"> <li>• Goal 3.1: To minimize hazards to public health, safety, and welfare resulting from natural and man-made phenomena.</li> <li>• Objective 1.0. Ensure that geologic hazards in all areas for human use or habitation are mitigated properly or avoided prior to or during development.</li> <li>• Policy 1.a. The City shall require geotechnical investigations by a certified engineering geologist for all grading and construction proposed within any area of significant erosion, slope instability, and/or areas subject to severe seismic hazards, including inland and coastal bluffs.</li> <li>• Policy 1.c: The City shall require construction to be in conformance with the Uniform Building Code, specifically Chapter 23 as it provides for earthquake-resistant design, Chapter 70 as it provides for excavation and grading, and with the city’s adopted hillside development ordinance.</li> </ul>	H, K	None
<b>County of San Diego</b>		
<p>Safety Element of the San Diego General Plan (2011):</p> <ul style="list-style-type: none"> <li>• Goal S-7: Reduced Seismic Hazards. Minimized personal injury and property damage resulting from seismic hazards.</li> <li>• Policy S-7.2: Engineering Measures to Reduce Risk. Require all development to include engineering measures to reduce risk in accordance with the California Building Code, Uniform Building Code, and other seismic and geologic hazard safety standards, including design and construction standards that regulate land use in areas known to have or potentially have significant seismic and/or other geologic hazards.</li> <li>• Goal S-8: Reduced Landslide, Mudslide, and Rock Fall Hazards. Minimized personal injury and property damage caused by mudslides, landslides, or rock falls.</li> </ul>	H, J, K, O	None

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## 3.7 Greenhouse Gas Emissions

This section addresses greenhouse gas (GHG) emissions that could result from implementation of the Proposed Project. Greenhouse gases and their contribution to climate change are a global issue, but this analysis focuses on emissions associated with the project and their relationship to statewide policies for reduction in GHG emissions. Supporting documentation for this analysis is provided in **Appendix C**.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential greenhouse gas emissions-related impacts.

### 3.7.1 Physical Environmental Setting – Greenhouse Gas Emissions

#### Greenhouse Gas Properties, Effects, and Sources

Gases that trap heat in the atmosphere are referred to as GHGs because they are transparent to solar radiation, but capture heat radiated by the earth back into the atmosphere, much like a greenhouse. The principal GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), and water vapor (H<sub>2</sub>O).

The driving force for global climate change is attributed to the accumulation of GHGs. Climate change is commonly used interchangeably with “global warming” and the “greenhouse effect.” Definitions of climate change vary between and across regulatory authorities and the scientific community, but can generally be described as the changing of the earth’s climate caused by natural fluctuations and anthropogenic activities that alter the composition and behavior of the global atmosphere.

Many GHGs in the atmosphere are naturally occurring, but the presence of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O is largely the result of human activities that have accelerated the rate at which these compounds occur within the earth’s atmosphere. CO<sub>2</sub> is the “reference gas” for climate change, and GHGs emissions are typically reported in “carbon dioxide-equivalents” (CO<sub>2</sub>e).<sup>1</sup> CO<sub>2</sub> emissions are largely byproducts of fossil fuel combustion, whereas CH<sub>4</sub> emissions result from off-gassing associated with agricultural practices and landfills. Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and other GHGs with much greater heat-absorption potential than CO<sub>2</sub> are generated in certain industrial processes.

The effects of climate change on the natural environment in California may include, but are not limited to, extreme heat conditions that could last longer and become more frequent, reduced snowpack, and more frequent occurrence of high ozone days, large forest fires, and drought years. Secondary effects are likely to include a global rise in sea level, impacts on agriculture, changes in geographic occurrence of disease vectors, and loss of habitats and biodiversity.

The California Air Resources Board (CARB) estimated that California produced 458.7 million metric tons (MMT) of CO<sub>2</sub>e emissions in 2012. Transportation is the source of 37 percent of the state’s GHG emissions, followed by industrial sources at 22 percent, electricity generation (both in-state and out-of-state) at 21 percent, and agriculture, residential, and commercial at 8, 7, and 5 percent, respectively (CARB 2014).

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<sup>1</sup> Every GHG has a global warming potential (GWP), a measurement of the impact that the particular gas has on “radiative forcing” (i.e., the additional heat/energy that is retained in the earth’s troposphere through the addition of this gas during a defined time period). CO<sub>2</sub> equivalents provide a universal standard of measurement against which the effects of releasing (or avoiding the release of) different GHGs can be evaluated. CH<sub>4</sub> has a GWP of 21 and N<sub>2</sub>O has a GWP of 310, meaning that their effect on global warming would be 21 and 310 times greater, respectively, than an equivalent amount of CO<sub>2</sub>.

## **Anticipated Climate Change Impacts**

While climate change is a global phenomenon, local effects will vary throughout the world and will have different social, economic, and environmental impacts. The County of San Diego is already seeing changes to local climate, which are expected to become more unpredictable and more pronounced by mid-century (Climate Education Partners – San Diego Region [CEPSD] 2014). Climate change impacts include changes in temperature and in rainfall patterns, changes in hydrology and water quality, coastal flooding, wildfires, threats to wildlife, and public health.

### **San Diego, 2050 is Calling Report**

In 2014, the *San Diego, 2050 is Calling* report described the expected impacts of climate change in the County of San Diego and consulted local and regional groups on local climate change impacts and adaptation measures (CEPSD 2014). Per the report, the impacts of climate change on the San Diego region include hotter and more humid heat waves and less frequent but more intense rainfall events. Regional temperatures are expected to increase more than twice as fast in the next 40 years as they have in the last 40 years. The anticipated increase in rainfall intensity could cause flood events. Local water supplies could become stressed from more intense and frequent drought events, as well as from more evaporation and increasing water demand. Reductions in the amount of snowpack and river flow across the state and the western U.S. is anticipated to impact the availability of imported water from both the State Water Project and the Colorado River, resulting in an increased need to meet regional water demands through new local supply development. Anticipated sea level rise, extreme high tides, and winter storms magnified by the effects of climate change are expected to result in more frequent and widespread coastal flooding, increasing the vulnerability of shoreline communities to beach loss and coastal cliff erosion. Finally, wildfire seasons may be longer and more extreme, with warming temperatures, drier soils and vegetation and less frequent rains. Wildfires are a concern in the San Diego region, which experienced three of California's 10 largest wildfires.

### **Local Public Agencies**

In addition to the regulatory measures discussed below, various public agencies are building capacity to take actions to mitigate and prepare for climate change. The Tijuana River National Estuarine Research Reserve, which is leading a collaborative climate change adaptation project in the Tijuana River Valley and one of the largest intact coastal wetlands in Southern California. The Climate Collaborative – San Diego Region was established as a partnership between public agencies, San Diego Gas & Electric, academia, philanthropy, nonprofit organizations and community leaders to facilitate collaboration among local leaders in the face of climate change (The San Diego Foundation 2013).

## **3.7.2 Regulatory Framework – Greenhouse Gas Emissions**

### **Federal**

#### **U.S. Participation in United Nations Climate Change Efforts**

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the United Nations and the World Meteorological Organization to assess “the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaption of mitigation” (IPCC 2013).

On March 21, 1994, the United States signed the United Nations Framework Convention for Climate Change (UNFCCC), under which governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technical support to developed countries; and cooperate in preparing for adaption to the impacts of climate change.

## **Clean Air Act and U.S. Environmental Protection Agency**

The U.S. Supreme Court ruled on April 2, 2007 that CO<sub>2</sub> is an air pollutant as defined under the Clean Air Act, and that the United States Environmental Protection Agency (USEPA) has the authority to regulate GHG emissions. On April 17, 2009, the USEPA issued its proposed endangerment finding for GHG emissions which states that GHGs in the atmosphere endanger the public health and welfare of current and future generations. The USEPA has stated that the high atmospheric levels of greenhouse gasses are the unambiguous result of human emissions, and is very likely to cause observed increases in average temperatures and other climatic changes.

In 2009, USEPA issued a rule that requires mandatory reporting of GHG emissions from large sources in the United States. Under the rule, suppliers of fossil fuels or industrial greenhouse gasses, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the USEPA. These data, which includes approximately 85 percent of the U.S.'s total GHG emissions, is intended to improve understanding of GHG sources and will guide development of emissions reduction policies and programs.

## **State**

### **Executive Order S-3-05 (2005)**

Governor Schwarzenegger issued Executive Order S-3-05 in 2005, which set GHG emission reduction targets: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80 percent below 1990 levels by 2050.

### **Assembly Bill 32 (2006)**

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Section 38500, et seq.). It requires CARB to design and implement emission limits, regulations, and other measures to reduce statewide GHG emissions to 1990 levels by 2020 (representing a 25 percent reduction in emissions). AB 32 establishes an enforceable statewide cap on global warming emissions and reduction measures phased in by 2012, and through discrete early action measures that could be made effective by 2010. AB 32 establishes a timeframe for CARB to adopt emissions limits, rules, and regulations, but does not provide thresholds or methodologies for analyzing a project's impacts on global climate change.

### **CARB Scoping Plan (2008)**

CARB adopted the Scoping Plan in December 2008, which is the State's plan to achieve GHG reductions in California required by AB 32. The Scoping Plan contains the main strategies California will implement to achieve reduction of 169 MMT of CO<sub>2</sub>e, or approximately 30 percent of the state's projected 2020 emissions under a business-as-usual scenario, and a reduction of 42 MMT CO<sub>2</sub>e, or almost 10 percent, from 2002 to 2004 average emissions.

### **Other Bills and Executive Orders**

There are several other GHG and climate change senate bills and executive orders that have been passed over the past several years that seek to: reduce GHG emissions from electricity generation (SB 1078, 107, and 1368, Executive Order S-14-08); establish guidelines for mitigating GHG emissions or the effects of GHG emissions under CEQA by 2010 (SB 97); align regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation through adoption of a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) (SB 375); provide land use planning guidance related to sea level rise and other climate change impacts (Executive Order S-13-08); and establish a Low-Carbon Fuel Standard (LCFS) and coordinate actions of CEC, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "lifecycle carbon intensity" of transportation fuels (Executive Order S-01-07).

## Local

### **Climate Action Plans**

Climate Action Plans (CAPs) have been adopted by the cities of Encinitas, Escondido, and Vista within the Study Area. The cities of Del Mar, Solana Beach, and Carlsbad are in the process of developing CAPs. CAPs outline strategies that could be implemented to reduce GHG emissions and adapt to the local impacts of climate change. In addition to the CAPs, all local governments within the County of San Diego have performed GHG emissions inventories (The San Diego Foundation 2013).

### **San Diego Air Pollution Control District (SDAPCD)**

SDAPCD is the agency principally responsible for comprehensive air pollution control in the San Diego Air Basin (SDAB). To provide GHG emission guidance to local jurisdictions within the SDAB, SDAPCD has organized a Working Group to develop GHG emission analysis guidance and thresholds. SDAPCD released a draft guidance document regarding interim CEQA GHG significance thresholds in May 2010 (SDAPCD 2010). In 2013, the County of San Diego produced *Guidelines for Determining Significance and Report Format and Content Requirements: Climate Change*, which describes methods and the various threshold approaches which can be used to determine significant impact of GHG emissions of a project (San Diego County 2013).

### **General Plans**

The municipal and county General Plans for jurisdictions within the Study Area include goals, objectives, and policies that address GHG emissions and climate change. The relevant goals, objectives, and policies included in the General Plans of the individual jurisdictions within the Study Area are outlined in **Table 3.7-5** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **County of San Diego Climate Action Plan**

In response to the potential impacts of climate change, the County of San Diego developed a Climate Action Plan (CAP) in June 2012 that addressed climate change effects, emissions targets, local measures to reduce emissions, and adaptation to potential impacts (San Diego County 2012). The CAP included community and local government inventories of annual GHG emissions, 4,512,580 metric tons of carbon dioxide equivalents (MT CO<sub>2e</sub>) and 220,633 MT CO<sub>2e</sub> respectively, which were broken down into the following categories:

- Community Inventory: Transportation (59%), Commercial Industrial Energy (14%), Residential Energy (11%), Potable Water (5%), Agriculture (4%), Solid Waste (3%), Wastewater (1%), and Other (3%)
- Local Government Inventory: Landfills (29%), Employee Commutes (26%), Buildings and Facilities (25%), Vehicle Fleet (11%), Wastewater Facilities (5%), Government Generated Solid Waste (2%), Public Lighting (1%), Airport Facilities (0.5%), Water (0.5%)

Elements of the County's Climate Action Plan were successfully challenged in court in 2014 in the case *Sierra Club v. County of San Diego* (Super. Ct. No. 37-2012-00101054- CU-TT-CTL).

### **3.7.3 Impact Analysis – Greenhouse Gas Emissions**

#### **Methodology for Analysis**

Potential impacts from GHG emissions associated with the pipelines and pump stations were estimated by modeling the quantity of GHG emissions produced during construction and operation.

## Construction

Pipeline construction emissions associated with each group were modeled using the Road Construction Emissions Model, Version 7.1.5.1. Although details of the exact length and location of the pipelines may change, modeling provides a reasonable estimate of the GHG emissions that may be expected from pipeline construction activities. For pump stations, modeling was conducted using the CalEEMod 2013.2.; the modeling of pump station construction emissions is dependent upon the size of the pump (which is currently known) and the size of the construction site that would be disturbed for pump station construction (which is currently unknown). For the analysis, it was assumed that each pump station would have an average construction site of 0.25 acres; this area would include space to prepare the site and build the pump house building, which in most cases is anticipated to have a much smaller footprint than 0.25 acres. For larger pump stations (490 HP), the 0.25 acre site is still an adequate assumption given that all pump house buildings are expected to have a smaller footprint than 0.25 acres. Construction emissions for pipeline and pump stations are presented by group in **Table 3.7-1**.

As explained in *Section 3.3 Air Quality*, the sum of emissions for all groups is not a representative metric of the maximum emissions expected in a year, given that the approximate schedule of construction for all pipeline and pump station group extends from 2015 to 2025. Using the construction schedule that is listed in *Chapter 2, Project Description*, the maximum emissions from construction of pipelines and pump stations are expected to occur approximately in the year 2020, when Groups C and G will be under construction (see **Table 3.7-1**). However, considering that additional pipeline and pump station construction could occur, to be conservative, this analysis looked at total potential emissions from pipeline and pump station construction, which are 5,452 MT CO<sub>2</sub>E/year.

Potential GHG emissions from construction of the treatment facilities was estimated using a similar methodology described in *Section 3.3 Air Quality*. Research was conducted to identify similar treatment facility upgrade projects over the last ten years in California, and data on GHG emissions associated with construction was compiled, as shown in **Table 3.7-2**. Modeling was not possible due to the uncertainties associated with the exact nature of the treatment facility upgrades and construction, and their construction details. **Table 3.7-2** shows the facilities that were considered in the GHG emissions analysis, along with their size, location, and the estimated GHG emissions from construction. As shown in the table, there is a range of potential GHG emissions associated with construction activities for the proxy treatment facilities included in this analysis. Annual GHG emissions from construction ranged from 54 MT CO<sub>2</sub>e /yr to 9,104 MT CO<sub>2</sub>e /yr for the facilities considered, with an average of 1,517 MT CO<sub>2</sub>E/year per plant. These differences may be attributed to a number of factors, such as size of the expansion, whether the original facility was producing primary or secondary-treated water, whether the expansion was a simple upgrade to tertiary without increasing total output of treated water, or whether a new treatment facility would be constructed. Other factors in GHG emissions from treatment facility upgrades and construction could include the distance workers would travel to construction sites, design, construction methods, and other factors.

Given the programmatic nature of this EIR and the fact that all of the facilities, pipelines, appurtenances, and other components that may be associated with the Proposed Project are not currently known, this GHG emissions analysis was conducted conservatively with the best available information about the Proposed Project. These calculations are used as a starting point for analyzing potential emissions that could result from the Proposed Project and as guidance for setting mitigation measures.

## Operations

For operational emissions associated with the facilities in the Proposed Project, three categories are necessary to address:

- Mobile sources (vehicles) making trips to and from the facilities

- Indirect emissions from electricity consumption
- Direct emissions (applicable to treatment plants only)

For mobile sources, the total vehicle miles traveled (VMTs) were estimated based on number of employees visiting or working at each facility on a daily basis, and the frequency of those trips. The trip length was obtained from CalEEMod data tables for the San Diego region. Emission factors were also obtained from CalEEMod data tables for a gasoline passenger vehicle.

Indirect emissions were computed with the same methodology described in *Section 3.3 Air Quality* for indirect emissions of air criteria pollutants. For pump stations, annual energy consumption estimates were derived from the planning level energy costs while the energy required for the treatment plants was computed with energy intensity factors (*see Section 3.7-1* for more information) for non-potable reuse plants (CAPCOA, 2010) and advanced treatment for potable reuse (City of San Diego, 2013). The energy consumption was multiplied by CO<sub>2</sub>E emission factors for the California energy mix obtained from EPA eGrid.

Direct emissions were computed based on flow-based emission factors for N<sub>2</sub>O and methane (CH<sub>4</sub>) for generic aerobic process wastewater treatment plants obtained from CalEEMod data tables.

**Table 3.7-3** presents the operational emissions for the Proposed Project.

**Table 3.7-1: GHG Emissions from Pipeline and Pump Station Construction**

Project Components	Emissions from Pipeline Construction (MT CO <sub>2</sub> e/ Group)	Months of Construction for Pipeline Groups	Emissions from Pipeline Construction (MT CO <sub>2</sub> e/ Year)	Emissions from Pump Station Construction (MT CO <sub>2</sub> e/ Year)	Emissions from Pipeline and Pump Station Construction (MT CO <sub>2</sub> e/ Year)
Group A	1,201	23	626	74	700
Group C	498	9	498	296	794
Group D	150	3	150	74	224
Group E	151	3	151	N/A	151
Group G	471	24	236	518	753
Group H	425	8	425	148	573
Group I	564	11	564	148	712
Group J	199	4	199	N/A	199
Group K	620	12	620	148	767
Group M	150	3	150	148	298
Group O	205	4	205	74	279
<b>Total GHG Emission</b>	<b>4,634</b>		<b>3,825</b>	<b>1,627</b>	<b>5,452</b>
<b>Maximum Yearly Emissions<sup>1</sup></b>	<b>1,345 MT CO<sub>2</sub>E</b>				

<sup>1</sup> The maximum yearly emission is forecasted to be approximately in year 2020 when Groups C and G will be under construction.



**Table 3.7-2: GHG Emissions from Construction of Treatment Facilities and Facility Upgrades<sup>1</sup>**

Wastewater Treatment Plant	City	Total Tertiary Treatment Capacity (MGD)	GHG Emissions (MT CO <sub>2</sub> e/yr) <sup>2</sup>	Year Published
Ridgemark WWTP and RWP	Hollister	0.35	544	2009
Las Gallinas Valley Sanitary District WWTP	San Pablo Bay	0.7	54	2009
Novato SD RWTF	San Pablo Bay	1.2	117	2009
Morro Bay-Cayucos WWTP <sup>3</sup>	Morro Bay	1.5	1,381	2010
Napa SD Soscol WRF	San Pablo Bay	5.9	326	2009
Regional WRF (Alternate 1) <sup>4</sup>	Fresno	12.5	112	2011
Regional WRF (Alternate 2 – Satellite Plants) <sup>4</sup>	Fresno	18.28	494	2011
Riverside Regional Water Quality Control Plant	Riverside	52.2	9,104	2010

<sup>1</sup> Sources: Sunnyslope County Water District 2009; North Bay Water Reuse Authority 2009; City of Morro Bay 2010; City of Fresno 2011; City of Riverside 2010

<sup>2</sup> Where GHG emissions were reported in tons/year, a conversion factor of 0.907 MT/ton was applied

<sup>3</sup> Construction occurred over four years, emissions reported here was from the first year, when emissions were significantly higher than the other three years.

<sup>4</sup> Alternates included in the same EIR

**Table 3.7-3: GHG Operational Emissions from Treatment Facilities and Pump Stations**

Facility	Mobile Sources (MT CO <sub>2</sub> e/yr)	Indirect Emissions from Electricity (MT CO <sub>2</sub> e/yr)	Direct Emissions <sup>1</sup> (MT CO <sub>2</sub> e/yr)	Total
Pump Stations	9	1,205	0	1,214
Treatment Plants (Based on Proposed Project Flow)	20	5,374	1,591	6,985
<b>Total</b>	<b>29</b>	<b>6,579</b>	<b>1,591</b>	<b>8,199</b>

<sup>1</sup> Includes CH<sub>4</sub> and N<sub>2</sub>O and their respective global warming potential (See Appendix C)

### Thresholds of Significance

For the purposes of this analysis, GHG emissions would be significant if the Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impacts on the environment, based on any applicable threshold of significance; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.
- Result in a net increase of operational greenhouse gas emissions, either directly or indirectly, at a level exceeding 2,500 MT CO<sub>2</sub>e per year<sup>2</sup>

<sup>2</sup> The 2,500 MT CO<sub>2</sub>e per year threshold is based upon information from the San Diego Climate Action Plan. However, because there is currently a legal challenge to this plan, for purposes of analysis the suitability of this threshold has been independently evaluated by comparing the threshold to those used elsewhere. The Council on Environmental Quality, in its guidance to federal agencies, has recommended that quantitative GHG analysis is only needed for projects that would emit in excess of 25,000 metric tons of CO<sub>2</sub>e. Both the Bay Area Air Quality Management District and Sacramento Metropolitan Air Quality Management District recommend an operational significance threshold for GHG emissions of 10,000 metric tons of CO<sub>2</sub>e per year for stationary sources. The threshold of 2,500 metric tons of CO<sub>2</sub>e per year is thus considered to be sufficiently conservative, and is therefore considered to be an appropriate threshold.

These thresholds are based on the significance criteria of the CEQA Guidelines, and the County of San Diego's *Guidelines for Determining Significance and Report Format and Content Requirements* (San Diego County 2013).

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to greenhouse gas emissions that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.7-1 Potential to generate greenhouse gas emissions that may have a significant impact on the environment**

Due to the programmatic nature of this document, complete construction and operation details of the Proposed Project are currently unknown; however, as described in the Methodology for Analysis section above, modeling and calculations were completed to assess GHG emissions that would result from the Proposed Project given the information that is currently available. GHG emissions are highly dependent on project-specific details, such as materials used, length of pipelines, types of vehicles and equipment used, specific treatment train information, data about pumping, etc. While some of the GHG emissions that would result from construction and operation of the Proposed Project can be estimated using modeling, these results can only provide a starting point to estimate GHG emissions associated with the Proposed Project.

#### **Construction**

As explained under Methodology for Analysis, above, the GHG emissions associated with construction of the Proposed Project includes construction of pipelines, pump stations, and treatment facilities. **Table 3.7-1** shows annual GHG emissions anticipated from construction of pipelines and pump stations, which ranged from 151 MT CO<sub>2</sub>e /yr to 767 MT CO<sub>2</sub>e /yr for the facilities considered, with maximum annual emissions of 1,345 MT CO<sub>2</sub>e /yr and a conservative annual emissions potential of 5,452 MT CO<sub>2</sub>e /yr.

**Table 3.7-2** shows a range of potential GHG emissions associated with construction activities for the treatment facilities. Annual GHG emissions from construction ranged from 54 MT CO<sub>2</sub>e /yr to 9,104 MT CO<sub>2</sub>e /yr for the facilities considered. An average of the emissions per plant presented in **Table 3.7-2** is equal to 1,517 MT CO<sub>2</sub>e per plant. Given that the schedule for plant upgrades is not known at this point, it is likely that more than one plant will be under construction in a given year. As a conservative measure, it is estimated that total treatment plant construction emissions would be up to 12,136 MT CO<sub>2</sub>e per year (1,517 multiplied by eight plants); this assumes that all eight treatment plants included as part of the Proposed Project are constructed in an overlapping construction schedule.

**Table 3.7-4** provides a summary of cumulative increases in greenhouse gas emissions from construction of the Proposed Project, which could total up to 17,588 MT CO<sub>2</sub>e /yr.

#### **Operations**

Operational emissions were estimated for pump stations and treatment facilities for several factors, including mobile sources (a form of direct emissions), indirect emissions from electricity, and direct emissions. Operational emissions for the treatment facilities are summarized in **Table 3.7-3**, and are anticipated to total 6,985 MT CO<sub>2</sub>e /yr, with 5,374 MT CO<sub>2</sub>/yr in indirect emissions and 1,611 MT CO<sub>2</sub>e /yr, in direct emissions (including mobile sources).

Operational emissions for the pump stations are summarized in **Table 3.7-3**, and are anticipated to total 1,214 MT CO<sub>2</sub>e /yr with 1,205 MT CO<sub>2</sub>e /yr in indirect emissions and 9 MT CO<sub>2</sub>e /yr in direct emissions.

In total, operational emissions from the Proposed Project are anticipated to be 8,199 MT CO<sub>2</sub>e /yr.

**Table 3.7-4** presents a summary of the emissions estimates for the pipelines, pump stations, and treatment facilities associated with the Proposed Project. As described herein, these numbers represent conservative estimates of GHG emissions for the Proposed Project given best available information, which will serve as the basis for future project-level evaluations of GHG emissions.

**Table 3.7-4: Increases in Greenhouse Gas Emissions from the Proposed Project**

Project Components	Construction Emissions (MT CO <sub>2</sub> e/Year)	Direct Operation Emissions (Including Mobile Sources) (MT CO <sub>2</sub> e/Year)	Indirect Operation Emissions (MT CO <sub>2</sub> e/Year)
Pipelines and Pump Stations			
Group A	700	9	48
Group C	794		116
Group D	224		77
Group E	151		0
Group G	753		556
Group H	573		134
Group I	712		46
Group J	199		0
Group K	767		153
Group M	298		55
Group O	279		19
Treatment Plants	12,136		1,611
<b>Total GHG Emission</b>	<b>17,588</b>	<b>1,620</b>	<b>6,579</b>
<b>Total Construction GHG Emissions</b>	<b>17,588 MT CO<sub>2</sub>E</b>		
<b>Total Operational GHG Emissions</b>	<b>8,199 MT CO<sub>2</sub>E</b>		

For the operational phases of the Proposed Project, a consideration for the analysis of the overall project benefits is that, because the Proposed Project would offset imported potable water use with locally-produced recycled and advanced treated water, there may be negative net GHG emissions due to overall differences in energy intensities. The majority of potable water delivered by Coalition members is imported from outside the region and across varying terrain, which is an energy intensive process. According to California Air Pollution Control Officers Association (CAPCOA), the average amount of electricity required to supply, treat and distribute imported water is 11,111 kWh/ MG (11.1 MWh/MG) for Southern California (CAPCOA 2010). It is anticipated that the Proposed Project would offset a total of 6,129 MG/yr on water imports into the region. Considering the energy intensity of the imported water and the emission factors for energy in the California energy mix, the carbon emissions from importing water are equal to 23,183 MT CO<sub>2</sub>e/yr. The Proposed Project total operational emissions are 8,199 MT CO<sub>2</sub>e/yr, which is less than 50% of the anticipated emissions associated with imported water.

To translate energy savings into net reduction of GHG emissions, California energy mix and associated GHG emissions were applied to the energy savings calculated above. Per the CEC's Energy Almanac, California produces 70 percent of its energy and imports 10 percent from the Pacific Northwest, and 20 percent from the Pacific Southwest (CEC 2013). USEPA eGRID data provide information about the GHGs associated with each of the energy supplies (calculated as carbon dioxide equivalent units or CO<sub>2</sub>e) as 613.28 pounds of CO<sub>2</sub>e per MWh (lbs/MWh), 846.97 lbs/MWh, and 1,182 lbs/MWh, respectively

(USEPA 2014). Using a weighted average of these CO<sub>2</sub>e emissions factors shows that California energy supplies have an average combined CO<sub>2</sub>e emissions factor of 750.57 lbs/MWh, or 0.341 metric tons (MT) of CO<sub>2</sub>e per MWh.

Despite potential savings in operational emissions due to offsetting imported water, the Proposed Project is anticipated to have a significant impact related to GHG emissions given that both construction and operational emissions would exceed the 2,500 MT CO<sub>2</sub>e/year threshold recommended by the County of San Diego. Additional analysis of GHG emissions will be included in the project-level CEQA review and best management practices will be implemented to reduce emissions to the maximum extent feasible through implementation of Mitigation Measure **MM 3.3-2**. Even with implementation of **Mitigation Measure MM 3.3-2**, it is possible that the Proposed Project would not meet local air quality thresholds, and therefore could generate GHG emissions that may have a significant impact on the environment. Impacts are considered significant and unavoidable.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**Mitigation Measures MM 3.3-2** shall apply to all components of the Proposed Project and shall be implemented by the lead agency for each individual project component, as applicable.

Significance Determination after Mitigation

Significant and unavoidable.

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**Impact 3.7-2 Potential to conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions.**

Relevant plans, policies, and regulations that seek to reduce GHG emissions are discussed in the Regulatory Framework section, above. Project-level CEQA analysis required in **Mitigation Measure MM 3.3-2** will further assess the potential for conflict with applicable plans, policies and regulations, and will include mitigation measures to reduce any potential conflict to the extent feasible. As described above in Impact 3.7-1, the Proposed Project would potentially conflict with applicable plans related to construction and operational emissions. Although implementation of **Mitigation Measure MM 3.3-2** will ensure that best management practices are implemented to reduce impacts to the maximum extent feasible, GHG emissions exceeding applicable plans, policies, or regulations may still occur and impacts are therefore considered significant and unavoidable.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**Mitigation Measure MM 3.3-2** shall apply to all components of the Proposed Project.

Significance Determination after Mitigation

Significant and unavoidable.

**Impact 3.7-3 Result in a net increase of operational greenhouse gas emissions, either directly or indirectly, at a level exceeding 2,500 MT CO<sub>2</sub>e per year**

As described in Impact 3.7-1, the Proposed Project is anticipated to generate 17,588 MT CO<sub>2</sub>e of GHG emissions during construction and 8,199 MT CO<sub>2</sub>e of GHG emissions during operation. Despite potential GHG emissions savings that could accrue due to the reduced use of imported water supplies, it is anticipated that the Proposed Project would exceed the 2,500 MT CO<sub>2</sub>e per year threshold. **Mitigation Measure MM 3.3-2** would be implemented to reduce emissions to the maximum extent feasible; however, despite these mitigation measures, it is possible that the Proposed Project would either directly or indirectly exceed the 2,500 MT CO<sub>2</sub>e per year threshold. Impacts are considered significant and unavoidable.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**Mitigation Measures MM 3.3-2** shall apply to all components of the Proposed Project.

Significance Determination after Mitigation

Significant and unavoidable.

Table 3.7-5: Relevant Goals, Objectives, and/or Policies from General Plans

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside (2002)</b>		
Cooperate with County, State, and federal agencies in continuing programs and air quality improvement.	G	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<i>None</i>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT
<b>City of Encinitas (1989)</b>		
<ul style="list-style-type: none"> <li>• Goal 5: The City will make every effort to participate in programs to improve air and water quality in the San Diego region.                             <ul style="list-style-type: none"> <li>◦ Policy 5.1: The City will monitor and cooperate with the ongoing efforts of the U.S. EPA, the SDAPCD, and CARB in improving air quality in the regional air basin. The City will implement appropriate strategies from the San Diego County SIP which are consistent with the goals and policies of this plan.</li> </ul> </li> </ul>	E, H	San Elijo WRF
<b>City of Escondido (2012)</b>		
<ul style="list-style-type: none"> <li>• Goal 2: Adequate and sustainable infrastructure and water supply to serve a community that values and conserves water.                             <ul style="list-style-type: none"> <li>◦ Water System Policy 12.9: Employ best practices to maintain the highest possible energy efficiency in the water treatment plant and infrastructure system to reduce costs and greenhouse gas emissions.</li> </ul> </li> <li>• Goal 3: Provision of adequate and sustainable wastewater infrastructure to serve residents, businesses and property.                             <ul style="list-style-type: none"> <li>◦ Wastewater System Policy 13.12: Employ best practices to maintain the highest possible energy efficiency to reduce costs and greenhouse gas emissions of the Hale Avenue Resource Recovery Facility (HARRF) and other wastewater system facilities.</li> </ul> </li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Vista (2011)</b>		
<ul style="list-style-type: none"> <li>• RCS Goal 2: Reduce GHG emissions from community activities and municipal facilities and operations within the City boundaries to support the State’s efforts under SB 32, SB 375, and other state and federal mandates, and to mitigate the community’s contributions to global climate change.               <ul style="list-style-type: none"> <li>○ RCS Policy 2.5: Adopt City purchasing practices and standards to support reductions in GHG emissions, including preferences for energy-efficient equipment and the use of recycled materials and manufacturers that have implemented green management practices; encourage other public agencies and private businesses within Vista to do the same, when feasible.</li> <li>○ RCS Policy 2.6: Establish City bidding standards and contracting practices that encourage GHG emissions reductions, including preferences or points for the use of low or zero emission vehicles and equipment, recycled materials, and provider implementation of other green management practices; encourage other public agencies and private businesses within Vista to do the same, when feasible.</li> <li>○ RCS Policy 2.7: Through CEQA documents, evaluate and disclose the contribution new projects could have on climate change and require mitigation measures as appropriate.</li> </ul> </li> <li>• RCS Goal 14: Promote efficient and sustainable use of energy resources through conservation, demand-reduction activities, and alternative energy sources.               <ul style="list-style-type: none"> <li>○ RCS Policy 14-7: Encourage any newly constructed, purchased, or leased municipal space to meet minimum standards as appropriate, such as the following:                   <ul style="list-style-type: none"> <li>a. Requiring new commercial buildings to meet LEED criteria established by the U.S. Green Building Council</li> <li>c. Retrofitting existing buildings to meet standards under Title 24 of the California Building Energy Code, or to achieve a higher performance standards as established by the City/County</li> </ul> </li> <li>○ RCS Policy 14.9: Implement a training program for City Staff to support the City’s goal of reducing GHG emissions from municipal facilities and operations, including energy efficiency training to engineering, building operations, and facility maintenance staff; and energy conservation for all City employees.</li> </ul> </li> </ul>	O	<i>None</i>
<b>City of San Marcos (2012)</b>		
<ul style="list-style-type: none"> <li>• Goal COS-4: Improve regional air quality and reduce GHG emissions that contribute to climate change.               <ul style="list-style-type: none"> <li>○ Policy COS-4.6: Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.</li> <li>○ Policy COS-4.7: As City facilities and services are constructed or upgraded, incorporate energy and resource conservation standards and policies by:                   <ul style="list-style-type: none"> <li>▪ Taking a leadership role in implementing programs for energy and water conservation, waste reduction, recycling and reuse and increased reliance on renewable energy.</li> <li>▪ Upgrading City buildings and infrastructure facilities to comply with State of California green building standards.</li> </ul> </li> </ul> </li> </ul>	I, M, N	<i>None</i>
<b>City of Solana Beach</b>		
<i>None</i>	H, K	<i>None</i>

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>County of San Diego (2011)</b></p>		
<ul style="list-style-type: none"> <li>• Goal COS-14: Sustainable Land Development. Land use development techniques and patterns that reduce emissions of criteria pollutants and GHGs through minimized transportation and energy demands, while protecting public health and contributing to a more sustainable environment.                             <ul style="list-style-type: none"> <li>○ COS-14.4 Sustainable Technology and Projects: Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.</li> <li>○ COS-14.9 Significant Producers of Air Pollutants: Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.</li> </ul> </li> <li>• Goal COA-15: Sustainable Architecture and Buildings. Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment                             <ul style="list-style-type: none"> <li>○ COS-15.1 Design and Construction of New Buildings: Require that new buildings be designed and constructed in accordance with “green building” programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.</li> </ul> </li> <li>• Goal COS-20: Governance and Administration. Reduction of local GHG emissions contributing to climate change that meet or exceed requirements of the <i>Global Warming Solutions Act of 2006</i>.                             <ul style="list-style-type: none"> <li>○ COS-20.3 Regional Collaboration: Coordinate air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions.</li> </ul> </li> </ul>	<p>H, J, K, O</p>	<p><i>None</i></p>



## 3.8. Hazards and Hazardous Materials

Potential impacts related to hazards and hazardous materials are considered in this section. Such hazards include wildfires, hazardous materials such as certain chemicals, and health hazards. Due to the extensive nature of the Proposed Project, risk of exposure to hazards and hazardous materials exists. Mitigation measures shall be implemented to reduce impacts related to accidental exposure to hazardous materials, including near schools, provide for continued emergency access, and reduce the risk of wildfires from construction activities.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts regarding hazards and hazardous materials.

### 3.8.1. Physical Environmental Setting – Hazards and Hazardous Materials

#### Hazards

San Diego County is subject to a number of hazards, both natural and manmade. Such hazards include geologic and seismic hazards, wildfires, hazardous materials, health hazards, nuclear materials release, terrorism, coastal storms, erosion, tsunamis, dam failures, and floods. While all of these hazards are addressed in this PEIR, this section only includes discussion and assessment of wildfires, health hazards as related to hazardous materials and fire, and hazardous materials (including nuclear materials). The other hazards are addressed in *Section 3.6, Geology and Soils* and *Section 3.9, Hydrology and Water Quality*.

#### Fire Hazards

Within San Diego County, a majority of structures have been constructed in the past 60 years, often near urban-wildland interfaces (UWI) such as canyons and ridges. For this reason, the County of San Diego's Multi-Jurisdictional Hazard Mitigation Plan (County of San Diego 2010a) addresses both structural fires and wildfires as a single hazard. The County of San Diego has a long history of fires, with 18 wildfires larger than 5,000 acres between 1950 and 2007. Large fires in the County have cost multiple lives, destroyed thousands of structures, and cost millions of dollars. The large fires in October 2007 cost over \$1.5 billion (County of San Diego 2010a).

In May 2014, San Diego County experienced a series of fires within an approximately one-week span, with total damages in excess of \$29.8 million to private property, additional costs to federal lands, and containment costs of \$28.5 million (County of San Diego 2014). Of the seven major fires in northern San Diego County in May 2014, four burned or partially burned within the Study Area: the River Fire, Poinsettia Fire, San Marcos or Cocos Fire, and the Bernardo Fire. These fires burned within the service areas of Oceanside, Carlsbad MWD, Rincon del Diablo MWD, Vista ID, Vallecitos WD, Olivenhain MWD, and Sand Fe ID.

The Multi-Jurisdictional Hazard Mitigation Plan includes a map assessing the wildfire hazard level for the County of San Diego, though this map was developed using models with inputs of pre-2007 fires, and hazards levels are anticipated to have changed since this map was developed (County of San Diego 2010a). Per the Multi-Jurisdictional Hazard Mitigation Plan map, the majority of the Study Area is located within moderate wildfire hazard areas, with some high hazard areas in Carlsbad and San Marcos, and a significant portion of very high hazard in the unincorporated area served by Olivenhain MWD, Rincon del Diablo MWD, and Vallecitos WD (County of San Diego 2010a). CalFire's Fire Hazard Severity Zone maps show similar fire hazard risks, with the unincorporated portion of the Study Area generally a Very High fire severity zone (CalFire 2007). CalFire's recommended Local Responsibility

Area (LRA) fire hazards maps for the Study Area indicate a higher risk of wildfires than captured by the Multi-Jurisdictional Hazard Mitigation Plan map. The LRA map shows portions of Very High Fire Hazard Severity Zones in the Study Area including areas within Oceanside, Carlsbad, Vista, San Marcos, Encinitas, Solana Beach, Escondido, and the City of San Diego (CalFire 2009).

### Hazardous Materials

Hazardous materials are found in San Diego County as a result of numerous factors, including industry, medical practices, research, military installations, transportation, construction, and other sources. Through natural events, system failures, and accidents, some hazardous materials spills have occurred in San Diego County, and are likely to occur again (County of San Diego 2010a). To increase public safety and awareness of hazardous materials exposure risk, businesses and entities that handle, store, transport, or use hazardous materials are required to file reports with appropriate authorities, and maintain emergency response plans in the event of a hazardous materials release. **Table 3.8-1** provides an overview of the number of licensed hazardous materials sites that are found within the jurisdiction of Coalition Members per the San Diego County Multi-Jurisdictional Hazard Mitigation Plan, as well as the number of times the County’s Hazardous Incident Response Team (HIRT) has been called to respond to a hazardous materials release (County of San Diego 2010a).

**Table 3.8-1 – Licensed Hazardous Material Sites within Coalition Member Jurisdictions and Hazardous Incident Response Team Responses\***

Jurisdiction	Facilities with County Environmental Health Hazardous Materials Permits	Facilities with USEPA ID Numbers	Facilities with Approved Hazmat Response Plans	Number of Hazardous Materials Responses (in 2008)
Carlsbad	338	180	242	16
Del Mar	48	19	25	0
Encinitas	346	107	164	10
Escondido	826	396	560	8
Oceanside	508	271	331	9
San Marcos	485	270	361	9
Solana Beach	65	22	29	1
Vista	542	292	382	14

Source: Adapted from Table 4.3-4 on page 4-51 and Table 4.3-5 on page 4-52 of the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (County of San Diego 2010a)

\* Note that there may be licensed hazardous material sites located near the Study Area but outside Coalition Member jurisdictions

A limited regulatory agency records search was performed for the Study Area. The records search included the SWRCB GeoTracker Database and the California Department of Toxic Substances Control (DTSC) EnviroStor database. These lists compile information from various sources on hazardous waste and hazardous substances sites in California, including both potential and confirmed sites. Active sites were found within the Study Area in all communities included within the Proposed Project. **Table 3.8-2** shows a breakdown of the open sites listed on the GeoTracker Database for zip codes that include the Study Area, by facility type and status (SWRCB 2014). **Table 3.8-3** shows the active sites identified in the EnviroStor database that are found within zip codes that include the Study Area.

**Table 3.8-2 –Hazardous Materials and Substances Sites within Study Area Zip Codes Listed in GeoTracker Database**

Site/Facility Type	Status	Number of Sites/Facilities
Clean-up Program	Open – Assessment & Interim Remedial Action	1
	Open - Remediation	7
	Open – Site Assessment	37
	Open – Verification Monitoring	1
Land Disposal	Open – Closed/With Monitoring	9
	Open - Operating	1
	Open – Site Assessment	1
	Open – Verification Monitoring	3
Leaking Underground Storage Tank	Open – Assessment & Interim Remedial Action	1
	Open – Eligible for Closure	20
	Open – Remediation	21
	Open – Site Assessment	45
Permitted Underground Storage Tank	-	267

Zip codes included in this search: 92007, 92008, 92009, 92010, 92011, 92014, 92024, 92025, 92026, 92027, 92029, 92049, 92054, 92056, 92057, 92058, 92067, 92069, 92075, 92078, 92081, 92083, 92084, 92091, 92127

Source: SWRCB Geotracker (SWRCB 2014).

The Proposed Project includes facilities that routinely store and use hazardous materials. Such facilities include water reclamation facilities, pump stations, and storage reservoirs. Limited quantities of diesel fuel and hydraulic fluids may be used for operation of pump station standby generators. Recycled water treatment facilities may use and store chemicals such as sodium hypochlorite, alum, polymer, and sulfuric acid. Advanced water treatment facilities may use chemicals such as sodium hypochlorite, ferric chloride, sodium bisulfate, antiscalant, lime, carbon dioxide, citric acid, sodium hydroxide, and ethylenediaminetetraacetic acid (EDTA).

**Table 3.8-3 –Hazardous Materials and Substances Sites within Study Area Zip Codes List in EnviroStor Database**

Program Type	Status	Number of Sites/Facilities
Corrective Action	Inactive	1
	Active	1
	Referred to RWQCB	3
Evaluation	Referred to Local Agency	36
	Referred to Other Agency	1
	Referred to RWQCB	3
Hazardous Waste	RCRA: Protective Filer	1
	State Only: Protective Filer	1
Historical	Referred to Other Agency	14
	Referred to RCRC	4
	Referred to RWQCB	3
Military Evaluation	Inactive – Action Required	1
	Inactive – Needs Evaluation	125
	Referred to RWQCB	1
School Cleanup	Active – Land Use Restrictions	1
	Certified	4
	Certified/Operation & Maintenance	1
School Investigation	Active	1
	Inactive – Action Required	1
	Inactive – Needs Evaluation	3
State Response	Active	2
Tiered Permit	Active	1
	Inactive – Action Required	2
	Inactive – Needs Evaluation	16
	Referred to Other Agency	2
Voluntary Cleanup	Active	2
	Certified/Operation & Maintenance – Land Use Restrictions	1

Zip codes included in this search: 92007, 92008, 92009, 92010, 92011, 92014, 92024, 92025, 92026, 92027, 92029, 92049, 92054, 92056, 92057, 92058, 92067, 92069, 92075, 92078, 92081, 92083, 92084, 92091, 92127

Source: DTSC EnviroStor (DTSC 2014).

### **Airports**

There are two small airports within the Study Area: McClellan-Palomar Airport and Oceanside Municipal Airport. These airports generally serve limited small commercial flights and private flyers. For both of these airports, their respective Airport Influence Areas are divided into Review Area 1 and Review Area 2. Land uses may be limited within these areas. Review Area 1 includes those locations that are exposed to aircraft noise levels of 60 dB CNEL or greater, while Review Area 2 includes locations outside of Review Area 1 but within airspace protection or overflight notification areas. All land uses within Review

Area 1 are subject to review by the Airport Land Use Commission (ALUC), except those with the following conditions (SDCALUC, 2010a and 2010b):

- Are compatible with noise and safety compatibility policies,
- Have a final notice of determination from the Federal Aviation Authority (FAA) that the project is not a hazard or obstruction to air navigation, and
- Include an overflight notification consistent with requirements included in the applicable Airport Land Use Compatibility Plan.

Review Area 2 requires ALUC review only under the following conditions (SDCALUC, 2010a and 2010b):

- The FAA has issued a final notice of determination that the project would be a hazard or obstruction to air navigation,
- A project includes an object greater than 35 feet above ground level located in a High Terrain Zone or an area of terrain penetration to airspace, or
- A project has potential to create electrical or visual interference with aircraft, or a project that has the potential to increase attraction of birds or wildlife that may pose a threat to aircraft operations.

#### **McClellan-Palomar Airport**

The McClellan-Palomar Airport is located within the City of Carlsbad, but is owned and operated by the County of San Diego. The airport facilities are generally bound by Palomar Airport Rd., El Camino Real, Camino Vida Roble, Palomar Oaks Way, and the commercial properties along Rutherford Rd. Airport property also extends north from its eastern edge into the surrounding, undeveloped, hillside. The airport serves the smallest commercial aircraft, although commuter and air taxi flights were less than 10 percent of the airport's activities in 2006 (SDCALUC, 2010a). Commercial flights are limited to flights to and from Los Angeles International Airport (County of San Diego, N.D.). Surrounding land uses include open space, planned industrial, governmental facilities, and general commercial. The greater surrounding area also includes low-medium residential areas (City of Carlsbad, 2014).

#### **Oceanside Municipal Airport**

The Oceanside Municipal Airport is owned by the City of Oceanside, and is bounded by Hwy. 76, Benet Rd., Foussat Rd. and Alex Rd. It is a public use general aviation airport with a single runway. Surrounding land uses include parks and open space, undeveloped land, light industry, and transportation/miscellaneous. The greater surrounding area also includes some low to medium density residential, and various types of commercial land uses (SDCALUC, 2010b).

### **3.8.2. Regulatory Framework – Hazards and Hazardous Materials**

#### **Federal**

##### **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted in 1980 to fund the cleanup of abandoned or uncontrolled sites contaminated with hazardous materials. In addition to cleanup of hazardous waste at contaminated sites, CERCLA updated the National Oil and Hazardous Substances Contingency Plan, which provides guidelines and procedures for responding to hazardous waste threats.

##### **Resource Conservation and Recovery Act (RCRA)**

The Resource Conservation and Recovery Act (RCRA) regulates handling and disposal of solid waste, hazardous materials, and underground storage tanks for petroleum or other chemicals of concern. RCRA

requires hazardous waste generators to obtain a permit for storage of hazardous waste over 90 days, and treatment for hazardous wastes prior to disposal. RCRA also restricts which facilities can receive hazardous wastes. For solvents, electroplating wastes, heavy metals, and acids, waste generators must coordinate with treatment, storage, and disposal facilities to ensure proper handling of materials. Construction projects similar to the proposed North San Diego County Regional Recycled Water Project typically generate solid waste, and may generate hazardous waste (waste that is ignitable, corrosive, or reactive) depending on the construction techniques and materials used. These wastes are regulated by RCRA.

### **Occupational Safety and Health Standards (OSHA)**

The Occupational Safety and Health Act of 1970 (OSH Act) established that employers are responsible for providing a safe work environment for employees. The Occupational Safety and Health Administration (OSHA) regulates workplace safety through establishing and enforcing industry standards for health and safety, and providing training, outreach, and assistance to industries to promote workplace safety. The OSH Act covers most private employers, but does not cover state or local government employers, nor does it cover hazards regulated by other federal agencies. The OSH Act does apply to state and local governments in California through Cal-OSHA, an OSHA-approved state program.

### **Emergency Planning and Community Right-To-Know Act (EPCRA)**

EPCRA requires federal, state, and local governments to create chemical emergency response plans to release of hazardous substances. Hazardous and toxic chemical reporting for facilities is required in order to increase awareness and access to information by the public. Facilities must publicly report accidental releases of certain chemicals and hazardous substances and create and make available Material Safety Data Sheets (MSDS) that describe the chemicals in question and health effects associated with them.

### **National Fire Protection Association (NFPA) section 704**

NFPA 704 provides standards for assessing the hazards of exposure to materials in the event of a fire, spill, or other emergency. It assesses safety based on four criteria: health, instability, flammability, and related hazards (currently limited to unusual reactivity to water or to indicate material is an oxidizer).

### **Uniform Fire Code (UFC)**

UFC regulated the use, handling, and storage requirements for hazardous materials at facilities. In combination with the Uniform Building Code (UBC), it classifies hazards and determines appropriate protective measures. The UFC uses permits to regulated hazardous materials based on these classifications.

## **State**

### **California Health and Safety Code**

#### *Hazardous Materials*

Division 20, Chapter 6.5, section 25100 et seq. mandates that facilities that handle, store, use, treat, dispose of, or generate hazardous materials create hazardous-waste management programs. Facilities that generate hazardous wastes in excess of 26,400 pounds per year or extremely hazardous wastes in excess of 26.4 pounds per year must adhere to California Health and Safety Code Section 25244.12 et seq. These facilities must characterize and quantify generated wastes and identify ways to reduce waste generation. They must also develop written documentation that addresses waste reduction, develop a source-reduction evaluation review and plan, and prepare a plan summary and hazardous waste management report and a report summary.

Hazardous materials handling, reporting requirements, and local agency surveillance programs are regulated under the California Health and Safety Code, Section 25500 et seq.

### *Fire*

General regulations regarding fire and fire protection are included in Division 12 of the California Health and Safety Code.

#### **Sec. 65962.5 of the California Government Code, The Hazardous Waste and Substances Sites List (Cortese List)**

The Cortese List is compiled and maintained by the Department of Toxic Substances Control (DTSC) under the California EPA, and is a list of all sites identified as having hazardous waste releases.

#### **The Bates Bill (Assembly Bill 337)**

The Bates Bill requires identification of Very High Fires Hazard Severity Zones (VHFHSZ) and sets requirements for defensible space and fire resistant roofing for new development and roof replacements.

#### **Title 22 and 23 of the California Code of Regulations**

Hazardous materials and wastes are defined, categorized, and listed in Title 22 of the California Code of Regulations (CCR). Title 22, Division 4, Chapter 3 governs the production and use of recycled water, sets standards for recycled water quality for designated uses, and regulates requirements of use sites, conveyance systems, and operational requirements.

#### **Cal/OSHA**

The Division of Occupational Safety and Health (Cal/OSHA) is a division of the California Department of Industrial Relations. Cal/OSHA is the OSHA-approved state program for California, and is responsible for regulating workplace health and safety in California. Cal/OSHA issues permits for activities such as construction of trenches or excavations deeper than five feet into which a worker must descend, construction of buildings or structures more than three stories or 36 feet high, demolition of such structures, and erection or dismantling of vertical shoring systems more than 36 feet or three stories high. Cal/OSHA oversees workplace health and safety in almost all workplaces throughout the state, including the public sector, in contrast to Federal OSHA.

### **Local**

#### **Airport Land Use Compatibility Plan**

Airport Land Use Compatibility Plans are developed to reduce land use conflicts between airports and surrounding areas. These plans are overseen by the local Airport Land Use Commission (ALUC), in this instance the San Diego County Regional Airport Authority (SDCRAA). The Study Area includes two airports: McClellan-Palomar Airport, located along Palomar Airport Road in Carlsbad, and the Oceanside Municipal Airport, located along Airport Road in Oceanside.

#### **General Plans**

The Safety Elements of the General Plans for the various jurisdictions within the Study Area outline the goals, policies, and programs designed to protect communities from hazards and hazardous materials. The goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.8-5** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

#### **Municipal Code**

Local municipal codes for the City of Carlsbad, City of Oceanside, City of Vista, City of San Marcos, City of Solana Beach, City of Escondido, City of Encinitas, and County of San Diego include regulations pertinent to hazards and hazardous materials and provide for protection of public health and safety from such hazards and materials.

### **3.8.3. Impact Analysis – Hazards and Hazardous Materials**

#### **Methodology for Analysis**

The potential impacts related to hazards and hazardous materials were evaluated using the CEQA Guidelines, and considered the significance thresholds provided in the County of San Diego's Guidance for Determining Significance (2007a; 2007b; 2007c; 2010b).

#### **Thresholds of Significance**

In accordance with the CEQA Guidelines, an impact to hazards and hazardous materials would be significant if the Proposed Project would:

- Create a significant health hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Study Area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the Study Area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

#### **Criteria Requiring No Further Evaluation**

Although the project is unlikely to have significant impacts related to many of the hazards and hazardous materials significance criteria listed above, discussion has been provided below for each criterion.

#### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to hazards and hazardous materials that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

##### **Impact 3.8-1 Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials**

Operation of some components associated with the Proposed Project would entail the routine transportation, use, storage and/or disposal of minor amounts of hazardous materials. Limited quantities of diesel fuel and hydraulic fluids may be used for operation of pump station standby generators. Water reclamation facilities constructed or expanded by the Proposed Project would entail use of chemicals and other hazardous materials for operation and maintenance of facilities, including for treatment of wastewater. For recycled water treatment facilities, such chemicals may include, but are not limited to, sodium hypochlorite, alum, polymer, and sulfuric acid. Advanced water treatment facilities producing



water for potable reuse may use materials such as sodium hypochlorite, ferric chloride, sodium bisulfate, antiscalant, lime, carbon dioxide, citric acid, sodium hydroxide, ethylenediaminetetraacetic acid (EDTA), and others depending upon the type of treatment selected for each facility. Construction of the Proposed Project would temporarily increase the routine transport and use of hazardous materials used in construction activities and at construction sites for all Groups. This may include limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials.

The Proposed Project would be required to comply with applicable standards that regulate the transport, use, storage, or disposal of hazardous materials, as well as public health requirements that regulate recycled water. The Proposed Project would also be required to laws and standards applicable to potable reuse. Adherence to regulations associated with recycled water-related activities would ensure that the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. In addition, the Proposed Project would be consistent with any relevant policies from applicable General Plans (refer to **Table 3.8-5**, below) regarding hazardous materials. Given that the types of chemicals that may be present at any of the potable reuse-related (advanced treatment) facilities is not known at this time, to ensure an additional level of safety, **Mitigation Measure MM 3.8-1** will be implemented to ensure that materials business plans are developed for each treatment facility. Impacts are considered less than significant after mitigation.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.8-1** shall apply to any project component that includes WRF or AWT construction or upgrades. **Mitigation Measure MM 3.8-1** shall also apply to any project component that includes construction or upgrades of pump stations or other facilities that store hazardous materials and chemicals. **Mitigation Measure MM 3.8-1** shall be implemented by the lead agency for each individual project component as applicable.

**MM 3.8-1 Preparation of Hazardous Materials Business Plan.** For any treatment facilities using hazardous materials and chemicals, as well as for pump stations that store hazardous materials and chemicals, the lead agency for that project component shall prepare and implement a Hazardous Materials Business Plan (HMBP). The HMBP shall include, at minimum, a hazardous materials inventory, site plan, an emergency response plan, and requirements for employee training.

#### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.8-2 Potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.**

As described above, the Proposed Project involves the routine transport, storage, use, and disposal of hazardous materials. The Proposed Project therefore has potential to create a hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. An additional potential hazard for accidental release of hazardous materials exists during project construction because there are open or active cleanup sites within all of the communities in the Study Area, and existing underground storage tanks may have resulted in contaminated soils that could be encountered during excavation activities.

Given the Proposed Project's compliance with applicable policies and regulations described in *Section 3.8.2 Regulatory Framework – Hazards and Hazardous Materials* and relevant General Plan policies (see **Table 3.8-5**, below), along with the incorporation of **Mitigation Measures MM 3.8-2a**, **MM 3.8-2b**, and **MM 3.8-2c**, and the Proposed Project would not create a significant hazard to the public or the environment because hazardous materials will be identified, assessed, and controlled to the extent possible. Impacts are considered less than significant after mitigation.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measures MM 3.8-2a**, **MM 3.8-2b**, and **MM 3.8-2c** shall apply to all project components and shall be implemented by the lead agency for each individual project component as applicable.

**MM 3.8-2a Identification of Potential Hazardous Materials Exposure.** During project design, the lead agency for each project component shall consult the hazardous sites databases (GeoTracker and EnviroStor) to identify potential hazardous sites and avoid them where possible. For project components to be constructed within the County of San Diego, the lead agency for each component shall also identify sites within 250 feet of the project that contain burn ash and sites within 1,000 feet of formerly used defense sites in this analysis, in accordance with the County of San Diego's Guidelines for Determining Significance: Hazardous Materials and Existing Conditions (County of San Diego 2007b). If a known hazardous site is unavoidable, a Phase I Environmental Site Assessment shall then be performed by a qualified environmental professional to clarify known hazardous materials cases in the vicinity of the project construction area. Follow-up sampling would be conducted if needed to characterize soil and groundwater quality before the start of construction. Prior to construction, contractors shall be informed of the location of potential areas of hazardous materials that may be encountered during construction, and shall ensure that safety precautions are in place to avoid or minimize exposure to potentially contaminated soils, and to reduce the potential for accidental damage to underground storage tanks that could cause accidental release of hazardous materials into the environment.

**MM 3.8-2b Hazardous Materials Management and Spill Prevention and Control Plan.** Before construction begins, all construction contractors shall be required to develop and implement a Hazardous Materials Management and Spill Prevention and Control Plan that includes project-specific contingency plan for hazardous materials and waste operations. The Plan shall establish policies and procedures consistent with applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration (OSHA).

**MM 3.8-2c Contaminated Soil Contingency Plan.** If contaminated soil is encountered during project construction, work shall halt and an assessment made to determine the extent of contamination. A Contaminated Soil Contingency Plan shall be developed and implemented to handle treatment and/or disposal of contaminated soils.

#### Significance Determination after Mitigation

Less than significant.

**Impact 3.8-3 Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

There are 157 public schools within the Study Area, and additional private schools. The identified public schools that are located within one-quarter mile of the Proposed Project are listed in **Table 3.8-4**. Although construction activities for the Proposed Project would be conducted in compliance with all applicable regulations (including relevant General Plan policies listed in **Table 3.8-5**) for the transport, storage, use, and disposal of hazardous materials, and precautions would be taken to reduce the risks, as noted under **Impact 3.8-2**, there is potential for an accidental release of hazardous materials. Given the large number of schools within the Study Area, there is potential that such an accidental release could occur within one-quarter mile (1,320 feet) of an existing or proposed school. Some schools may be located within one-quarter mile of a treatment plant, reclamation facility, or pump station associated with the Proposed Project. Treatment plants, reclamation facilities, and pump stations are closed sites, and the public is protected from exposure to any chemicals or hazardous materials through appropriate security measures, minimizing potential for exposure. However, as with the other components of the Proposed Project, potential exists for an accidental release of hazardous materials into the environment.

**Mitigation Measures MM 3.8-2b and MM 3.8-2c** require development of a Hazardous Materials Management Spill Prevention and Control Plan and a Contaminated Soil Contingency Plan that would reduce the potential significance of this impact during construction to less than significant. **Mitigation Measure MM 3.8-1** requires development of a Hazardous Materials Business Plan that would reduce the potential significance of this impact during treatment facility, reclamation facility, and pump station operations to less than significant. Incorporation of these mitigation measures in areas within one-quarter mile of a school would reduce impacts to less than significant levels.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**Mitigation Measures MM 3.8-1, MM 3.8-2b, and MM 3.8-2c** shall apply to all components of the Proposed Project and shall be implemented by the lead agency for each individual project component as applicable.

Significance Determination after Mitigation

Less than significant.

**Impact 3.8-4 Location on a site which is included on a list of hazardous materials sites, which would create a significant hazard to the public or the environment.**

As noted above, there are a number of hazardous materials sites within the Study Area. To the extent possible, **Mitigation Measure MM 3.8-2a** would ensure that the Proposed Project would be designed such that these sites are avoided. **MM 3.8-2b and MM 3.8-2c**, which require a Hazardous Materials Management Spill Prevention and a Contaminated Soil Contingency Plan, would be implemented for all groups containing listed hazardous sites, to ensure that if Proposed Project components are constructed near listed hazardous materials sites, significant hazards to the public or environment would be reduced to less-than-significant levels. With incorporation of these three mitigation measures, impacts are considered less than significant.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**Mitigation Measures 3.8-2a, 3.8-2b, and 3.8-2c** shall apply to all components of the Proposed Project.

Significance Determination after Mitigation

Less than significant.

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**Table 3.8-4: Public Schools Located within Groups in the Study Area**

Group	School	Group	School	Group	School
A	Aviara Oaks Elementary School	E	San Dieguito High School Academy	M	Discovery Elementary School
	Aviara Oaks Middle School		Paul Ecke Central		Foothills High School
	Buena Vista Elementary School		Ocean Knoll		Mission Hills High School
	Calavera Hills Elementary School		Ada Harris		Paloma Elementary School
	Calavera Hills Middle School		Cardiff School		Richland Elementary School
	Carlsbad High School		Lake Elementary		San Marcos Elementary School
	Hope Elementary School	Madison Middle School	San Marcos Middle School		
	Jefferson Elementary School	El Camino High School	Twin Oaks Elementary School		
	Kelly Elementary School	Garrison Elementary School	Twin Oaks High School		
	Magnolia Elementary School	Ivey Ranch Elementary School	Woodland Park Middle School		
	Pacific Rim Elementary School	King Middle School	San Elijo Elementary School		
	Sage Creek High School	Lincoln Middle School	San Elijo Middle School		
	Valley Middle School	McAuliffe Elementary School	Joli Ann Elementary School		
	C	Bear Valley Middle School	G	Ocean Shores High School	N
Central Elementary School		Empresa Elementary School		O	
Conway Elementary School		Del Rio Elementary School			
Farr Elementary School		Foussat Elementary School			
Hidden Valley Middle School		Libby Elementary School			
Juniper Elementary School		Nichols Elementary School			
L. R. Green Elementary School		Reynolds Elementary School			
Lincoln Elementary School		El Camino Creek			
Mission Middle School		Flora Vista			
Oak Hill Elementary School		Oak Crest Middle School			
Orange Glen Elementary School		I	Del Dios Middle School		
Pioneer Elementary School			Knob Hill Elementary School		
Rincon Middle School		K	R. Roger Rowe School		
Rose Elementary School			Earl Warren Middle School		
Escondido High School			Skyline		
Orange Glen High School			Solana Santa Fe		
San Pasqual High School			Solana Vista		
San Pasqual Union Elementary School					
Glenview Elementary School					

### **Impact 3.8-5 Location within an airport land use plan, resulting in a safety hazard for people residing or working in the Study Area.**

There are two public airports within the Study Area: McClellan-Palomar Airport, located along Palomar Airport Road in Carlsbad, and Oceanside Municipal Airport, located along Airport Road near Hwy-76. Both of these airports have airport land use compatibility plans (ALUCPs), which are maintained by the San Diego Airport Authority. Group G is located in areas that are covered by the Oceanside Municipal ALUCP's Airport Influence Area. Groups A, G I, M, O are all within the McClellan-Palomar ALUCP's Airport Influence Area.

State law requires review of certain land use actions that may be inconsistent with an ALUCP. Review for a project that includes components similar to the Proposed Project is only required if the project's actions fall within specific zones or may contribute to interference or hazards to aircraft operations. A portion of the short-term pipelines proposed for Group A falls within Review Area 1 of the McClellan-Palomar ALUCP. Review Area 1 includes lands that may require land use restrictions for noise or safety, and generally encompasses the area immediately surrounding the airport. Review Area 2 is an expanded area that primarily limits structure heights in areas of high terrain. For the Proposed Project, portions of Groups A, G, I, M, and O fall within Review Area 2 of the McClellan-Palomar ALUCP. Under the Oceanside Municipal ALUCP, Group G partially falls within both Review Area 1 and Review Area 2.

The Proposed Project components within Review Areas 1 and 2 for both airports are located within the jurisdictions of the General Plans for the City of Oceanside, City of Vista, City of Carlsbad, City of San Marcos, and County of San Diego. Each of these General Plans is consistent with the ALUCPs for these airports, and the land use actions in the Proposed Project do not fall within the mandatory ALUC Review action types. Further, the Proposed Project would be consistent with the applicable airport-related policies of these relevant General Plans, as listed in **Table 3.8-5**, below. Therefore, no ALUC Review is required, and the Proposed Project is consistent with the ALUCPs for McClellan-Palomar Airport and Oceanside Municipal Airport. Impacts are considered less than significant and no mitigation is required.

#### **Significance Determination before Mitigation**

Less than significant.

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### **Impact 3.8-6 Location within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the Study Area.**

The closest private airstrip to the Study Area is the Lake Wohlford Resort Airport, located on Lake Wohlford Road in Escondido. Although this airstrip is less than two miles from the Rincon del Diablo MWD's service area boundary, it is more than two miles from the nearest grouping of the Proposed Project (Group D). Therefore the Proposed Project is not located within close enough proximity to a private airstrip to result in a safety hazard for people residing or working in the Study Area. Impacts are considered less than significant and no mitigation is required.

#### **Significance Determination before Mitigation**

Less than significant.

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### **Impact 3.8-7 Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The Proposed Project would involve construction of recycled water pipelines primarily within roadway ROWs, which could temporarily block access to some roadways and driveways that are currently used by emergency response vehicles or in emergency evacuations. The Study Area contains numerous fire

stations in most of the Groups. There are also multiple police and sheriff stations within the Study Area. The Proposed Project could, therefore interfere with an emergency response plan constructing pipelines in proximity to these stations, which could result in limited driveway and road access.

Potential impact to an emergency response plans would be mitigated through **Mitigation Measure MM 3.8-7**, which requires communication with emergency response agencies prior to construction, and coordination to develop emergency access strategies. Impacts are considered less than significant after mitigation.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.8-7** shall apply to all Groups within the Proposed Project and shall be implemented by the lead agency for each individual project component as applicable.

**MM 3.8-7 Develop and Maintain Emergency Response Strategies.** Prior to construction, the lead agency for each project component shall develop strategies for emergency response within their construction area in coordination with local emergency services. Strategies shall include, but are not limited to, maintaining access over trenches through the use of steel trench plates, identification of alternate routes, and notification of local emergency services of timing and location of construction activities.

#### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.8-8 Potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.**

As described above, the Proposed Project is located within fire hazard zones of varying severity. The very high fire severity zones are generally located in the undeveloped and more rural areas of the Study Area, primarily in the eastern portion of the Study Area. The Proposed Project would not increase the exposure of people or structures to wildfire risks because it would not induce population growth in or movement to areas of increased wildfire hazard zones.

The Proposed Project would primarily be constructed within roadway ROWs and developed areas, minimizing risk of fire hazards for these portions of the Proposed Project. Further, the Proposed Project would be completed in compliance with applicable fire-related policies of relevant General Plans (see **Table 3.8-5**, below) designed to reduce risks related to fire. However, the use of construction equipment that could potential spark or otherwise ignite a fire during normal construction activities, does pose a risk of fire in a high or very high fire hazard severity zone. Due to a history of fires within the Study Area, fire safety construction measures shall be required through implementation of **Mitigation Measure MM 3.8-8** to reduce potential impacts. Impacts are considered less than significant after mitigation.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.8-8** shall apply to all project components and shall be implemented by the lead agency for each individual project component as applicable.

**MM 3.8-8 Prevention of Fire Hazards.** The lead agency for each project component shall require that construction equipment staging areas shall be cleared of dried vegetation or other material that could ignite, and equipment that heats up during use shall be stored only in areas cleared of vegetation. All equipment shall be kept in good working order and equipped with spark arrestors to prevent potential sparks, and a spotter shall be utilized during all welding activities. Fire extinguishers shall be made available at all construction sites, and construction employees shall be trained on proper fire safety and prevention measures.

Significance Determination after Mitigation

Less than significant.

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**Table 3.8-5: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
<p>The City of Oceanside’s General Plan includes two objectives to address fire hazards within the city:</p> <ol style="list-style-type: none"> <li>1. Maintain the necessary equipment, personnel and water supply levels required for the current class 5 insurance rating over the entire City.</li> <li>2. Continue an active and effective fire prevention program through public education, code enforcement, and inspection service.</li> </ol> <p>Oceanside’s General Plan includes a series of fire prevention measures that have been incorporated into the municipal code. Fire prevention measures relevant to the project include:</p> <ul style="list-style-type: none"> <li>• Fire Prevention Measures – Structural Hazards                             <ul style="list-style-type: none"> <li>○ Uniform Code adoptions – adoption of Uniform Fire code and Uniform Building Code Standards.</li> <li>○ Access Standards – all roads and fire access lanes must be a minimum 28 feet in width, and structures, roads, and access must meet all criteria for distance of structures from access points, paving requirements, turning areas, and minimum overhead clearances.</li> <li>○ Establishments of Fire Zones – construction within Fire Zones is regulated by the Uniform Building Code and based on Fire Zone designations</li> </ul> </li> <li>• Fire Prevention Measures – Non-Structural Hazards                             <ul style="list-style-type: none"> <li>○ Regulation of Flammable Liquids Storage – flammable liquids may only be stored in an M Zone, and may be subject to conditional use permits or other restrictions.</li> </ul> </li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<p>The City of Carlsbad’s General Plan Public Safety Element includes the following Goals and Policies to address potential hazards that are relevant to the Proposed Project:</p> <p><i>Fire and Emergency Medical Services</i></p> <ul style="list-style-type: none"> <li>• Goal A.1: A City which minimizes the injury, the loss of life and damage to property resulting from fire hazards.                             <ul style="list-style-type: none"> <li>○ Policy C.1: Enforce the UBC and Fire Codes, adopted by the City to provide fire protection standards for all existing and proposed structures.</li> <li>○ Policy C.2: Review new development proposals to consider emergency access, fire hydrant locations, fire flow requirements, and wildland fire hazards.</li> <li>○ Policy C.5: Inspect all new or altered buildings and structures to be sure they conform with applicable fire, building and life safety codes.</li> </ul> </li> </ul> <p><i>Hazardous Materials</i></p> <ul style="list-style-type: none"> <li>• Goal: A City which minimizes injury, loss of life, and damage to property resulting from hazardous materials disaster occurrence.                             <ul style="list-style-type: none"> <li>○ Policy C.1: Review land use decisions to consider constraints presented by the potential for on-site and off-site contamination by use, transfer, storage, or land disposal of hazardous materials and wastes. Land use decisions should be consistent with federal, state, and county environmental regulations.</li> </ul> </li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>○ Policy C.3: Maintain regulations which require proper storage and disposal of hazardous materials to reduce the likelihood of leakage, explosions, or fire, and to properly contain potential spills from leaving the site.</li> </ul> <p><i>Airport Hazards</i></p> <ul style="list-style-type: none"> <li>● Goal: A City which minimizes noise and safety hazards within areas around the airport.               <ul style="list-style-type: none"> <li>○ Policy C.1: Coordinate with the San Diego County Airport Land Use Commission (ALUC) and the Federal Aviation Administration (FAA) to protect public health, safety and welfare by ensuring the orderly operation of the Airport and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around the airport.</li> <li>○ Policy C.2: Comply, to the extent possible and consistent with City noise and land use policies, with the requirements and recommendations of the San Diego County ALUC and FAA regarding development proposals within the Airport Influence Area.</li> </ul> </li> </ul> <p>Policy C.3: Review development proposals in the Airport Influence Area to ensure consistency with applicable land use compatibility policies contained in the McClellan-Palomar Airport Land Use Compatibility Plan and to ensure that design features are incorporated into proposed site plans which specifically address aircraft crash and noise hazards.</p>		
<p><b>City of Encinitas</b></p> <ul style="list-style-type: none"> <li>● Goal 1: Public health and safety will be considered in future Land Use Planning.               <ul style="list-style-type: none"> <li>○ Policy 1.13: In areas identified as susceptible to brush or wildfire hazard, the City shall provide for construction standards to reduce structural susceptibility and increase protection. Brush clearance around structures for fire safety shall not exceed a 30-foot perimeter in areas of native or significant brush, and as provided by Resource Management Policy 10.1.</li> <li>○ Policy 1.17: In order to protect the health and safety of the residents of Encinitas and surrounding communities, the City shall control the development of hazardous waste facilities as required in Chapter 30.57 of the Municipal Code. The City shall also participate in programs to reduce the amounts of hazardous wastes being generated in the San Diego region, as provided in the adopted San Diego County Hazardous Waste Management Plan.</li> </ul> </li> <li>● Goal 2: The City of Encinitas will make an effort to minimize potential hazards to public health, safety, and welfare and to prevent the loss of life and damage to health and property resulting from both natural and man-made phenomena.               <ul style="list-style-type: none"> <li>○ Policy 2.5: Emergency equipment response routes and evacuation procedures shall be defined and provided for.</li> </ul> </li> <li>● Goal 3: The City will make every effort to ensure that all City residents and workers are protected from exposure to hazardous materials and wastes and the transport of such materials.               <ul style="list-style-type: none"> <li>○ Policy 3.1: Cooperate with the enforcement of disclosure laws requiring all users, producers, and transporters of hazardous materials and wastes to clearly identify such materials at the site and to notify the appropriate local County, State, and/or Federal agencies in the event of a violation.</li> <li>○ Policy 3.2: Restrict the transport of hazardous materials to identified truck routes as established by an implementing policy.</li> <li>○ Policy 3.4: Land uses involved in the production, storage, transportation, handling, or disposal of hazardous materials will be located a safe distance from land uses that may be adversely impacted by such activities.</li> <li>○ Policy 3.5: Commercial and industrial facilities shall be required to participate in a hazardous materials and wastes mitigation and response program.</li> </ul> </li> </ul>	E, H	San Elijo WRF

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Escondido</b>		
<p>The City of Escondido General Plan's Community Protection Element includes the following relevant goals and policies that address hazards and hazardous materials:</p> <ul style="list-style-type: none"> <li>• Goal 1: A prepared and responsive community in the event of disasters and emergencies                             <ul style="list-style-type: none"> <li>○ Emergency Services Policy 1.6: Require minimum road and driveway widths and clearances around structures consistent with local and State requirements to ensure emergency access.</li> </ul> </li> <li>• Goal 2: Protection of life and property through adequate fire protection and emergency medical services                             <ul style="list-style-type: none"> <li>○ Fire Protection Policy 2.4: Require new residential and non-residential development to be constructed consistent with the California Fire Code and the requirements set by the State.</li> <li>○ Fire Protection Policy 2.14: Require new development in high wildfire risk areas to incorporate site design, maintenance practices, and fire resistant landscaping to protect properties and reduce risks.</li> </ul> </li> <li>• Goal 8: A safe and healthy community and environment that is protected from the use, storage, and transport of hazardous materials.                             <ul style="list-style-type: none"> <li>○ Hazardous Materials Policy 8.3: Maintain regulations requiring proper handling, storage, and disposal of hazardous materials to prevent leakage, potential explosion, fire, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances.</li> <li>○ Hazardous Materials Policy 8.10: Require proponents of projects in known contamination areas to perform comprehensive soil and groundwater contamination assessments, in accordance with applicable regulations. If contamination exceeds regulatory levels, require the proponent to undertake remediation procedures consistent with county, regional, and state regulations prior to grading and development of the site.</li> <li>○ Hazardous Materials Policy 8.11: Maintain strict land use controls, performance standards, and structure design standards for uses that generate, use, or store hazardous materials, including setbacks from sensitive use to protect and health and safety of the community in concert with regional, state, and federal requirements for existing and proposed uses.</li> </ul> </li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF
<b>City of Vista</b>		
<p>The City of Vista's Safety Element of the General Plan includes the following goals and policies relevant to the Proposed Project and hazards and hazardous materials as addressed in this PEIR:</p> <ul style="list-style-type: none"> <li>• Goal 5: Protect life, property, and the environment from structural, wildland-urban, and wildland fire damage                             <ul style="list-style-type: none"> <li>○ Policy 5.1: Development or projects within very high, high, or moderate fire zones must comply with regulations and/or implement measures to mitigate the risk from intrusion of fire from wildland fire exposures and to mitigate structure fires from spreading to wildland fuels</li> <li>○ Policy 5.6: Work with the Vista Fire Protection District and the County to ensure that development within fire hazard areas in the SOI complies with site design and property maintenance standards to reduce the risk of wildfires.</li> </ul> </li> <li>• Goal 6: Provide for the safe use and disposal of hazardous materials and wastes to protect life and property from exposure                             <ul style="list-style-type: none"> <li>○ Policy 6.2: Enforce provisions under the zoning ordinance regulating the location of facilities that use, produce, or store hazardous materials or wastes</li> <li>○ Policy 6.4: Require all businesses that generate, handle, use, or dispose of hazardous materials or wastes to post placards in compliance with National Fire Protection Association section 704 requirements.</li> </ul> </li> </ul>	O	<i>None</i>

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<ul style="list-style-type: none"> <li>• Goal 7: Protect persons and property from hazards related to airport operations                             <ul style="list-style-type: none"> <li>○ Policy 7.1: Evaluate new development proposals within Airport Influence Areas to ensure they comply with applicable compatibility criteria and policies.</li> </ul> </li> </ul>		
<b>City of San Marcos</b>		
<p>The City of San Marcos' General Plan includes the following safety goals and policies relevant to the Proposed Project:</p> <ul style="list-style-type: none"> <li>• Goal S-4: Protect Life, structures, and the environment from the harmful effects of hazardous materials and waste                             <ul style="list-style-type: none"> <li>○ Policy S-4.1: Promote and support proper disposal, handling, transport, delivery, treatment, recovery, recycling, and storage of hazardous materials in accordance with applicable regulations</li> <li>○ Policy S-4.2: Require areas of known or suspected contamination to be assessed prior to reuse or redevelopment. Plan for reuse of contaminated areas in a manner that is compatible with the nature of the contamination and subsequent remediation efforts</li> <li>○ Policy S-4.3: Require that land uses using hazardous materials be located and designed to ensure sensitive areas are protected.</li> </ul> </li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
<p>The City of Solana Beach's General Plan's Safety Element includes the following objectives and policies to protect the public against hazards within its jurisdiction:</p> <p><b>Goal 3.1:</b> To minimize hazards to public health, safety, and welfare resulting from natural and man-made phenomena.</p> <ul style="list-style-type: none"> <li>• Objective 4.0: Establish fire prevention regulations and standards to minimize potential fire hazards and fire losses.                             <ul style="list-style-type: none"> <li>○ Policy 4.a: the city shall enact an ordinance which establishes criteria for land development in hillside areas with emphasis on fire-retardant construction materials, access for fire-fighting personnel and equipment, removal of combustible vegetation, and minimizing the overall exposure to risks associated with wildfires and adjacent structure fires.</li> <li>○ Policy 4.b: The city shall enact an ordinance which establishes structural design standards to ensure adequate fire safety.</li> <li>○ Policy 4.d: the city shall establish appropriate measures to mitigate potential fire hazards in areas of special concern.</li> </ul> </li> <li>• Objective 5.0: Establish a program to ensure the safe handling, disposal, and cleanup of hazardous materials in conjunction with federal, state, and regional programs and regulations.                             <ul style="list-style-type: none"> <li>○ Policy 5.a: the city shall enact an ordinance which sets forth restrictions and safeguards concerning the use, storage, and disposal of specific hazardous materials.</li> <li>○ Policy 5.b: the city Fire Department shall establish and periodically update an inventory of hazardous materials produced, stored, or otherwise located within the city for purposes of coordinating emergency response.</li> </ul> </li> </ul>	H, K	None
<b>County of San Diego</b>		
<p>The County of San Diego's General Plan contains a series of provisions to enhance and protect public safety and health. Goals and policies relevant to hazards and hazardous materials as related to the Proposed Project include:</p> <ul style="list-style-type: none"> <li>• Goal S-1: Enhanced public safety and the protection of public and private property                             <ul style="list-style-type: none"> <li>○ Minimize exposure to hazards – assign land use designations and densities to reflect site specific constraints and hazards</li> </ul> </li> </ul>	H, J, K, O	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>○ Public Facilities Location – advise and/or require new development to locate public facilities with respect to the County’s hazardous areas and State law</li> <li>○ Multi-Jurisdiction Hazard Mitigation Plan – review and update every 5 years.</li> <li>● Goal S-2: Effective emergency response to disasters that minimize loss of life and damage to property while reducing disruptions in vital services during and following a disaster               <ul style="list-style-type: none"> <li>○ Effective Emergency Evacuation Programs – develop, implement, and maintain an effective evacuation program for areas of risk in the event of a disaster</li> </ul> </li> <li>● Goal S-3: Minimize fire hazards               <ul style="list-style-type: none"> <li>○ Policy S-3.1 Defensible Development – development must be located, designed, and constructed to minimize risk of structural loss and life safety, and provide adequate defensibility</li> <li>○ Policy S-3.2 Development in Hillside and Canyons – development in areas where terrain or topography increase susceptibility to wildfires shall be located and designed to account for topography and to reduce the increased risk of fire</li> <li>○ Policy S-3.7 Fire Resistant Construction – all new, remodeled, or rebuilt structures must meet current ignition resistance construction codes and reasonable and prudent standards that support retrofitting of existing structures in high fire threat areas should be established and enforced.</li> </ul> </li> <li>● Goal S-6: Adequate Fire and Medical Services               <ul style="list-style-type: none"> <li>○ Policy S-6.1 Water Supply – ensure that water supply systems are adequate to provide fire protection services for development.</li> </ul> </li> <li>● Goal S-11: Controlled Hazardous Material Exposure               <ul style="list-style-type: none"> <li>○ Policy S-11.1 Land Use Location – land uses that involve storage, transfer, or processing of hazardous materials shall be located and designed to minimize risk and comply with all applicable hazardous materials regulations</li> <li>○ Policy S-11.2 Industrial Use Restrictions – restrict industrial uses that store, process, or transport significant amounts of hazardous material to areas designated as High Impact Industrial</li> <li>○ Policy S-11.3 Hazards-Sensitive Uses – Land uses using hazardous materials shall be located and designed to protect sensitive uses and sensitive uses shall not be located near established hazardous materials users or High Impact Industrial.</li> <li>○ Policy S-11.4 Contaminated Lands – Known or suspected contamination shall be assessed prior to reuse, and reuse be compatible with the nature of the contamination and remediation efforts</li> <li>○ Policy S-11.5 Development Adjacent to Agricultural Operations – provide an adequate buffer between development and adjacent existing agricultural operations and ensure compliance with relevant safety codes where pesticides or other hazardous materials are used.</li> </ul> </li> </ul>		

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### 3.9 Hydrology and Water Quality

This section provides a description of the existing hydrologic resources in the Study Area, describes the relevant regulatory environment, and evaluates potential impacts on hydrology and water quality from implementation of the Proposed Project. The Proposed Project has the potential to affect water quality, alter the existing drainage pattern of a site or area, and place structures within a 100-year flood hazard area that could impede flood flows. Mitigation measures identified in this section would reduce potential impacts to less than significant.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential hydrology and water quality impacts.

#### 3.9.1 Physical Environmental Setting – Hydrology and Water Quality

The following section describes the existing hydrologic setting of the Study Area.

##### Surface Waters

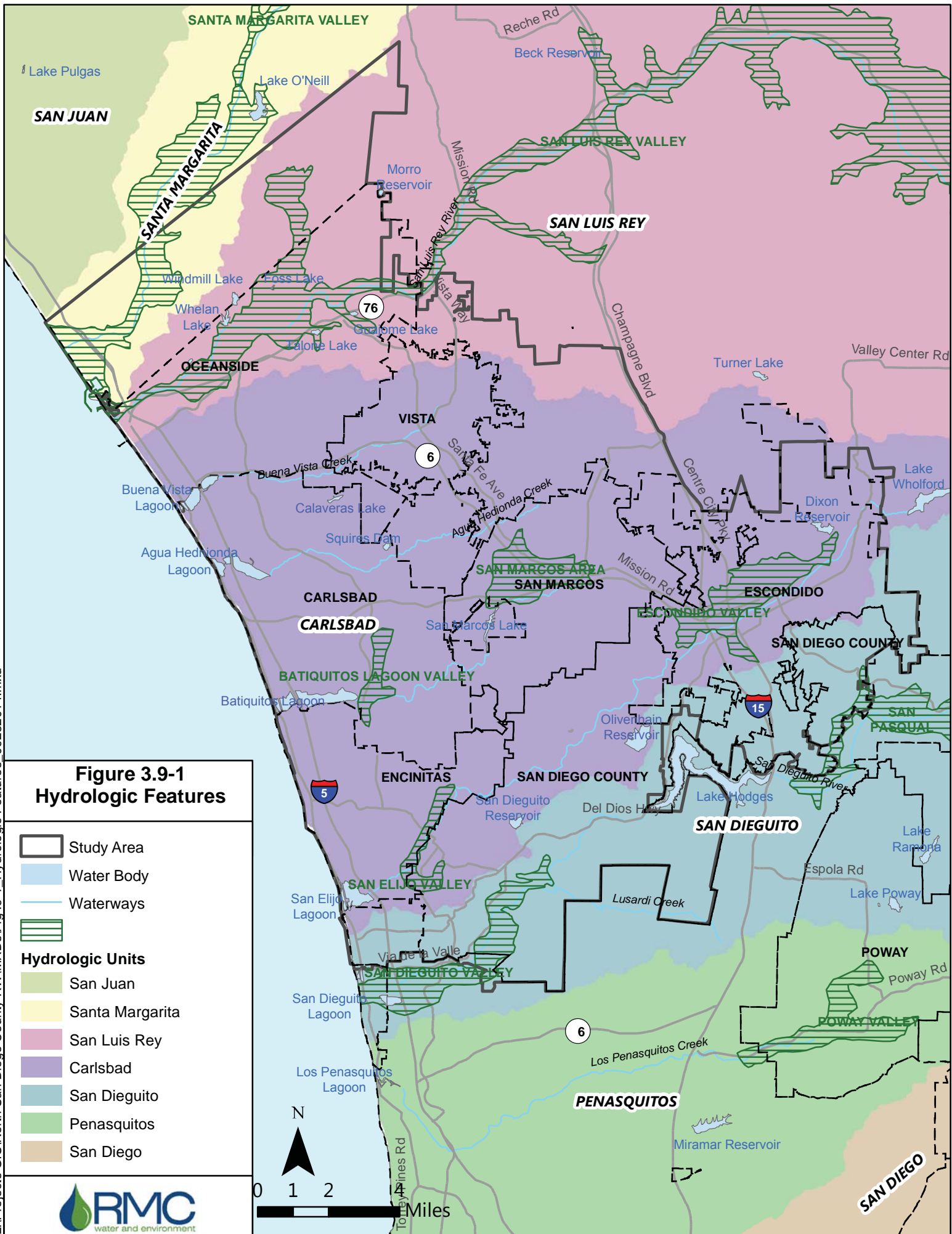
The Study Area encompasses four watersheds, which includes a variety of surface water features including creeks, lagoons, lakes, and reservoirs. These watersheds, major water features in these watersheds, and the communities that overlie these watersheds are shown in **Table 3.9-1** and **Figure 3.9-1**. A description of the relevant surface water resources is based on the information provided in the 2013 San Diego Integrated Regional Water Management (IRWM) Plan (SDRWMG 2013).

**Table 3.9-1 – Watersheds and Major Water Features within the Study Area**

Watershed	Major Waterways and Water Features	Communities
Santa Margarita	Santa Margarita River	Camp Pendleton
San Luis Rey River	San Luis Rey River, Pilgram Creek Lake, Windmill Lake, Whelan Lake, Guajome Lake; Foss Lake and Talone Lake (not shown on map)	Oceanside, Escondido, Vista
Carlsbad	Buena Vista Creek, Agua Hedionda Creek, San Marcos Creek, La Noria, Escondido Creek, Buena Vista Lagoon, Aqua Hedionda, Batiquitos Lagoon, San Elijo Lagoon, Calavera Lake, Pechstein Reservoir, Lake San Marcos, Daley Lake, Dixon Lake, San Dieguito Reservoir	Oceanside, Carlsbad, Encinitas, Solana Beach, Vista, San Marcos, Escondido, San Diego County
San Dieguito River	San Dieguito River	Escondido, Solana Beach, San Diego County

##### Watersheds

As shown in **Figure 3.9-1** and **Table 3.9-1**, the Proposed Project is located within the Santa Margarita, San Luis Rey, Carlsbad, and San Dieguito Watersheds. A description of these watersheds is provided below.





### *Santa Margarita Watershed*

A small portion of the Santa Margarita Watershed is located within the Study Area as shown in **Figure 3.9-1**. The Santa Margarita River is the primary watercourse. The river, formed by the confluence of Temecula and Murrieta Creeks immediately upstream from the San Diego-Riverside County border, drains in a westerly direction from headwaters in Riverside County to the Santa Margarita Estuary and the Pacific Ocean. The Santa Margarita River estuary (river mouth) fluctuates between being open to tidal flushing and closed due to lack of flow along the river. There are no major tributaries to the Santa Margarita River within the Study Area. Also, there are no water supply reservoirs within the Study Area portion of the Santa Margarita Watershed.

### *San Luis Rey Watershed*

The San Luis Rey Watershed, shown in **Figure 3.9-1**, is comprised of one hydrologic area (HA) within the Study Area: Lower San Luis HA. The major surface water body within the San Luis Rey Watershed is the San Luis Rey River. The San Luis Rey River has headwaters in the Palomar Mountains and the Hot Springs Mountains. The San Luis Rey River flows in a westerly direction, draining into the Pacific Ocean near the City of Oceanside. There are no water supply reservoirs within the Study Area portion of the San Luis Rey Watershed. Several larger water bodies located within the watershed are described below (SDRWMG 2013):

- Guajome Lake, a manmade lake located in Guajome Regional Park, is a small surface water body that is primarily used for recreational purposes.
- Foss Lake is an inland salt water wetland in San Diego County.
- Whelan Lake, bordered by Camp Pendleton and adjacent to the City of Oceanside San Luis Rey Wastewater Treatment Plant, is a man-made body of water that is currently used as a sanctuary for migratory and resident waterfowl.
- Talone Lake, is a habitat refuge for migrating wildlife.

### *Carlsbad Watershed*

The Carlsbad Watershed, shown in **Figure 3.9-1**, features a significant number of the Region's coastal lagoons. The Carlsbad Watershed is comprised of six small HAs all located within the Study Area: Loma Alta which drains into Loma Alto Slough, Buena Vista Creek which drains into Buena Vista Lagoon, Agua Hedionda which drains into Agua Hedionda Lagoon, Encinas which drains to the Pacific Ocean, San Marcos which drains into Batiquitos Lagoon, and Escondido Creek which drains into San Elijo Lagoon. There are several major surface water bodies in the watershed within the Study Area, which are used to store surface water or imported water (SDRWMG 2013). These major water bodies are described below:

- Dixon Lake, owned by City of Escondido that stores surface water and imported water.
- Lake San Marcos, a privately owned lake (Citizens Development Corporation) that stores surface water.
- Olivenhain Reservoir: owned by Water Authority, stores natural runoff and imported water.
- San Dieguito Reservoir: owned by San Dieguito Water District and Santa Fe Irrigation District, stores imported water from the Water Authority's Second Aqueduct and upstream releases.

### *San Dieguito Watershed*

The San Dieguito Watershed is comprised of five HAs: Solana Beach, Hodges, San Pasqual, Santa Maria Valley, and Santa Ysabel. The major surface water bodies within the San Dieguito Watershed in the Study Area, some of which are shown in **Figure 3.9-1**, are the San Dieguito Lagoon and San Dieguito River. The San Dieguito River is the primary drainage in the watershed, with headwaters originating in

the Witch Creek Basin. San Dieguito River flows from Santa Ysabel Creek into Hodges Reservoir (both outside the Study Area). There are multiple tributaries that join the San Dieguito River below Hodges Reservoir, which all ultimately flow into the Pacific Ocean via the San Dieguito Lagoon (SDRWMG 2013). There are no water supply reservoirs within the Study Area of the watershed.

### Surface Water Quality

#### *Santa Margarita Watershed*

Several water bodies within the Santa Margarita Watershed are listed on the 303(d) list of impaired water bodies. Due to management issues and rapid population growth expected in the Riverside County portion of the watershed, water quality issues may worsen in the future. In 2011, the following 303(d) listings were applied to water bodies within the Study Area portion of the Santa Margarita Watershed (SDRWMG 2013):

- Oceanside Harbor for copper
- Santa Margarita Lagoon for eutrophication
- Lower Santa Margarita River for Enterococcus, fecal coliform, phosphorus, and total nitrogen

The Basin Plan establishes specific water quality objectives for all hydrologic areas included within the Santa Margarita Watershed. For the HAs included within San Diego County, there are specific water quality objectives established for TDS, chlorides, sulfates, sodium, nitrates, nitrogen-phosphorus ratios, iron, manganese, methylene blue-activated substances (MBAS), boron, turbidity, color, and fluoride (SDRWMG 2013).

#### *San Luis Rey Watershed*

Several water bodies within the San Luis Rey Watershed are listed on the 303(d) list of impaired water bodies (SDRWMG 2013):

- Guajome Lake for eutrophication
- San Luis Rey River (lower) for chloride, TDS, Enterococcus, fecal coliform, phosphorus, nitrogen, and toxicity
- San Luis Rey River (upper) for nitrogen
- Pacific Ocean Shoreline, Mouth of the San Luis Rey River for Enterococcus and total coliform

Monitoring data suggests that nutrients entering Guajome Lake from residences, commercial nurseries, commercial horse facilities, and residential horse facilities could be the cause of eutrophication. Chloride and TDS within the San Luis Rey River may be due to salt water intrusion, and may also be due to natural causes. Foss Lake, one of the only inland salt water wetlands in San Diego County, has naturally elevated salt levels. The source of bacteria along the Pacific Ocean Shoreline within the San Luis Rey Watershed is unknown at this time. Nitrogen and phosphorous-containing compounds found in the local streams are known to originate from urban runoff, wastewater/sewage spills, septic tank leaks, and agriculture sources (SDRWMG 2013).

The Basin Plan establishes specific water quality objectives for the hydrologic areas included within the San Luis Rey Watershed. There are specific water quality objectives established for TDS, chlorides, sulfates, sodium, nitrates, nitrogen-phosphorus ratios, iron, manganese, methylene blue-activated substances (MBAS), boron, turbidity, color, and fluoride (SDRWMG 2013).

#### *Carlsbad Watershed*

Multiple water bodies within the Carlsbad Watershed are listed on the 303(d) list of impaired water bodies. Impaired water bodies and the constituents for which they are listed are provided below:

- Agua Hedionda Creek for Enterococcus, fecal coliform, phosphorus, nitrogen, toxicity, manganese, selenium, and TDS
- Buena Creek for DDT (dichlorodiphenyltrichloroethane, an insecticide), nitrate, and nitrite
- Buena Vista Creek for sediment toxicity and selenium
- Buena Vista Lagoon for indicator bacteria, nutrients, and sedimentation/siltation
- Pacific Ocean Shoreline, Cardiff State Beach at Cardiff Lagoon for total coliform
- Cottonwood Creek for DDT, selenium, and sediment toxicity
- Encinitas Creek for selenium and toxicity
- Escondido Creek for Enterococcus, fecal coliform, DDT, manganese, nitrogen, phosphate, selenium, sulfates, toxicity, and TDS
- Lake San Marcos for ammonia as nitrogen and nutrients
- Loma Alta Creek for selenium and toxicity
- Pacific Ocean Shoreline, Loma Alta Creek mouth for indicator bacteria
- Loma Alta Slough for eutrophication and indicator bacteria
- Pacific Ocean Shoreline, Moonlight State Beach at Cottonwood Creek outlet for total coliform
- San Elijo Lagoon for eutrophication, indicator bacteria, and sedimentation/siltation
- San Marcos Creek for DDE (dichlorodiphenyldichloroethylene, a byproduct of DDT), phosphorous, selenium, and sediment toxicity
- Pacific Ocean Shoreline, San Mateo Creek outlet for total coliform

The Basin Plan established specific water quality objectives for the Carlsbad Watershed, as well as beneficial uses for individual water bodies. Due to water quality impairments listed above, several water bodies within the watershed are also experiencing impairments to beneficial uses. Specifically, three of the four coastal lagoons within the watershed (Agua Hedionda, Buena Vista, and San Elijo) are impaired due to excessive bacteria and sediment loading from upstream sources (SDRWMG 2013).

#### *San Dieguito Watershed*

Several water bodies within the San Dieguito Watershed are listed on the Clean Water Act 303(d) list of impaired water bodies. Impaired water bodies include (SDRWMG 2013):

- Pacific Shoreline, San Dieguito Lagoon Mouth for total coliform
- San Dieguito River (19 Miles) for Enterococcus, fecal coliform, nitrogen, phosphorus, TDS, toxicity
- Cloverdale Creek for phosphorus and TDS
- Felicita Creek for aluminum and TDS
- Kit Carson Creek for PCP and TDS

Runoff from residential, commercial, industrial, and transportation land uses generally contributes higher pollutant loading within the San Dieguito Watershed. Pollutants of concern and stressors within the watershed include nutrients, pathogens, salinity, pesticides, metals/metalloids, toxicity, and other organics and inorganics (SDRWMG 2013).

The sources of these impacts are agriculture, dairies, urban runoff/storm sewers, flow regulation/modification, natural sources, and unknown point and non-point sources. Runoff from open space has the ability to contribute sediment to the watershed, and agricultural uses may impart nutrients

and pesticides. Further, increased development and agricultural and turf related activities have been identified as the main threats to water quality in the San Dieguito Watershed (SDRWMG 2013).

### **Groundwater**

There are seven groundwater basins within the Study Area:

1. Santa Margarita Valley Groundwater Basin,
2. San Luis Rey Valley Groundwater Basin (Mission Bay),
3. Batiquitos Lagoon Valley Groundwater Basin,
4. San Elijo Valley Groundwater Basin,
5. San Marcos Area Groundwater Basin,
6. Escondido Valley Groundwater Basin, and
7. San Dieguito Valley Groundwater Basin.

All except Santa Margarita and Batiquitos Lagoon Valley groundwater basins is proposed as a potential groundwater storage site for recycled water. A description of the groundwater basins characteristics and water quality in the four watersheds are provided below.

#### **Groundwater Basins**

Information on the underlying groundwater basins within the Study Area is based on either the San Diego IRWM Plan or DWR's Bulletin 118. Additional studies are necessary to accurately characterize the hydrogeology of the basins as well as available storage capacities.

##### *Santa Margarita Watershed*

The Santa Margarita Valley Groundwater Basin is located partly within the Study Area portion of the Santa Margarita Watershed. According to DWR Bulletin 118, this 7,960-acre basin underlies the western part of Santa Margarita Valley in northern coastal San Diego County. Natural recharge of the alluvial aquifer is primarily from percolation in the Santa Margarita River, with smaller amounts contributed by infiltration of precipitation falling to the valley floor. The total storage capacity of the basin is estimated to be 61,600 AF although the groundwater in storage is unknown (DWR, 2004a).

##### *San Luis Rey Watershed*

There is one groundwater basin underlying the San Luis Rey Watershed within the Study Area: San Luis Rey Valley. According to DWR Bulletin 118, the basin is recharged by imported irrigation water applied on upland areas and by storm-flow in the San Luis Rey River and its tributaries. Water levels in the basin declined drastically in the 1950's and 1960's due to groundwater development and over pumping. Since the advent of imported water sources, groundwater levels have risen to near pre-development levels and averages range from 0 to 20 feet below land surface (DWR, 2004b). The City of Oceanside operates groundwater wells to extract brackish groundwater from the Mission Basin, which is part of the San Luis Rey Valley basin (SDRWMG 2013).

##### *Carlsbad Watershed*

Groundwater basins underlying the Carlsbad Watershed within the Study Area include the Batiquitos Lagoon Valley, San Elijo Valley, San Marcos Area, and Escondido Valley basins. Only a limited quantity of groundwater exists within the Carlsbad Watershed, and groundwater salinity represents a limitation to its use as a potable supply (SDRWMG 2013).

According to DWR, the Batiquitos Lagoon Valley groundwater basin underlies Green Valley and San Marcos Creek Valley in western San Diego County. The basin is bounded on the northeast by impermeable crystalline rocks, on the west by Batiquitos Lagoon, and otherwise by semi-permeable rocks

of the La Jolla Formation. San Marcos and Encinitas Creeks drain the valleys westward into Batiquitos Lagoon. The groundwater storage capacity and groundwater in storage are unknown (DWR 2004c).

The San Elijo Valley Groundwater Basin underlies two southwest-northeast trending valleys with the Escondido Creek flowing (occasionally) through the upper, northeast valley, discharging into the San Elijo Lagoon. The basin is bounded to the north and to the south by the contacts of alluvium with the semi-permeable marine deposits of the La Jolla Group. The northeastern boundary is defined by contact with impermeable Cretaceous deposits of the Santiago Peak Volcanics. The western boundary is the Pacific Ocean. Natural recharge of the alluvial aquifer is primarily from percolation in Escondido Creek, with smaller amounts contributed by direct precipitation and underflow from the surrounding marine sedimentary units. Return of irrigation waters and water from residential use also contributes to recharge. Groundwater in this basin is unconfined. The groundwater storage capacity is unknown, and the groundwater in storage in 1983 was estimated to be approximately 8,500 acre-feet (DWR, 2004d).

The San Marcos Area Groundwater Basin underlies San Marcos Valley in northwestern San Diego County. The basin is bounded by semi-permeable marine and nonmarine deposits, and impermeable granitic and metamorphic rocks. San Marcos Creek drains this valley southwestward into Lake San Marcos. This basin is likely recharged dominantly by percolation of rainfall to the valley floor and ephemeral stream flow. Some additional recharge may come from percolation of water applied to landscaping. The groundwater storage capacity and the groundwater in storage are unknown (DWR 2004f).

The Escondido Valley Groundwater Basin underlies a northeast trending valley drained by Escondido Creek located in central San Diego County. Quaternary alluvium is confined to the course of Escondido Creek and is probably not thick enough to be water bearing. Groundwater production in this basin is largely from residuum; however, many wells extract groundwater from fractures in the underlying crystalline rocks. Groundwater is generally found at less than 50 feet in depth. The estimated total storage capacity is 24,000 AF although the groundwater in storage is unknown (DWR 2004e).

#### *San Dieguito Watershed*

There is one groundwater basin located in the San Dieguito Watershed within the Study Area: San Dieguito Valley. According to DWR Bulletin 118, the San Dieguito Groundwater Basin underlies Osuna Valley and the lower portion of San Dieguito Valley in central coastal San Diego County. The basin is bounded by the Pacific Ocean to the west and elsewhere by nonwater-bearing parts of the La Jolla Group. The San Dieguito River drains this valley west to the Pacific Ocean. Recharge of the alluvial aquifer is chiefly by percolation of flow in the San Dieguito River. Additional sources of recharge include percolation of precipitation to the valley floor, underflow beneath Hodges Dam, and underflow through the La Jolla Group sediments. The basin is estimated to have a storage capacity of up to 63,000 AF. The groundwater in storage is unknown (DWR 2004g).

#### **Groundwater Quality**

Water quality data is based on either the San Diego IRWM Plan or DWR's Bulletin 118, which references groundwater quality data from 2000 to decades prior. Additional studies are necessary to accurately characterize water quality for these basins.

#### *Santa Margarita Groundwater Basin*

Groundwater in the southwestern part of the basin is marginal to inferior for domestic and irrigation uses. Magnesium, sulfate, chloride, nitrate, and TDS concentrations are locally high for domestic use; whereas, chloride, boron, and TDS concentrations are locally high for irrigation use (DWR 2004a). U.S. Marine Corps (USMC) Base Camp Pendleton has specific water quality concerns pertaining to groundwater quality in this groundwater basin. Manganese levels within on-base groundwater wells have been detected at levels exceeding secondary drinking water standards; this water quality concern is likely due to natural

features associated with the surrounding bedrock. In addition, the Naval Facilities Engineering Command is currently managing groundwater monitoring and remediation activities on Camp Pendleton to address volatile organic compounds in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (SDRWMG 2013).

#### *San Luis Rey Watershed*

According to DWR Bulletin 118, the Department of Health Services data for 19 wells show a TDS content of 530 to 7,060 mg/L, with an average of approximately 1,258 mg/L. Values for TDS ranged from 960 to 3,090 mg/L in 1983. In addition, between the years 1994 and 2000, MCLs have been exceeded in public wells for the following constituents: inorganics (primary), radiological, nitrates, pesticides, volatile organic compounds (VOCs) and Semi VOCs (SVOCs) (DWR 2004b).

#### *Carlsbad Watershed*

According to DWR Bulletin 118, the Batiquitos Lagoon Valley Groundwater Basin was rated inferior for irrigation because of high chloride content and marginal for domestic use because of high sulfate and TDS concentrations (DWR 2004c).

According to DWR Bulletin 118, TDS concentration in the San Elijo Valley Groundwater Basin ranges from 1,170 to 5,090 mg/L, with concentrations lowest in the eastern part of the basin and increasing toward the west (DWR 2004d).

According to DWR Bulletin 118, TDS content in the San Marcos Area Groundwater Basin measured prior to 1967 ranged between 500 and 750 mg/L; groundwater was rated suitable for domestic use and marginal for irrigation in the northern part of the basin, but inferior in the south (DWR 2004f).

According to DWR Bulletin 118, TDS content in the Escondido Valley Groundwater Basin ranges from 250 to more than 5,000 mg/L. Local sources of groundwater in this basin are categorized as suitable to inferior for domestic use. The water that is categorized as inferior typically has high nitrate, TDS, or sulfate content (DWR 2004e).

#### *San Dieguito Watershed*

According to DWR Bulletin 118, TDS content measured in the San Dieguito Valley Groundwater Basin ranges from about 500 mg/L in the northeastern part of the basin to more than 5,000 mg/L near the coast. This basin has high sulfate, chloride, and TDS concentrations that cause inferior ratings for domestic and irrigation use for most of the basin (DWR 2004g).

### **Flood Hazards**

#### **City of Oceanside**

There are three flood-prone areas in the City of Oceanside: San Luis Rey River Valley, Loma Alta Creek, and Buena Vista Creek. Historic floods have resulted in substantial damages in these and other areas of the City. San Luis Rey Valley is also subject to flooding from failure of Henshaw Dam. The dam is an earthfill dam that is not subject to catastrophic failure usually associated with concrete-arch type dams. If failure were to occur, it would be of a slower, erosive type, resulting in less severe peak flows. An inundation map of Henshaw dam is included in the Public Safety Element (City of Oceanside 2002a).

#### **City of Carlsbad**

The City of Carlsbad has the potential for flood hazards along the entire coastline, as well as the following major drainage basins: Buena Vista Creek and Buena Vista Lagoon; Agua Hedionda Creek, its northern tributary, and the Agua Hedionda Lagoon; San Marcos Creek and its northern tributary; Batiquitos Lagoon; and Encinitas Creek.

Also located within the City are two dams and a reservoir, which have the potential for flooding. These include Calavera Dam, which flows into the northern tributary of Agua Hedionda Creek, Squires Dam, which flows into Agua Hedionda Creek and the Stanley Mahr Reservoir, which flows into San Marcos Creek. Further, there is the possibility of catastrophic dam failure inundation from Calavera Dam, Lake San Marcos Dam, Stanley Mahr Reservoir and Squires Dam in the case of seismic activity or sabotage (City of Carlsbad 2006).

### **City of Encinitas**

The City contains several 100-year and 500-year flood zones, as shown in the City of Encinitas General Plan Update Current Conditions Report (2010). 100-year flood zones occur along the coast, in and around the Batiquitos Lagoon and El Elijo Lagoon, along north El Camino Real, and along Escondido Creek. Dam inundation zones have also been identified in the City, downstream of Lake Wohlford and Dixon Dam, which are outside city boundaries. The San Dieguito Dam Inundation Zone also covers San Elijo Lagoon (City of Encinitas 2010).

### **City of Escondido**

The drainage areas along Escondido Creek and Reidy Creek are subject to flooding by a 100-year flood event. Lakes Wohlford and Dixon are located in Escondido's northeastern planning area totaling approximately 266 surface acres of water. A catastrophic dam failure at either of these facilities would likely result in extensive downstream flooding along Escondido Creek. The areas below the dams are zoned for flood hazard maps prepared by the Federal Emergency Management Agency (FEMA). 100-year floodways and floodplains in the City are shown in the Community Protection Element (City of Escondido 2012b)

### **City of Vista**

FEMA-designated 100-year floodways and floodplains and 500-year floodplains are located in the northern portion of the city along Buena Vista Creek, and in the southern half of the city along Agua Hedionda Creek. The floodplains generally meander with the creeks, encroaching on the surrounding land, which includes residential and commercial uses (City of Vista 2011a). A map of these floodplains is shown in the City of Vista General Plan EIR (City of Vista 2011a).

### **City of San Marcos**

FEMA-designated 100-year floodplains and floodways are identified around San Marcos Creek and the Twin Oaks Valley drainage, plus Lake San Marcos and smaller drainage areas west of Palomar Community College, extending south beyond State Route 78. FEMA-designated 500-year floodplains are also located within the City. The City maintains an extensive storm drain system that typically diverts excess rainfall. However, a significant rain event could cause flooding in the FEMA-designated zones. Inundation from dam failure is an issue for portions of the City and Sphere of Influence area. City studies suggest that dam inundation flooding from South Lake/Discovery Lake could involve approximately 73.3 million gallons (about 225 acre-feet) of water. Areas of potential flooding (100-year floodways and floodplains and dam inundation areas) are shown in the General Plan Safety Element (City of San Marcos 2012a).

### **City of Solana Beach**

Flooding problems in Solana Beach have historically involved coastal flooding and San Dieguito River flooding in the area of Stevens Avenue and Valley Avenue. The occurrence of storm events in combination with high astronomical tides and strong winds can cause a significant wave run-up and allow storm waves to reach a higher than normal elevations along the coastline, potentially causing coastal flooding. An additional major cause of flooding in the city of Solana Beach is long-duration, high-intensity storms in the San Dieguito Watershed. FEMA-designated 100-year and 500-year floodplains are

shown in the City of Solana Beach General Plan. These areas are generally along Stevens Avenue and Valley Avenue, south of Genevieve Street (City of Solana Beach 2001).

### **San Diego County**

The area of the County within the Study Area is subject to flooding. FEMA-designated 100-year floodplains and floodways and dam inundation areas are identified in the San Dieguito area of San Diego County, as shown in the County's General Plan (County of San Diego 2011a). According to the County of San Diego, localized flooding within Sandia Creek, a tributary of the Santa Margarita River, impacts access to the communities of Fallbrook and De Luz. The USMC reports that flooding on the Santa Margarita River has damaged infrastructure on Camp Pendleton several times since 1943 (SDRWMG 2013).

According to the County of San Diego, localized flooding occurs in several reaches of the San Luis Rey River, including (SDRWMG 2013): Between Lake Henshaw and the La Jolla Indian Reservation; Along Cole Grade Road; At Shearer Crossing (where the river meets Interstate 15); Along Pauma Valley Drive; and Wiskon Way; and along Valley Center Road and in the vicinity of the Rincon Casino. Flooding and mudslides during rain events have occurred in the San Luis Rey Watershed following fires.

## **3.9.2 Regulatory Framework – Hydrology and Water Quality**

### **Federal**

#### **Clean Water Act**

The federal Clean Water Act (CWA) is the primary surface water protection legislation throughout the country. By employing a variety of regulatory and nonregulatory tools, including establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA aims to restore and maintain the chemical, physical, and biological integrity of surface waters to support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.” The CWA regulates both the pollutant content of point-source discharges, as well as addressing polluted runoff (nonpoint-sources).

The Proposed Project is subject to regulations governing discharge from point sources and “wet-weather point sources,” such as urban storm sewer systems and construction sites, as defined in Sections 1311–1330 of the CWA (Title 33, Chapter 26, Subchapter III of the United States Code [USC]). In conjunction, the Proposed Project may be subject to a number of permit requirements, including National Pollutant Discharge Elimination System (NPDES) permits, Construction Activities Storm Water permits, and Sections 401/404 permit(s). Any necessary permits must be obtained prior to implementation of the Proposed Project.

#### *Section 303(d)*

The Total Maximum Daily Load (TMDL) Program is required under provisions of the CWA. A TMDL represents the quantity of pollutants that a water body can receive without resulting in impacts to the designated beneficial uses of that water body. Under the current program, if a water body is designated “impaired” by the RWQCB then a TMDL must be developed and implemented for the specific pollutant. The “impaired” status implies that the assimilative capacity of a particular water body for a specific pollutant has already been exceeded and any additional increment, however small, constitutes a significant cumulative impact. While many water bodies in California have been listed for various pollutants, very few TMDLs have actually been initiated.

#### *Section 401*

Section 401 of the CWA requires that state water quality standards be met and that construction, dredging, and disposal activities not cause concentrations of chemicals in the water column that exceed



state standards. Section 401 requires a water quality certification from a RWQCB for issuance of a 404 permit. If a Section 404 permit is required for the Proposed Project/Action, then a 401 certification from the RWQCB would also be required.

#### *Section 402*

Section 402 of the CWA states that discharge of pollutants to “waters of the U.S.” is unlawful unless the discharge is authorized and in compliance with an NPDES permit. The U.S. Environmental Protection Agency (USEPA) has granted the State primacy in administering and enforcing the provisions of the Clean Water Act and the NPDES permit program. The NPDES permit program is the primary federal program that regulates point-source and non-point-source discharges to the waters of the United States (see also the section called National Pollutant Discharge Elimination System (NPDES) Program below).

#### *Section 404*

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” The U.S. Army Corps of Engineers (USACE) is given the principal authority to regulate discharges of dredged or fill material, under oversight by the USEPA. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” Under Section 404, USACE is responsible for issuing permits (typically called Section 404 permits) authorizing the placement of dredged or fill materials into jurisdictional waters.

### **Safe Drinking Water Act**

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of drinking water. Under this act, the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The State Water Resources Control Board (State Water Board)<sup>1</sup>, Division of Drinking Water and Environmental Management (DDWEM) is responsible for the enforcement of the federal and California SDWAs and the regulatory oversight of public water systems.

The State’s Drinking Water Source Assessment and Protection (DWSAP) Program requires a Drinking Water Source Assessment to assess the potential for contamination and vulnerability of drinking water supplies. The assessment includes a delineation of the area around a drinking water source through which contaminants might move and reach that drinking water supply, an inventory of possible contaminating activities (PCAs) that might lead to the release of microbiological or chemical contaminants within the delineated area, and a determination of the PCAs to which the drinking water source is most vulnerable.

### **State**

#### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act, also referred to as the ‘Porter-Cologne Act’, is contained in the California Water Code, Division 7, §13000 et seq. It is the principle law governing water quality regulation in California. It is the policy of the state, as set forth in Porter-Cologne, that the quality of all the waters of the state shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the state must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation. Porter-Cologne directs the State Water Board to formulate and adopt state policies for controlling water quality and designates the State Water Board as the state water pollution control agency for all purposes stated in

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<sup>1</sup> Prior to July 1, 2014, the DDWEM was part of the California Department of Public Health. The DDWEM was moved to the State Water Resources Control Board (SWRCB) on July 1, 2014.

the CWA. Porter-Cologne establishes the policies that are to be implemented and authorities that are to be used in achieving the goals of the CWA.

### **State Water Resources Control Board and Regional Water Quality Control Boards (RWQCB)**

The State Water Board and RWQCBs are responsible for preserving, enhancing, and restoring “the quality of California’s water resources and ensuring their proper allocation and efficient use for the benefit of present and future generations”. The State Water Board develops statewide regulations governing water use and point-source and nonpoint-source pollutant discharge, while the RWQCBs work in smaller regions throughout the state to implement State Water Board policies and regulations. RWQCBs also establish additional region- and area-specific regulations and policies to achieve water quality goals under the CWA and Porter-Cologne Water Quality Control Act.

#### *California Ocean Plan*

The State Water Board adopted the California Ocean Plan in 2012 (SWRCB 2012). The Plan provides control for the discharge of waste to ocean waters and ensures the protection of beneficial uses of ocean waters. These beneficial uses include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting. The plan sets forth water quality objectives (WQOs) for protection of marine aquatic life and sets forth objectives for bacterial, physical, chemical, and biological characteristics for ocean waters. Compliance is determined from samples collected within the waste field where initial dilution is completed. In cases where there is conflict between limitations set forth in the California Ocean Plan and those set forth in other federal or state legislation, the more stringent limitations apply.

State Water Board staff is developing an amendment to the Ocean Plan that would address issues associated with desalination facilities (Desalination Amendment). The proposed Desalination Amendment would, among other objectives, include implementation provisions for a statewide narrative receiving water limitation for salinity. Amendment to the Ocean Plan is anticipated to be completed by fall 2014. While the amendments to the Ocean Plan are focused on desalination facilities, guidance on receiving water limitations for salinity would likely be relevant to the Proposed Project as it relates to brine disposal.

#### *Water Quality Control Plan (Basin Plan)*

The Study Area lies in the jurisdiction of the San Diego RWQCB. This region’s Water Quality Control Plan (Basin Plan) details the existing and potential beneficial surface and groundwater uses in the region, as well as water quality objectives and implementation measures throughout the basin. The plan includes water quality objectives and implementation measures for water quality parameters, including the following:

- Ammonia, unionized
- Bacteria
- Biostimulatory substances
- Boron
- Chlorides
- Color
- Dissolved oxygen
- Floating material
- Fluoride
- Hydrogen Ion concentration (pH)
- Organic Chemicals – Primary Standards
- Percent Sodium and Adjusted Sodium Adsorption Ration
- Pesticides
- Phenolic Compounds
- Radioactivity
- Secondary Drinking Water Standards
- Sediment
- Suspended and Settleable Solids
- Sulfate

- Inorganic Chemicals – primary standards
- Iron
- Manganese
- Methylene Blue – Activated Substances (MBAS)
- Nitrate
- Oil and grease
- Tastes and Odors
- Temperature
- Total Dissolved Solids
- Toxicity
- Toxic Pollutants
- Trihalomethanes
- Turbidity

The Basin Plan provides water quality criteria for the various beneficial uses identified in the Basin Plan.

#### *Water Rights/Licenses for Subterranean Streams*

In California, two distinct legal regimes govern the appropriation of surface water and subterranean streams, and percolating groundwater. The California Water Code requires that water users taking water for beneficial use from surface watercourses and “subterranean streams flowing through known and definite channels” obtain water right permits or licenses from the State Water Board (Water Code § 1200 et seq.). Groundwater classified as percolating groundwater is not subject to the Water Code provisions concerning the appropriation of water, and a water user can take percolating groundwater without having a State-issued water right permit or license. Current Water Code section 1200 is derived from a provision in the Water Commission Act of 1913, which became effective on December 19, 1914.

The State Water Board developed a test to identify groundwater that is in a subterranean stream flowing through a known and definite channel and is therefore subject to the State Water Board’s permitting authority. The State Water Board has issued decisions that find that groundwater under the Mission Basin of the San Luis Rey River in San Diego County constitutes a “subterranean stream flowing through known and definite channels” and is therefore subject to the State Water Board’s permitting authority (DWR 2003).

#### **National Pollutant Discharge Elimination System (NPDES) Program**

##### *Individual NPDES Permits (including Discharge Permits for Publicly-Owned Treatment Works)*

Since 1973, the USEPA has delegated the NPDES permit program to the state of California, which thus prepares and issues the permits. NPDES permits contain effluent limitations that prescribe the level of pollutants allowed in the discharge. These limits are based on either technology-based limits or water-quality based limits. Technology-based limits require that the best available technology (BAT) be used for the removal of pollutants. Water-quality based limits are those limits that are more stringent than technology-based limits and are applied when necessary to achieve water quality standards as set by a basin plan’s beneficial uses and water quality objectives. Publicly-owned treatment works (POTWs) are issued individual permits that must be reviewed and reissued every five years.

##### *Regional Municipal Separate Storm Sewer Systems (MS4s) Permit*

On May 8, 2013, the San Diego RWQCB adopted the *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region*, Order R9-2013-0001, NPDES No. CAS0109266 (referred to as the Regional MS4 Permit). MS4 Permits regulate discharges, generally stormwater, from entities listed under the permit; these listed agencies are referred to as Copermittees. The Copermittees for the Regional MS4 Permit in San Diego County include the eighteen incorporated cities, the County of San Diego, the San Diego County Regional Airport Authority, and the San Diego Unified Port District. The Regional MS4 Permit requires the Copermittees to develop stormwater management programs for each of the eleven westward-draining watersheds included within San Diego County. Locally, these plans are referred to as Water Quality Improvement Plans or WQIPs, which are adaptive planning documents that identify the highest priority water quality conditions within

each watershed and establish strategies that are implemented by individual jurisdictions to achieve improvements in the quality of MS4 discharges and ultimately the quality of receiving water bodies.

Ultimately, the Regional MS4 Permit will regulate MS4 discharges to inland surface waters, bays and estuaries and coastal waters throughout the three counties within the San Diego Region. The Copermitees will be covered by the new Regional MS4 Permit in a phased a manner as their current MS4 permits expire or upon request for earlier coverage prior to permit expiration.

#### *General Permit for Discharges of Storm Water Associated with Construction Activity*

In California, the State Water Board administers regulations promulgated by the USEPA (55 CFR 47990) requiring the permitting of stormwater-generated discharges under the NPDES. Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit) (Order 2012-0006-DWQ, NPDES No. CAS000002). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the submittal of a Notice of Intent (NOI)<sup>2</sup> and the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

#### *General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems within the San Diego Region*

On September 8, 2010, the San Diego Water Board adopted the *General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems within the San Diego Region*, Order R9-2010-0003 NDPEs No. CAG679001. This order authorizes federal military installations; and water purveyors, water districts, municipalities, private entities, and other persons, that have been issued a water supply permit by the California Department of Public Health, to discharge hydrostatic test water and/or potable water (resulting from testing of pipelines, tanks, and vessels that are dedicated to drinking water conveyance and storage) to surface waters within the San Diego Region and storm drains or other conveyance systems tributary thereto (pursuant to Section 402 of the Clean Water Act). The order only allows discharges that do not cause, have a reasonable potential to cause, or contribute to instream excursion above any applicable State or Federal water quality objective criteria or cause acute or chronic toxicity in the receiving water. To be authorized under this WDR, dischargers must demonstrate that the discharge or proposed discharge meets certain criteria, submit an NOI at least 60 days before commencement of discharge, submit a report for each discharge that occurs, and pay an application fee.

#### *General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region except for San Diego Bay (WDR)*

On March 12, 2008, the San Diego Water Board adopted the *General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region except for San Diego Bay (WDR)*, Order R9-2008-0002, NPDES No. CAG919002. This order authorizes any person with discharges from groundwater extraction activities (e.g., from

<sup>2</sup> The NOI is an application for permit coverage.

construction) to surface waters within the San Diego Region, except the San Diego Bay that do not cause, have the reasonable potential to cause, or contribute to an instream excursion above any applicable State or Federal water quality objectives/criteria or cause acute or chronic toxicity in the receiving water. To obtain coverage under this WDR, a Discharger must submit a NOI, an initial sampling and monitoring report, project maps that show the groundwater extraction system, and payment of fees.

*General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to San Diego Bay, Tributaries thereto Under Tidal Influence, and Storm Drains or Other Conveyance Systems Tributary Thereto (WDR)*

On October 10, 2007, the San Diego Water Board adopted the *General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to San Diego Bay, Tributaries thereto Under Tidal Influence, and Storm Drains or Other Conveyance Systems Tributary Thereto (WDR)*, Order R9-2007-0034, NPDES No. CAG919001. This order authorizes any person with temporary discharges from groundwater extraction activities (e.g., from construction) to waters of San Diego Bay, tributaries thereto under tidal influence, and storm drains and other conveyance systems tributary thereto that do not cause, have the reasonable potential to cause, or contribute to an instream excursion above any applicable State or Federal water quality objectives/criteria or cause acute or chronic toxicity in the receiving water. To obtain coverage under this WDR, a Discharger must submit a NOI, an initial sampling and monitoring report, project maps that show the groundwater extraction system, and payment of fees.

### **California Code of Regulations Water Recycling Criteria**

Title 22 of the CCR, Division 4, Environmental Health, Chapters 1 through 3 outline California's health laws related to recycled water. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. The regulations establish acceptable levels of constituents in recycled water for a range of uses and assurance of reliability in the production of recycled water. The State Water Board has jurisdiction over the distribution of recycled wastewater and the enforcement of Title 22 regulations.

Specifically, Chapter 3, Article 3 of Title 22 identifies various uses of recycled water based on treatment levels. Disinfected tertiary recycled water used for surface irrigation of food crops (including edible root crops, where the recycled water comes into contact with the edible portion of the crop), parks and playgrounds, school yards, residential landscaping, and unrestricted-access golf courses must meet certain turbidity requirements (CCR Section 60304). Orchards and vineyards where the recycled water does not come into contact with the edible portion of the crop must be treated at least to undisinfected secondary level for surface irrigation (CCR Section 60304).

In addition to uses of recycled water, Chapter 3 of Title 22 also specifies use area requirements. A regulation applicable to the project includes limitations on irrigation in the vicinity of water supply wells. The regulations state that within 50 feet of any domestic water supply well, irrigation with disinfected tertiary recycled water cannot take place unless five criteria are met, including but not limited to demonstration in a geological investigation that an aquitard exists at the well between the uppermost aquifer being draw from and the ground surface, and that the ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well (CCR Section 60310[a]).

Division 4, Chapter 3 (Title 22) of the California Code of Regulations addresses groundwater replenishment with recycled water. Article 5.1 Indirect Potable Reuse: Groundwater Replenishment – Surface Application (Sections 60320.100 through 60320.130) and Article 5.2 Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application (Section 60320.200 through 60320.230) address

Groundwater Replenishment Reuse Projects<sup>3</sup> (GRRPs) utilizing surface application and using subsurface application, respectively. These sections include stringent general, specific treatment and retention time, and monitoring requirements for GRRPs. For example, the proposed regulations must achieve reduction of pathogenic microorganisms; if such criteria cannot be met even after corrections have been made, then application of recycled municipal wastewater (recycled water) must be discontinued. Upfront studies (e.g., hydrogeologic assessment of the groundwater aquifer that could be potentially impacted by the GRRP, source water evaluation), development of an Operations Plan (that identifies the operations, maintenance, analytical methods, monitoring necessary for the GRRP to meet the requirements of Article 5.1, and reporting of results), and continuous monitoring are integral parts of GRRP implementation that is necessary to ensure that all requirements specified in Articles 5.1 and 5.2 are met. The requirements also build in public health protections such as mandating that the recycled water must be retained underground for a period of time sufficient to allow the project sponsor ample response time to identify treatment failures and implement actions and having an approved plan that describes the alternative source of potable water supply to all users.

### **General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water**

The State Water Board adopted the *General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water (Recycled Water General Permit)* in 2009 (Order No. 2009-0006-DWQ). The Recycled Water General Permit establishes requirements to manage recycled water for landscape irrigation uses in a manner that is protective of public health and the environment. Recycled water projects eligible for coverage under this General Permit meet the following treatment and use standards:

- The Producer produces disinfected tertiary recycled water, as defined in CCR Title 22, sections 60301.230 and 60301.320, at a municipal wastewater treatment plant; and
- The Distributors comply with the applicable uniform statewide reclamation criteria established pursuant to CWC section 13521 (i.e., CCR Title 22 section 60301 et. seq., hereafter “Title 22 Requirements”).
- The Producer and Distributor ensure that Users comply with the applicable uniform statewide reclamation criteria established pursuant to Title 22 Requirements.
- The Producers and Distributor satisfy all applicable requirements of the Recycled Water Policy.

The Recycled Water General Permit allows the use of disinfected tertiary recycled water produced for landscape irrigation, of parks, greenbelts, and playgrounds, school yards, athletic fields, golf courses, cemeteries, residential landscaping, common areas, commercial landscaping (except eating areas), industrial landscaping (except eating areas), freeway, highway, and street landscaping. The Recycled Water General Permit establishes prohibitions and specifications. Prohibitions specified in the Recycled Water General Permit include the following:

- The use of recycled water pursuant to this General Permit is prohibited unless the Administrator has submitted a complete NOI form, Operation & Maintenance Plan, and application fee and has received confirmation of enrollment under this General Permit.
- In conformance with Title 22 Requirements, recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.
- The use of recycled water other than for landscape irrigation

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<sup>3</sup> GRRPs are defined as a project involving the planned use of recycled municipal wastewater that is operated for the purpose of replenishing a groundwater basin designated in the Water Quality Control Plan [as defined in Water Code section 13050(j)] for use as a source of municipal and domestic water supply.

- The use of recycled water on water-saturated or frozen ground or during periods of precipitation such that runoff is induced, is prohibited.
- The direct or indirect discharge from use areas of recycled water to surface waters, either perennial or ephemeral, including wetlands, vernal pools, etc. is prohibited, unless otherwise authorized by an NPDES permit.
- Application of recycled water within 50 feet of a domestic well and impoundment of recycled water within 100 feet of a domestic well
- Use or installation of hose bibbs in areas accessible by the public on any irrigation system presently operating or designed to operate with recycled water, regardless of construction or identification, is prohibited.
- Use of any equipment or facilities that have been used to convey recycled water (e.g., tanks, temporary piping or valves, and portable pumps) also used for potable water supply conveyance, is prohibited.
- The discharge or use of recycled water in a manner that causes or contributes to an exceedance of an applicable water quality objective is prohibited.
- The use of recycled water for landscape irrigation shall not cause or threaten to cause pollution or nuisance as defined in Water Code section 13050.

Specifications itemized in the Recycled Water General Permit include the following:

- Application of recycled water to the Use Area shall be at reasonable agronomic rates and shall consider soil, climate, and nutrient demand. Application rates shall ensure that a nuisance is not created. Degradation of groundwater, considering soil, climate, and nutrient demand, shall be minimized consistent with applicable provisions of the Recycled Water Policy
- The seasonal nutritive loading of the Use Area including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed the nutritive demand of the landscape,
- Use Areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use.
- All newly installed or any accessible reclamation equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities. All newly installed or any accessible reclamation distribution system piping shall be purple or adequately identified with purple tape, tags, or stickers per Section 116815(a) of the California Health and Safety Code.
- Recycled water shall not be allowed to escape from the Use Area by overspray, mist or by surface flow except in minor amounts such as that associated with BMPs for good irrigation practices.
- Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other vectors, and to avoid creation of a public nuisance or health hazard.

To obtain coverage under the Recycled Water General Permit, either a Producer or a Distributor must submit a complete NOI, Operations & Maintenance Plan, and appropriate application fee to the State Water Board. The Recycled Water General Permit is consistent with the Recycled Water Policy, State and Federal water quality laws, including the statewide water quality standards established by the California Department of Public Health.

## Water Reclamation Requirements

The RWQCB is responsible for user requirements associated with implementation of water reclamation projects and the overall protection of water quality. The RWQCB may prescribe water reclamation requirements where reclaimed water is used or proposed to be used (Water Code Section 13523).

### Master Reclamation Permit

The RWQCB has the option of issuing a master reclamation permit in lieu of individual water reclamation requirements for a project involving multiple users. Such permits combine the waste discharge requirements pursuant to Water Code Sections 13260 et seq. and water reclamation requirements. A master permit may be issued to a supplier, distributor, or both, of recycled water. While the master reclamation permit contains most of the same provisions as do the WDRs, the reporting requirement in Water Code Section 13522.5 is waived for users supplied with recycled water from a supplier or distributor operating under a master permit.

## Regional

### San Diego Association of Government's Regional Growth Management Strategy

The Water Quality Element of the San Diego Association of Governments (SANDAG)'s Regional Growth Management Strategy identifies the following water supply objectives relevant to the Proposed Project:

Policy: Ensure a safe, sufficient and reliable supply of water to meet the existing and future water needs of the San Diego region

Objective 1. A safe and reliable supply of water should be provided to serve existing and future residents, businesses, institutions and agricultural uses in the region.

Objective 3. Local and regional water projects such as recycling, groundwater usage and seawater desalination should be pursued to achieve a goal of producing close to 140,000 acre feet by 2020 within the San Diego County Water Authority [CWA] service area. The objective is to develop these supplies in five-year increments as follows: 64,000 acre-feet by 2005, 98,000 acre-feet by 2010, 109,000 acre-feet by 2015 and 138,000 acre-feet by 2020.

### Water Quality Improvements Plans (WQIPs)

On May 8, 2013, the San Diego RWQCB adopted a new Regional MS4 Permit (see discussion above).

## Local

### General Plans

The Study Area falls within the jurisdiction of General Plans from the County of San Diego and the cities of Escondido, Encinitas, Solana Beach, Carlsbad, Oceanside, Vista, and San Marcos. Hydrology and water quality is generally addressed in the Environmental Resource or Open Space and Conservation Elements of a General Plan. The goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.9-3** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### NPDES Permits for Wastewater Treatments Plants/Water Reclamation Plants

The San Diego RWQCB issues NPDES permits to individual Coalition members for operation of the WWTPs/WRPs. The NPDES permit provides effluent limitations and receiving water quality to ensure for protection of aquatic life and human health. **Table 3.9-2** provides information on NPDES permits at existing facilities.



**Table 3.9-2: Existing and Proposed Treatment Plant Characteristics and NPDES Permits**

Treatment Plant	Owner	Expanded (Tertiary/Advanced)	New Facility	NPDES / MRP / WDR Order <sup>1</sup>	Existing Discharge Location
Carlsbad WRF	Carlsbad MWD	X (Tertiary)		MRP R9-2012-0027 <sup>2</sup>	Irrigation - Various locations in City
Gafner WRF	Leucadia WWD	X (Tertiary)		WDR Order No. 93-41	Irrigation – Omni La Costa Resort and Spa
HARRF	City of Escondido	X (Advanced)		R9-2010-0086	Pacific Ocean
Escondido AWTF			X (Advanced)	NA	NA
San Luis Rey WWTP	City of Oceanside	X (Advanced)	X (Tertiary)	R9-2011-0016	Pacific Ocean
Harmony Grove WRF	Rincon del Diablo MWD		X (Tertiary)	NA	NA
San Elijo WRF	San Elijo WRF	X (Advanced)		R9-2010-0087	Pacific Ocean
Meadowlark WRF	Vallecitos WD	X (Advanced)		WDR Order No. 93-23	Irrigation – Omni La Costa Resort and Spa

<sup>1</sup> The order numbers refer to NPDES Order Numbers unless otherwise noted. MRP = Master Reclamation Permit

<sup>2</sup> WDR = Waste Discharge Requirements; MRP = Master Reclamation Permit; NA = Not Available at this time as the treatment plants do not currently exist

### 3.9.3 Impact Analysis – Hydrology and Water Quality

#### Methodology for Analysis

This section discusses potential impacts to hydrologic resources that could result from implementation of the Proposed Project. Mitigation measures are identified where appropriate.

#### Thresholds of Significance

Hydrologic resources-related impacts and effects associated with the Proposed Project were analyzed in accordance with the CEQA Guidelines, and with consideration of the County of San Diego’s Guidelines for Determining Significance (County of San Diego 2007). For the purposes of this analysis, an impact to hydrology and water quality would be significant if the Project/Action would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantially additional sources of polluted runoff;

- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundation by seiche, tsunami, or mudflow.

### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map:* The Proposed Project would not involve construction of residential housing, and therefore would not place new housing within a flood hazard area. No further evaluation is required.
- *Expose people or structures to a significant risk of loss, injury or death involving flooding, as a result of the failure of a levee or dam.* While one WRF that would be expanded as part of the Proposed Project is located within a dam inundation area, none of the proposed above-ground project components would directly alter any levees or dams. As such, the Proposed Project would not expose people or structures to an increased risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to hydrologic resources that could result from implementation of the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.9-1 Potential to violate water quality standards or waste discharge requirements, or otherwise degrade water quality (e.g., such as by altering the drainage pattern of site or area that would result in erosion/siltation).**

There are many surface waters throughout the Study Area, ranging from small creeks, lakes, and lagoons to large rivers. Most of these water bodies ultimately drain to the Pacific Ocean. Impacts to water quality could occur from both construction and operation of the Proposed Project. Such potential impacts are further described below.

Potential water quality related effects associated with *operation of the potable reuse components* of the Proposed Project are discussed separately in **Impact 3.9-3** below.

#### **Construction Impacts**

Construction of the proposed facilities (pipelines, pump stations, storage tanks, treatment facilities, and potable reuse-related facilities) may include grading, vegetation removal, excavation, and dewatering, which have the potential to affect surface water quality in several ways. Disturbed soils could be exposed to the erosive forces of wind, rain, and stream flow. Erosion and subsequent sedimentation could impair surface water quality as runoff from areas of construction could drain directly to nearby water bodies. Construction would occur within existing roadways (for pipelines), in undeveloped areas (for tanks and other above-ground facilities), with some potential direct disruption to creekbeds or surface waters. In addition to sedimentation issues, hazardous materials associated with construction equipment (such as fuels, oils, lead solder, solvents, and glues) could adversely affect surface and groundwater quality if

spilled or stored improperly. If precautions are not taken to contain contaminants, construction could produce contaminated stormwater runoff (nonpoint source pollution), a major contributor to the degradation of surface water quality.

To protect water quality, Coalition members must obtain coverage under State Water Board's NPDES *General Permit for Discharges of Storm Water Associated with Construction Activity* (Order No. 2012-0006-DWQ), which requires the preparation and implementation of a SWPPP. The objectives of a SWPPP are to identify the sources of sediment and other pollutants that affect the quality of storm water discharges, and describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The BMPs must address source control, pollutant control, and treatment control. The SWPPP also establishes specific fueling areas for construction vehicles, handling procedures for hazardous materials, and requirements for revegetation following construction. For many of the BMPs, installation must take place before a specific date (usually October 15th, representing the onset of the rainy season), and regular maintenance is required until the end of the rainy season (usually April 15th). The SWPPP shall be implemented by the contractors during construction activities and would reduce the potential to affect the quality of stormwater discharges. In addition, compliance with required permits for crossings of creekbeds, wetlands, and channels would also reduce water quality related impacts in these areas (see *Section 3.4, Biological Resources*).

Excavation for storage tanks, pump stations, pipeline trenches, groundwater wells, and other facilities could encounter saturated sediments and groundwater. In order for construction to occur in these conditions, local dewatering may be required that could include pumping groundwater from the construction zone and discharging the groundwater to adjacent surface waterways. Depending on the quality of the groundwater, the discharge to surface waterways could affect surface water quality. In general, the groundwater would likely be of acceptable water quality, but there is a possibility of encountering contaminated groundwater (e.g., from a leaking underground storage tank). Any discharge to creeks or surface waterways, however, would be subject to permit requirements of the San Diego RWQCB per *General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region except for San Diego Bay* (Order R9-2008-0002). Compliance with permit requirements would provide adequate protection of surface water quality.

### **Operational Impacts**

Conversion of bare, open ground to impermeable surfaces at the above-ground facility sites could increase runoff volumes and pollutants entering local water bodies. The water quality of surface runoff is directly correlated to land use. Paved and impermeable surfaces, including roofs, parking lots, and sidewalks, accumulate pollutants, which are carried in stormwater runoff to nearby surface waters during rain events. Parking lots in particular accumulate petroleum products, heavy metals (copper, nickel, selenium) and other chemicals associated with vehicle operation. Impermeable surfaces also accumulate particulate matter and other pollutants (furans, dioxins, mercury) due to dry deposition. The use of pesticides and fertilizers on landscaping can also cause water quality degradation. Thus, operation of the proposed above-ground facilities could generate stormwater runoff that could discharge pollutants or contribute to violation of water quality standards. Compliance with the *NPDES Permit and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds within the San Diego Region* (Order R9-2013-0001) and associated municipal ordinances, including applicable policies of relevant General Plans, would ensure that all storm water runoff from Proposed Project facilities do not adversely affect surface water quality.

Operation of the Proposed Project would result in the application of recycled water for landscape irrigation or industrial and commercial uses. This could carry the potential for release of treated recycled water as a result of various factors related to design, construction methods and materials, age of the

system, population growth, and system operation and maintenance. Use of non-potable water for landscape irrigation could also potentially impact water quality through percolation into the groundwater basin.

Compliance with the State Water Board's *General Permit for Landscape Irrigation Uses of Municipal Recycled Water* (Order No. 2009-0006-DWQ) would be necessary to ensure the protection of surface and groundwater quality. As indicated in the Recycled Water General Permit, to mitigate or avoid environmental effects on water quality, the General Permit requires the following:

- Application of recycled water at reasonable agronomic rates considering soil, climate, and nutrient demand;
- Areas irrigated with recycled water be managed to prevent nuisance conditions or breeding of mosquitoes; and
- Establishment of a Monitoring and Reporting Program, which includes inspections and regular maintenance of areas irrigated with recycled water.

The Initial Study Mitigated Negative Declaration (IS-MND) prepared for the State's Recycled Water General Permit acknowledges there could be degradation of groundwater resulting from recycled water but states: "Degradation of groundwater by constituents in recycled water after effective source control, treatment, and control may be determined to be consistent with maximum benefit to the people of California", and then goes on to say:

*"This determination is based on considerations of reasonableness under the circumstances of the recycled water use. Factors to be considered include:*

- *Past, present, and probable beneficial uses of the receiving water (as specified in the applicable Water Quality Control Plan);*
- *Economic and social costs, tangible and intangible, of the recycled water usage compared to the benefits;*
- *Environmental aspects of the recycled water usage; and*
- *Implementation of feasible alternative treatment or control methods.*

*The proposed General Permit establishes terms and conditions of discharge to ensure the discharge does not unreasonably affect present and anticipated beneficial uses of groundwater and surface water for the following reasons:*

- *Recycled water will be applied at agronomic rates reflecting the seasonal hydraulic and nutrient requirements of the Use Area;*
- *The Producer is responsible for ensuring recycled water meets the quality standards of the General Permit and associated waste discharge requirement order(s) for the WWTP(s); and*
- *The discharge to surface waters, unless otherwise authorized by an NPDES permit, is prohibited...*

*To comply with this proposed General Permit, Producers and Distributors must implement (and ensure Users implement) the following treatment and control measures necessary to avoid pollution or nuisance and maintain the highest water quality consistent with the maximum benefit to the people of the state:*

- *Implement treatment and use standards necessary to produce disinfected tertiary recycled water and implement the applicable Title 22 Requirements;*
- *Apply recycled at agronomic rates;*

- *Identify and implement best management practices;*
- *Develop, maintain, and implement an Operation & Maintenance Plan; and*
- *Employ trained personnel (e.g., Recycled Water Use Supervisor)”*

Incidental runoff of non-potable water associated with the Proposed Project must also conform to the State Water Board’s memo entitled “Incidental Runoff of Recycled Water” (SWRCB 2004). This memo stipulates water quality laws should be interpreted in a manner consistent with the intent of the Legislature to promote recycled water use. Compliance with the State Water Board’s Recycled Water General Permit (Order No. 2009-0006-DWQ) would ensure occasional runoff of recycled water does not negatively impact groundwater and surface water quality. Further, prior to operation, the individual Coalition members will renew their NPDES permits (Master Reclamation Permits or WDRs) for operation of their recycled water systems. Compliance with applicable permitting requirements would ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisances. Due to permit compliance, the potential for long-term impacts to water quality would be less than significant and no mitigation measures would be required.

Operation of the expanded or new treatment facilities would require storage, handling, and use of a variety of chemicals. In general, handling and storage of chemicals create the risk for chemical spills and subsequent risk to nearby surface waters. As described in *Section 3.8, Hazards and Hazardous Materials*, the Coalition Members would update or prepare a Hazardous Materials Business Plan for the management of chemicals used in these facilities. The plan would include protocol for chemical transportation, use, spill prevention and cleanup, and disposal. Implementation of **Mitigation Measure MM 3.8-1**, a Hazardous Materials Business Plan, would ensure that impacts would be reduced to less-than-significant levels.

#### Significance Determination before Mitigation

Potentially Significant

#### Mitigation Measures

**Mitigation Measure MM 3.8-1** shall apply to the Coalition members that would implement expanded or new treatment facilities.

#### Significance Determination after Mitigation

Less than significant

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### **Impact 3.9-2 Potential for non-potable facilities to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.**

This impact focuses on non-potable facilities only. Impacts to groundwater from potable reuse facilities are described in **Impact 3.9-3** below.

#### **Construction Impacts**

As described in **Impact 3.9-1** above, excavation for storage tanks, pump stations, pipeline trenches could encounter saturated sediments and groundwater, which would require local dewatering and result in a temporary alteration of local shallow groundwater levels. However, because construction would be scattered in multiple communities throughout the Study Area, in different areas that may or may not encounter groundwater, and across multiple groundwater basins, dewatering activities would not cause substantial depletion of groundwater supplies nor interfere substantially with groundwater recharge such

that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Groundwater levels would be expected to return to normal levels following construction. Thus, impacts would be considered less than significant.

### **Operational Impacts**

As described in **Impact 3.9-1** above, operation of the Proposed Project could potentially impact water quality through percolation into the groundwater basin. Groundwater quality of the individual basins is not well characterized at this time. SNMPs are currently under development for the Escondido Valley Groundwater Basin and may be developed for other basins. However, compliance with the State Water Board's *General Permit for Landscape Irrigation Uses of Municipal Recycled Water* (Order No. 2009-0006-DWQ) has been determined to ensure the protection of groundwater quality during operation of non-potable recycled water systems. Thus, impacts would be considered less than significant and no mitigation is required.

### **Significance Determination before Mitigation**

Less than significant

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### **Impact 3.9-3 Potential for the potable-reuse component of the Proposed Project to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, or result in groundwater quality impacts.**

This impact focuses on potable reuse facilities only. Impacts to groundwater from non-potable facilities are described in **Impact 3.9-2** above.

### **Construction Impacts**

As described in **Impact 3.9-1** above, excavation for groundwater wells or other facilities associated with groundwater recharge for potable reuse could encounter saturated sediments and groundwater, which would require local dewatering and result in a temporary alteration of local shallow groundwater levels. However, dewatering activities are not anticipated to cause substantial depletion of groundwater supplies nor interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Groundwater levels would be expected to return to normal levels following construction. Thus, impacts would be considered less than significant.

### **Operational Impacts**

#### *Advanced Treatment Facilities*

Advanced treatment would be necessary to purify wastewater for potable reuse. If reverse osmosis technology is used in the advanced treatment process, concentrate (or brine) would be produced. This component of the Proposed Project has not yet been completely defined, and thus the details of the technologies that would be used during advanced treatment are currently unavailable. The analysis presented in this EIR is conceptual and will require further project-level environmental review. The concentrate discharge produced from reverse osmosis has the potential to contain elevated levels of various constituents (e.g., TDS). There are various ways to dispose of concentrate, including but not limited to discharge to surface waters and evaporation in ponds. If concentrate were discharged to surface water bodies, discharge could result in exceedances of effluent limitations of the individual WWTP's NPDES permits and the Basin Plan's water quality objectives (WQOs).

Individual Coalition members will need to renew their NPDES permits (Master Reclamation Permits or WDRs) if new treatment processes are added to existing WWTPs or obtain a new NPDES permit if a new facility is built. Relevant water quality analyses will be conducted to confirm whether concentrate discharge would exceed WQOs and effluent limitations for various water quality constituents and whether the effluent discharge would degrade water quality. Although research to determine viability of alternative treatment options that would not generate concentrates is ongoing, for the purposes of this analysis, it is assumed that impacts associated with disposal of concentrate are potentially significant. A regulatory structure (NPDES permitting process for POTW) that establishes requirements for effluent quality and receiving water quality to protect both aquatic resources and human health is currently in place. As part of the permit renewal process, the relevant Coalition member upgrading the WWTP will conduct the appropriate water quality analyses required by San Diego RWQCB to determine whether the proposed discharge would result in potentially adverse effects to public health and aquatic resources. Each WWTP will have its own permit that specifies the requirements for discharge. Because Coalition members must comply with the requirements of the individual NPDES permit, it is expected that potential impacts associated with brine discharge would be reduced to a less than significant level.

#### *Potable Reuse – Surface Water Reservoirs*

Of the seven potential potable reuse sites, two would involve storage of treated recycled water in above-ground reservoirs (surface reservoir augmentation). Specifically, advanced treated recycled water would be stored in the reservoirs and blended with existing surface waters. Water withdrawn from Lake Dixon and San Dieguito Reservoir would be treated again at a water treatment plant prior to transmission of the purified water to customers. The discharge of recycled water into a receiving water by a POTW is regulated under the NPDES Program as it constitutes the discharge of treated effluent into a receiving water body.

Individual Coalition members that would implement this potable reuse component will be required to conduct relevant technical analyses and prepare an application in support of permit renewal with the San Diego RWQCB. Completion of this regulatory process and compliance with the NPDES permit would ensure that potential impacts from the discharge of recycled water into a surface drinking water reservoir would not result in any significant impacts. The City of San Diego has completed reservoir water quality modeling for a future potable reuse project that is planned at San Vicente Reservoir, a surface water reservoir located within the County of San Diego. The reservoir modeling indicates that the addition of purified water into San Vicente Reservoir would not adversely impact the water quality of the reservoir, and may potentially improve water quality for constituents such as TDS (City of San Diego 2013). While purified water is highly treated and therefore not anticipated to have adverse water quality impacts, the potable reuse projects would result in the introduction of a new water source to several surface water reservoirs. The introduction of a new water source is anticipated to change the water quality of surface water reservoirs from existing conditions; the way in which potable reuse activities could potentially change water quality conditions would be analyzed and incorporated into relevant permitting documents.

Because additional technical studies are needed before characterization of impacts, particularly those relating to the effects of project operation on surface water quality, it is assumed that the Proposed Project would result in potentially significant impacts. **Mitigation Measure MM 3.9-3** must be implemented to investigate the anticipated effects and identify necessary mitigation measures before this project component could be constructed and operated.

Drinking water extracted from the reservoirs would then be treated to meet drinking water standards prior to distribution to customers. With implementation of **Mitigation Measure 3.9-3**, acquisition and implementation of a NPDES permit from San Diego RWQCB that regulates the discharge of recycled water into reservoirs, and the stringent drinking water quality standards that must be met by the water

treatment plants upon treatment of the extracted purified water, it is expected that water quality impacts would be less than significant because public health would be protected.

#### *Potable Reuse – Groundwater Aquifers*

Of the seven potential potable reuse sites, five would involve the storage of recycled water in groundwater aquifers. Recycled water would be percolated into the aquifer and would mix with groundwater before extraction, water treatment, and subsequent use as a potable water supply. Purified water extracted from the Mission Basin, San Elijo Valley Basin, San Dieguito Basin, Escondido Valley Basin, and San Marcos Basin would require treatment at a water treatment plant (the precise locations have not been determined). Potable use of recycled water could also occur by injection of advanced treated recycled water into the groundwater aquifer and later extraction using Aquifer Storage and Transport Recovery (ASTR) wells. This component of the Proposed Project has not yet been defined, and further investigation would be needed to determine the appropriate strategy(ies) for each site. For example, hydrogeological studies of the groundwater basin capacity would need to be conducted to determine the available storage capacity and groundwater sampling would be needed to determine the water quality of the groundwater; field verification (e.g., infiltration tests) would be required to determine the most appropriate locations of percolation ponds above the groundwater aquifers. In addition, groundwater models would need to be run to determine existing, pre-project conditions and post-project conditions to determine the anticipated impacts of groundwater storage on the groundwater aquifers as well as nearby groundwater wells. Thus, the analysis presented in this EIR is conceptual and will require additional technical studies and further environmental review.

Regardless of the approach adopted, the recharge of recycled water in the groundwater aquifer would serve to increase groundwater elevations rather than cause a net deficit in aquifer volume on a regional level. However, it is possible that localized impacts could occur depending on the actual operations that would be implemented, the locations of extraction wells relative to other existing groundwater wells, and other as-yet undetermined conditions. Once groundwater has been stored in the groundwater aquifer, an accounting system would be set up by the appropriate Coalition member(s) to manage the system so that the amount of water extracted (including some assumed natural losses<sup>4</sup>) would not exceed the amount of water stored in the aquifers. Localized impacts that could occur from project implementation associated with this component include the following:

- Reduction in the production rates of existing nearby wells (irrigation or municipal) due to localized groundwater drawdown or well interference such that existing or planned land uses may not be fully supported.
- Violation of water quality standards (after extraction and treatment) due to elevated concentrations of constituents in the groundwater and mobilization of contaminants in groundwater from rising groundwater levels.

With respect to water quality, while the existing Title 22 regulations specify that proposed groundwater recharge projects and expansion of existing projects will be made on an individual case basis, by the time these program-level components are implemented, it is expected that Title 22 regulations would be adopted by the State Water Board. The proposed Title 22 regulations set stringent requirements for treatment, retention time, and monitoring requirements for GRRPs. These requirements include, but are not limited to, residence time for the recycled water in the groundwater basin and limits on pathogenic microorganisms. Individual Coalition members will have to acquire and implement a Groundwater Replenishment Reuse Project (GRRP) permit for the discharge of advanced treated recycled water into

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<sup>4</sup> Due to the variability of groundwater aquifers, it is expected that some portion of groundwater stored in aquifers would be lost naturally to areas that are unconfined (e.g., stream).



groundwater aquifers. Upon approval of the GRRP permit by the San Diego RWQCB, Coalition members shall comply with all limitations set forth in the permits.

Specifically, in its regulation for replenishment of groundwater with recycled municipal wastewater, the CDPH (prior to the transition of the DDWEM to the State Water Board from CDPH) acknowledges that recycled water of municipal origin is of ‘common’ quality (that is, generally the same), provided the wastewater management agency administers an industrial pretreatment and pollutant source control program. To this end, the primary constituents of concern to be addressed for recycled water injection are pathogenic microorganisms, salts, nutrients and constituents of emerging concern (CECs). Recycled water to be produced by the Proposed Project would meet advanced treatment standards, and would have to be monitored as specified in the relevant NPDES permits to ensure that there are no unacceptable pathogen risks.

In its Statewide Recycled Water Policy, the State Water Board acknowledges the potential for salts and nitrogen compounds to be of concern relative to the use of recycled water and its potential impacts on groundwater quality because high levels of salts and nutrients can make groundwater unsuitable for drinking. The policy therefore calls for the preparation of SNMPs to aid in management of these compounds relative to groundwater quality when evaluating and approving recycled water projects. Finally, in the Statewide Recycled Water Policy, the State Water Board acknowledges concerns regarding constituents of emerging concern (CECs). In response, it requires regular monitoring for CECs consistent with recommendations by CDPH and the ‘blue-ribbon’ advisory panel that was convened by the State Water Board to guide future actions relating to CECs.

In evaluating the potential for impacts on groundwater quality resulting from the injection of recycled water, further groundwater quality analyses would need to be conducted. It is possible that project implementation would increase nutrients, TDS, and CECs. It should be noted that with respect to CECs, while technology allows for the detection of CECs in water, there is currently no frame of reference to determine what risks may or may not exist nor any regulatory guidelines or standards against which to evaluate detectable concentrations. Little research has been done to date to study the fate and transport of CECs in the subsurface and/or to compare the efficacy of CEC removal by various treatment technologies.

Because additional technical studies are needed before characterization of impacts, particularly those relating to the effects of project operation on nearby wells, it is assumed that the Proposed Project would result in potentially significant impacts. **Mitigation Measure MM 3.9-3** must be implemented to investigate the anticipated effects and identify necessary mitigation measures before this project component could be constructed and operated.

Groundwater extracted for potable use would then be treated to meet drinking water standards prior to distribution to customers. With implementation of **Mitigation Measure 3.9-3**, acquisition and implementation of a GRRP permit from DDWEM that regulates the discharge of recycled water into groundwater basins, and the stringent drinking water quality standards that must be met by the water treatment plants upon treatment of the extracted purified water, it is expected that water quality impacts would be less than significant because public health would be protected.

#### Significance Determination before Mitigation

Potentially Significant

#### Mitigation Measures

**Mitigation Measure MM 3.9-3** shall apply to the potable-reuse components of the Proposed Project and shall be implemented by the lead agency of the components, as applicable.

**MM 3.9-3 Conduct Potable Reuse Technical Investigations and Mitigation.** The individual Coalition members that are lead agencies for the potable reuse components involving surface water reservoirs or groundwater basins shall conduct the necessary technical studies and modeling to characterize the existing condition of the water body(s) and the anticipated effects from potable reuse operation, on both volume and water quality. Recommendations of the technical analyses shall be incorporated into the subsequent environmental documentation to ensure that potable reuse operations are compliant with the appropriate San Diego RWQCB (NPDES) or DDWEM (GRRP) permits. The surface and groundwater basins used for potable reuse operations shall be managed to ensure that overdraft does not occur. Dilutant water could be provided, as directed by RWQCB and DDWEM, to ensure that water quality is protected within relevant water bodies. Advanced treatment of the recycled water would be expected to include microfiltration, reverse osmosis, advanced oxidation, and disinfection, but details of treatment processes could be adjusted to ensure appropriate water quality for the discharge or injection. Water quality could also be ensured by specifying appropriate locations of discharge, percolation, or injection areas and extraction areas, to allow adequate residence times in the water body.

#### Significance Determination after Mitigation

Less than significant

#### **Impact 3.9-4 Potential to substantially alter the existing drainage pattern of the site or area, contribute runoff that exceeds the capacity of existing or planned stormwater drainage systems, place structures within a 100-year flood hazard area, which result in flooding and thereby expose people and structures to the risk of injury or loss.**

The Proposed Project would consist of buried pipelines throughout the Study Area and above-ground structures such as treatment plants, pump stations, storage tanks, groundwater wells, and other facilities. The exact locations of the pipeline alignments and siting of above-ground facilities have not yet been defined, and would be determined during design. While pipeline alignments may temporarily cross waterways during construction, they would be buried such that there would not be any long-term modifications to the bed and bank of any rivers/streams that are crossed. If any waterways are crossed, appropriate CWA Section 401 and 404 permits will be obtained from USACE and SWRCB, along with CFGC Section 1600 permits from CDFW; additional biological resources considerations are described in *Section 3.4 Biological Resources*.

None of the proposed above-ground project components are anticipated to directly alter any existing water courses. 100-year and 500-year floodplains are located throughout the Study Area, primary along major waterways or adjacent to the coast. Above-ground facilities could be located in these areas, and result in the placement of impermeable surfaces on land that is bare ground under existing conditions. New structures and paved areas create new impervious surfaces. The addition of impervious ground could change runoff characteristics such that drainage patterns of affected sites could cause downstream flooding. The total impervious area that would be generated would depend on the size of the individual facilities; the possibility for flooding would depend on the location of the facility, the existing terrain (whether the existing ground surface is permeable or impermeable), the amount of permeable surface that would be converted to impermeable surfaces, the surrounding land uses, and the capacity of the existing stormwater facilities. The proposed treatment plant sites present the greatest risk for runoff that exceeds the capacity of existing or planned stormwater drainage systems due to their size.

As discussed in **Impact 3.9-1** above, Coalition members would comply with the Regional MS4 Permit (Order R9-2013-0001), as applicable for any sites that drain to municipal storm sewers. Compliance with this permit would first minimize the impermeable surfaces created, and then reduce the peak flow (e.g.,

through bioretention facilities) such that the risk of flooding would be minimized. In addition, **Mitigation Measures MM 3.9-4** would ensure that existing and/or new stormwater capacity is available to meet above-ground facility needs. With implementation of the above mitigation measures, flooding-related impacts would be reduced to a less-than-significant level.

#### Significance Determination before Mitigation

Potentially significant

#### Mitigation Measures

**Mitigation Measure MM 3.9-4** shall apply to all above-ground facilities and shall be implemented by the lead agency for the individual project components, as applicable.

**MM 3.9-4 Stormwater Capacity at Above-Ground Facilities.** The Coalition members, as lead agency for their individual project components, shall design and install/improve onsite stormwater facilities to accommodate runoff from above-ground facilities such that flooding would not occur offsite. Landscaped or other pervious areas may be designed and constructed to effectively receive and infiltrate, retain, and/or treat runoff from impervious areas, prior to discharging to the MS4. Onsite stormwater facilities may include biofiltration swales, retention ponds, and other low impact development (LID) techniques.

#### Significance Determination after Mitigation

Less than significant

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### **Impact 3.9-5 Potential for inundation by seiche, tsunami, or mudflow.**

The Study Area is bounded on the west by the Pacific Ocean and there are several inland lakes / lagoons in the Study Area. The beach areas adjacent to the Pacific Ocean in the cities of Oceanside, Carlsbad, Encinitas, and Solana Beach are susceptible to the seismic hazard of tsunami (tidal waves) and the inland lakes and lagoons are susceptible to the seismic hazard of seiche (raising and lowering of water surface). Mudflows have the potential to occur in hilly areas, as identified in the cities of Escondido, Vista and San Marcos. Above-ground facilities would be vulnerable to these hazards as they could be damaged during such events. While proposed facilities may be located in the vicinity of these potential hazard areas, the implementation of the Proposed Project would not expose people to these hazards as the project does not propose habitable structures. Some of the above-ground facilities (e.g., treatment facilities) would likely require additional workers but their locations have not been defined, and would be determined during design of the Proposed Project. As discussed in *Section 3.6, Geology and Soils*, seismic protection features would be incorporated in design of facilities. Implementation of **Mitigation Measures MM 3.6-1a** and **MM 3.6-1b**, in conjunction with established seismic-related design criteria (see *Section 3.6, Geology and Soils*), would reduce potential impacts of the Proposed Project to a less-than-significant level.

#### Significance Determination before Mitigation

Potentially significant

#### Mitigation Measures

**Mitigation Measures MM 3.6-1a** and **MM 3.6-1b** (see *Section 3.6, Geology and Soils*) shall apply to all components of the Proposed Project and shall be implemented by the lead agency for the individual project components, as applicable.

**Significance Determination after Mitigation**

Less than significant

**Table 3.9-3: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
<p>The Environmental Resources Management Element of the Oceanside General Plan (2002b) sets forth the following goal and objectives relevant to water resources.</p> <ul style="list-style-type: none"> <li>• <b>Goal:</b> Evaluate the state of the environment and formulate a program of planned management, wise utilization, and preservation of our natural resources to ensure the health, safety, and welfare of present and future generations.</li> </ul> <p><b>Water</b></p> <ul style="list-style-type: none"> <li>○ Objective 1. Plan for an adequate water system based on the projected needs of the City.</li> <li>○ Objective 2. Investigate sources of local water supplies to reduce dependence on imported water.</li> <li>○ Objective 3. Minimize pollution of water supplies, including lakes, rivers, streams, lagoons, and ground water.</li> <li>○ Objective 4. Minimize loss of life and property in flood prone areas.</li> </ul> <p>The Public Safety Element of the Oceanside General Plan (2002a) sets forth the following goal and objectives relevant to flood protection:</p> <ul style="list-style-type: none"> <li>• <b>Goal:</b> Take the action necessary to ensure an acceptable level of public safety for prevention and reduction of loss of life and personal property of the citizens of Oceanside.</li> <li>○ Objective 1. Consider the potential for flooding when making land use decisions.</li> <li>○ Objective 2. Ensure public awareness of existing flooding hazards.</li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<p>The Open Space and Conservation Element of the Carlsbad General Plan sets forth the following goal, objectives, and policies relevant to water resources (Carlsbad 2006a).</p> <ul style="list-style-type: none"> <li>• <b>Goal:</b> A City with high quality of water resources</li> <li>○ <i>Objective B.3:</i> To improve water quality within the City.</li> <li>○ <i>Objective B.5:</i> To conserve and efficiently manage the potable water resources available to the City of Carlsbad. <ul style="list-style-type: none"> <li>▪ <i>Implementing Policy and Action Program C.7:</i> Post-development runoff from a site shall not contain pollutant loads which cause or contribute to an exceedance of receiving water quality objectives or which have not been reduced to the maximum extent practicable.</li> <li>▪ <i>Implementing Policy and Action Program C.9:</i> Developments shall implement appropriate recommendations to protect water quality found in the San Diego Association of Government's (SANDAG's) Water Quality Element of its Regional Growth Management Strategy.</li> <li>▪ <i>Implementing Policy and Action Program C.16:</i> Conserve, protect and enhance the water resources of the City.</li> <li>▪ <i>Implementing Policy and Action Program C.21:</i> Utilize sensitive design criteria to protect the integrity of the water resources in the City.</li> <li>▪ <i>Implementing Policy and Action Program C.22:</i> Prohibit alteration of waterways and water bodies that would cause significant adverse impacts on the environment</li> </ul> </li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>▪ <i>Implementing Policy and Action Program C.23:</i> Conserve, and protect the water resources including, but not limited to floodplains, shoreline lagoons, waterways, lakes, ponds, and the ocean.</li> <li>▪ <i>Implementing Policy and Action Program C.26:</i> Development projects should be designed to comply with the following site design principles:               <ol style="list-style-type: none"> <li>1. Protect slopes and channels to decrease the potential for slopes and/or channels from eroding and impacting storm water runoff.</li> <li>2. Provide buffer zones for natural water bodies.</li> <li>3. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment.</li> <li>4. Where feasible implement design/landscape features to slow runoff and maximize on-site infiltration of runoff.</li> <li>5. Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways and bridges.</li> </ol> </li> </ul> <p>The Public Safety Element of the Carlsbad General Plan sets forth the following goal, objectives, and policies relevant to flood protection (Carlsbad 2006b).</p> <ul style="list-style-type: none"> <li>• <b>Goal:</b> A City which minimizes injury, loss of life, and damage to property resulting from the occurrence of floods.               <ul style="list-style-type: none"> <li>○ Policy B.2: To restrict or prohibit uses which are dangerous to the health and safety of people or adversely affect property due to water and erosion hazards, or which result in damaging increases in erosion or flood height or velocities.                   <ul style="list-style-type: none"> <li>▪ <i>Implementing Policy and Action Program C.2:</i> Require a Special Use Permit for all development proposed within the 100-year floodplain. Review all such proposals to ensure that all building elevations are higher than the peak flow level of a 100-year flood and do not adversely impact other properties.</li> <li>▪ <i>Implementing Policy and Action Program C.7:</i> Require installation of protective structures or other design measures to protect proposed building and development sites from the effects of flooding or wave action.</li> </ul> </li> </ul> </li> </ul> <p>The City addresses flood hazard areas in its Floodplain Management Regulations (Carlsbad Municipal Code, Chapter 21.110), which require a Special Use Permit (SUP) for any development proposed in areas of special flood hazards and areas of flood-related erosion hazards. The Floodplain Management Regulations restrict or prohibit land uses considered unsafe in a floodplain. They address standards of construction such as anchoring of structures, construction materials and methods, and elevations and flood proofing. Also included are standards for utilities such as water supply lines and sanitary sewage systems.</p>		
<b>City of Encinitas</b>		
<p>The Resource Management Element of the Encinitas General Plan sets forth the following goal and policies relevant to water resources (Encinitas, 1995a).</p> <ul style="list-style-type: none"> <li>• <b>Goal 1:</b> The City will conserve, protect, and enhance the water resources in the Planning Area.               <ul style="list-style-type: none"> <li>○ Policy 1.2: Cooperate with the Federal, State, and County governments and surrounding jurisdictions concerning the maintenance and improvement of water quality from local groundwater sources.</li> <li>○ Policy 1.3: The City will implement a program for both the using and sale of treated wastewater from a new wastewater treatment facility. The City should attempt to use the treated wastewater for the landscaping of transportation corridors, parks and recreation areas, and other public uses.</li> <li>○ Policy 1.7: Investigate ways to reduce the reliance of local water users on imported water. The City will seek reductions in per capita water consumption and will support reclaiming sewage effluent for re-use.</li> </ul> </li> </ul>	E, H	San Elijo WRF

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>o Policy 1.9: Encourage the use of recycled liquid wastes where appropriate.</li> </ul> <p>The Public Safety Element of the Encinitas General Plan sets forth the following goal and policies relevant to water resources (Encinitas, 1995b):</p> <ul style="list-style-type: none"> <li>• <b>Goal 1:</b> Public Health and Safety will be considered in future land use planning.</li> <li>o Policy 1.1: Development and grading or filling in drainage courses, floodways and floodplains shall be prohibited except as provided by Land Use Element Policy 8.2. An exception may be made upon the finding that strict application of this policy would preclude any reasonable use of property (one dwelling unit per legal parcel.) Exceptions may also be made for development for circulation element roads; necessary water supply projects; flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development; development where the primary function is the improvement of fish and wildlife habitat; and other vital public facilities, but only to the extent that no other feasible alternatives exist, and minimum disruption to the natural floodplain, floodway or drainage course is made. When flood/drainage improvements are warranted, require developers to mitigate flood hazards in those areas identified as being subject to periodic flooding prior to actual development.</li> <li>o Policy 1.2: Restrict development in those areas where slope exceeds 25% as specified in the Hillside/Inland Bluff overlay zone regulations of the zoning code...</li> </ul>		
<p><b>City of Escondido</b></p>		
<p>The Resource Conservation Element of the Escondido General Plan (2012) sets forth the following goal and policies relevant to water resources (Escondido 2012a).</p> <ul style="list-style-type: none"> <li>• <b>Goal 6:</b> Preservation and protection of the City’s surface water and groundwater quality and resources</li> <li>o Water Resources and Quality Policy 6.2: Protect the surface water resources in the city including Lake Wohlford, Dixon Lake, Lake Hodges, Escondido Creek, and other waterways.</li> <li>o Water Resources and Quality Policy 6.3: Protect the sustainability of groundwater resources.</li> <li>o Water Resources and Quality Policy 6.5: Maintain natural and improved drainages as permanent open space.</li> <li>o Water Resources and Quality Policy 6.6: Control encroachments into wetlands and designated floodways to protect the community’s water resources.</li> <li>o Water Resources and Quality Policy 6.8: Maintain Escondido’s natural creek system in an undisturbed state with a minimum of a 50-foot buffer and setback for development, or as established by appropriate wildlife agencies, unless stream course alteration, channelization, and/or improvements are approved by necessary state and federal agencies and the City.</li> <li>o Water Resources and Quality Policy 6.14: Require new development to protect the quality of water resources and natural drainage systems through site design and use of source controls, stormwater treatment, runoff reduction measures, best management practices, and Low Impact Development measures.</li> </ul> <p>The Community Protection Element of the Escondido General Plan (2012) sets forth the following goal and policies relevant to flood protection (Escondido 2012b).</p> <ul style="list-style-type: none"> <li>• Flood Protection Policy 6.3: Avoid or minimize flooding risks by limiting the type and intensity of new development within the 100-year flood plain to uses that do not involve habitable structures such as agriculture, outdoor recreation, and natural resource areas.</li> </ul>	<p>C, D, I, M</p>	<p>HAARF Escondido AWTF Harmony Grove WRF</p>

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>• Flood Protection Policy 6.5: Require that all facilities within flood hazard zones storing, using, or otherwise involved with substantial quantities of on-site hazardous materials comply with applicable standards of elevation, anchoring, and flood proofing, and that hazardous materials be stored in watertight containers.</li> <li>• Flood Protection Policy 6.7: Require new development located in identified dam inundation areas to be designed to minimize potential flood damage from dam failure.</li> <li>• Flood Protection Policy 6.9: Maintain the structural and operational integrity of critical facilities during flooding events.</li> </ul>		
<b>City of Vista</b>		
<p>The Resource Conservation and Sustainability Element of the Vista General Plan sets forth the following goals and policies relevant to water resources (City of Vista 2011b).</p> <ul style="list-style-type: none"> <li>• <b>RCS Goal 3:</b> Reduce the projected demand for water service in the City through water conservation and increased use of recycled water.</li> <li>• <b>RCS Goal 4:</b> Preserve, protect, and enhance water quality in watersheds to which the City contributes stormwater and urban runoff.               <ul style="list-style-type: none"> <li>○ RCS Policy 4.1: Preserve, protect and enhance water quality within the San Luis Rey and Carlsbad Hydrologic Units, of which the City is a part, through pollution prevention, encouraging preservation of natural drainage courses, prevention of wildfires, low impact development including reduced water use and native plant landscaping, and prevention of other anthropogenic detrimental effects to the watersheds.</li> <li>○ RCS Policy 4.2: Continue to improve water quality in the San Luis Rey, Loma Alta, Buena Vista, Agua Hedionda, and San Marcos watersheds, through the implementation of water quality improvement programs with the goal of achieving sustainable resource management that meets social, economic, and environmental needs.</li> <li>○ RCS Policy 4.5: Protect and restore appropriate beneficial uses for prioritized water bodies impacted by stormwater and urban runoff.</li> <li>○ RCS Policy 4.8: Buffers should be established or maintained along the periphery of wetlands and water bodies, including streams, ponds, and lagoons to provide improved water quality, erosion control, and protection of the other functions of wetlands, including (but not limited to) natural habitat, wildlife corridors, and stream cover. Buffers from the edge of the existing natural tree canopy or, in the absence of tree canopy, from the edge of riparian vegetation, or, in the absence of vegetation, from the edge of the stream bank shall be established. Consideration of existing intensive land uses adjacent to proposed development may require higher functioning buffers (i.e. additional mitigation through BMP's and/or greater width). Redevelopment along the stream/wetland corridor shall strive to incorporate a functional buffer. Buffer shall be established based on scientific analysis of the existing conditions and any development proposal by a qualified ecologist. New buildings, parking areas or non-essential structures shall not be permitted within any buffer area. Public trails may be included within the buffer provided there is sufficient width and appropriate measures for physical separation from sensitive resources.</li> </ul> </li> </ul> <p>The Public Safety, Facilities, and Services Element of the Vista General Plan sets forth goals and policies relevant to flood protection (City of Vista 2011b):</p> <ul style="list-style-type: none"> <li>• <b>Goal 4:</b> Reduce damage, losses, and the risk to the community from flooding, other forms of severe weather, dam inundation, and other hydrologic hazards.               <ul style="list-style-type: none"> <li>○ Policy 4.2: Require that all new development (including construction, filling, grading, and dredging) within floodplains and special flood hazard areas identified by FEMA's Federal Insurance Administrator (FIA) and/or the City's Floodplain</li> </ul> </li> </ul>	O	None



Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p>Administrator comply with the City's Flood Area Construction Regulations Ordinance and all other applicable regulations.</p> <ul style="list-style-type: none"> <li>○ Policy 4.4: Ensure that any alterations of the natural floodplain, stream channels, and natural protective barriers do not impede or unnaturally redirect floodwaters, increase flood hazards in other areas, or result in increased flood damage.</li> <li>○ Policy 4.8: Require incorporation of design features that reduce the amount of impervious surface (e.g., paved areas) within new public and private developments, consistent with Regional Water Quality Control Board standards and the City's Jurisdictional Urban Runoff Management Plan.</li> </ul>		
<b>City of San Marcos</b>		
<p>The Conservation and Open Space Element of the San Marcos General Plan sets forth the following goals and policies relevant to water resources (San Marcos 2012b).</p> <ul style="list-style-type: none"> <li>• <b>Goal COS-5:</b> Reduce water consumption and ensure reliable water supply through water efficiency, conservation, capture, and reuse. <ul style="list-style-type: none"> <li>○ Policy COS-5.1: Support the consideration and implementation of a broad range of strategies to ensure the long-term sustainability of water supply, including strategies related to conservation, reclamation, recharge, and diversification of supply.</li> </ul> </li> <li>• <b>Goal COS-6:</b> Protect and restore appropriate surface water and groundwater beneficial uses through prioritizing the improvement of locally impaired water bodies within the City of San Marcos sub-watersheds. <ul style="list-style-type: none"> <li>○ Policy COS-6.1 Establish sources, constituents, and water body priorities based on surface water quality and groundwater quality for each watershed within the City of San Marcos. <ul style="list-style-type: none"> <li>▪ Reduce pollutant loads and flows that adversely impact ground water and surface water integrity in each sub-watershed.</li> </ul> </li> <li>○ Policy COS-6.2: Promote watershed stewardship as the community norm.</li> </ul> </li> <li>• <b>Goal COS-7:</b> Achieve sustainable watershed protection for surface and ground water quality that balances social, economic, and environmental needs. <ul style="list-style-type: none"> <li>○ Policy COS-7.1: Promote public policies that support watershed protection for surface water, ground water quality, and attainable beneficial uses.</li> </ul> </li> <li>• <b>Goal COS-8:</b> Focus watershed protection, surface and groundwater quality management on sources and practices that the City has the ability to affect. <ul style="list-style-type: none"> <li>○ Policy COS-8.4: Require new development and redevelopment to protect the quality of water bodies and natural drainage systems through site design, source controls, storm water treatment, runoff reduction measures, Best Management Practices (BMPs), low impact development (LID), hydromodification strategies consistent with the Current San Diego Regional Water Quality Control Board Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, and all future municipal stormwater permits.</li> </ul> </li> </ul> <p>The Safety Element of the San Marcos General Plan sets forth the following goals and policies relevant to flood protection (City of San Marcos 2012a).</p> <ul style="list-style-type: none"> <li>• <b>Goal S-2:</b> Minimize the risk to people, property and the environment due to flooding hazards.</li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
The Conservation and Open Space Element of the Solana Beach General Plan sets forth the following goal, objective, and	H, K	None

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p>policies relevant to water resources (Solana Beach 2001).</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.1:</b> To protect and conserve the City's natural and cultural resources.                             <ul style="list-style-type: none"> <li>○ Objective 1: Ensure that the quality of water resources do not violate state and federal water quality standards as a result of development within the city of Solana Beach.                                     <ul style="list-style-type: none"> <li>▪ Policy 1.b: The city shall require the incorporation of adequate erosion control measures into development projects that may otherwise impact water resources adversely. Such measures shall be reviewed by the Planning and Engineering Departments and shall include sandbagging of newly graded slopes, prompt planting of disturbed areas, phasing of grading and construction activities to minimize exposed areas susceptible to erosion, and the routing of runoff flows through desilting basins prior to discharge into any watercourse.</li> <li>▪ Policy 1.f: The city shall participate in cooperative agreements with other agencies in programs which encourage research and establishment of innovative sewage treatment methods as alternatives to ocean outfall and septic tanks.</li> </ul> </li> <li>○ Objective 2.0: Maintain adequate domestic water supplies for all residents and uses within the city.                                     <ul style="list-style-type: none"> <li>▪ Policy 2.b: The city shall support projects involving water reclamation (such as the San Elijo treatment plant) by using reclaimed water for irrigation of public landscaped areas to the greatest feasible extent. Further, the city shall encourage the use of such water in privately owned areas.</li> </ul> </li> </ul> </li> </ul> <p>The Safety Element of the Solana Beach General Plan sets forth the following goal, objective, and policies relevant to water resources (Solana Beach, 2001).</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.1:</b> To minimize hazards to public health, safety, and welfare resulting from natural and man-made phenomena.                             <ul style="list-style-type: none"> <li>○ Objective 2.0. Establish siting and development standards to reduce risk and damage from flood hazards                                     <ul style="list-style-type: none"> <li>▪ Policy 2.d: The city shall require the submittal of information prepared by a qualified civil or hydrological engineer which certifies compliance with development standards established for 100-year" flood zones.</li> </ul> </li> <li>○ Objective 3.0. Minimize the adverse effects of urbanization upon drainage and flood control facilities.                                     <ul style="list-style-type: none"> <li>▪ Policy 3.a: The city shall require the implementation of adequate erosion control measures for development projects to minimize sedimentation damage to drainage facilities.</li> </ul> </li> </ul> </li> </ul>		
<p><b>County of San Diego</b></p>		
<p>The Conservation and Open Space Element of the County of San Diego General Plan sets forth the following goals and policies relevant to water resources (San Diego County 2011b).</p> <ul style="list-style-type: none"> <li>• <b>Goal COS-4:</b> Water Management. A balanced and regionally integrated water management approach to achieve the long-term viability of the County's water quality and supply.                             <ul style="list-style-type: none"> <li>○ Policy COS-4.5 Recycled Water. Promote the use of recycled water and gray water systems where feasible.</li> </ul> </li> <li>• <b>Goal COS-5:</b> Protection and Maintenance of Water Resources. Protection and maintenance of local reservoirs, watersheds, aquifer-recharge areas, and natural drainage systems to maintain high-quality water resources.                             <ul style="list-style-type: none"> <li>○ Policy COS-5.1: Impact to Floodways and Floodplains. Restrict development in floodways and floodplains in accordance with policies in the Flood Hazards section of the Safety Element.</li> <li>○ Policy COS-5.2: Impervious Surfaces. Require development to minimize the use of directly connected impervious surfaces and to retain stormwater run-off caused from the development footprint at or near the site of generation.</li> <li>○ Policy COS-5.3 Downslope Protection. Require development to be appropriately sited and to incorporate measures to retain</li> </ul> </li> </ul>	<p>H, J, K, O</p>	<p>None</p>

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p>natural flow regimes, thereby protecting downslope areas from erosion, capturing runoff to adequately allow for filtration and/or infiltration, and protecting downstream biological resources.</p> <ul style="list-style-type: none"> <li>○ Policy COS-5.5 Impacts of Development to Water Quality. Require development projects to avoid impacts to the water quality in local reservoirs, groundwater resources, and recharge areas, watersheds, and other local water sources.</li> </ul> <p>The Safety Element of the County of San Diego General Plan sets forth the following goals and policies relevant to flood protection (San Diego County 2011a).</p> <ul style="list-style-type: none"> <li>● <b>Goal S-9:</b> Protection of Life and Property. Minimized personal injury and property damage losses resulting from flood events.                         <ul style="list-style-type: none"> <li>○ Policy S-9.2. Development in Floodplains. Limit development in designated floodplains to decrease the potential for property damage and loss of life from flooding and to avoid the need for engineered channels, channel improvements, and other flood control facilities. Require development to conform to federal flood proofing standards and siting criteria to prevent flow obstruction.</li> <li>○ Policy S-9.3. Development in Flood Hazard Areas. Require development within mapped flood hazard areas be sited and designed to minimize on and off-site hazards to health, safety, and property due to flooding.</li> <li>○ Policy S-9.6. Development in Dam Inundation Areas. Prohibit development in dam inundation areas that may interfere with the County’s emergency response and evacuation plans.</li> </ul> </li> <li>● <b>Goal S-10:</b> Floodway and Floodplain Capacity. Floodways and floodplains that have acceptable capacity to accommodate flood events.                         <ul style="list-style-type: none"> <li>○ Policy S-10.1 Land Uses within Floodways. Limit new or expanded uses in floodways to agricultural, recreational, and other such low-intensity uses and those that do not result in any increase in flood levels during the occurrence of the base flood discharge, do not include habitable structures, and do not substantially harm, and fully offset, the environmental values of the floodway area. This policy does not apply to minor renovation projects, improvements required to remedy an existing flooding problem, legal sand or gravel mining activities, or public infrastructure.</li> <li>○ Policy S-10.4. Stormwater Management. Require development to incorporate low impact design, hydromodification management, and other measures to minimize stormwater impacts on drainage and flood control facilities.</li> <li>○ Policy S-10.5 Development Site Improvements. Require development to provide necessary on- and off-site improvements to stormwater runoff and drainage facilities.</li> <li>○ Policy S-10.6 Stormwater Hydrology. Ensure development avoids diverting drainages, increasing velocities, and altering flow rates to off-site areas to minimize adverse impacts to the area’s existing hydrology.</li> </ul> </li> </ul>		

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## 3.10 Land Use and Planning

Land use within the Study Area is a mix of residential, commercial, industrial, agricultural, and open space, with development greater in the coastal areas, and rural land uses generally located in the eastern portion of the Study Area. Land use is governed by the General Plans of the cities of Oceanside, Carlsbad, Encinitas, San Marcos, Vista, Escondido, and Solana Beach, as well as the County of San Diego. The Study Area is also within the North County Multiple Habitat Conservation Program (MHCP), which is designed to protect sensitive species while allowing for continued growth as appropriate. Because the Proposed Project is a construction project partially sited along the coast, there is potential for conflict with the MHCP or applicable Local Coastal Programs. Mitigation Measures shall be implemented to ensure that the Proposed Project and its associated construction activities do not conflict with any applicable land use plan, and that efforts shall be made to restore areas disturbed by the Proposed Project to pre-project status to reduce potential long-term impacts.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts related to land use and planning.

### 3.10.1 Physical Environmental Setting – Land Use and Planning

The following sections describe the physical land use setting of the Study Area.

#### Land Use

Land uses for each city located within the Study Area and the County of San Diego are described below. **Figure 3.10-1** shows land uses throughout the Study Area.

#### **City of Oceanside**

Land uses within the City of Oceanside are primarily residential and commercial. There are industrial areas along sections of Oceanside Boulevard and Highway 76. Within the City of Oceanside there are seven special planning areas, including the Harbor; redevelopment along the coast immediately south of the harbor; Sterling, near Highway 76, the El Corazon planning area, which includes industrial areas bordered by open space and the Town Center; Rancho del Oro which is primarily industrial; Del Oro Hills; and the Morro Hills Master Plan. The City of Oceanside includes Group G, which encompasses much of the central part of the City, and includes industrial, commercial, residential, and open space, with some agricultural areas near Whelan Lake (Oceanside 2009).

#### **City of Carlsbad**

Land uses within the City of Carlsbad are primarily residential interspersed with open space. There are planned industrial areas surrounding the Palomar Airport, and commercial areas near Interstate 5. Group A is located in the City of Carlsbad, and would be constructed in areas that are primarily residential and commercial, with some work in utilities and industrial areas (Carlsbad 2014).

#### **City of Encinitas**

Land use in the City of Encinitas is primarily comprised of residential and parks and open space, with small areas of vacant/undeveloped, Public and quasi-public, agriculture, and commercial and office. The commercial and office areas are centered along Highway 101, Encinitas Boulevard, and N. El Camino Real. Open Space is located near the San Elijo Lagoon, and in the northern parts of the city, with some also found in the eastern areas, along the coast, and interspersed throughout neighborhoods (Encinitas 2010). Group E lies wholly within the City of Encinitas, and includes commercial/office, industrial, residential, public facilities/utilities, parks/recreation, agriculture, and undeveloped lands. Group H is

partially located in the City of Encinitas, and includes open space/parks, and commercial and residential areas.

### **City of Escondido**

The City of Escondido has industrial areas near its central western area, clustered at the intersection of Highway 78 and Interstate 15. East of I-15 lie commercial areas, surrounded by residential zones. Residential density is greatest near the city center, with lower-density estate and rural residential uses expanding outwards from there. Agriculture is permitted in estate and rural residential areas. There are also large areas of public land/open space in the north and northeast of the city, as well as along its southern edge (Escondido 2012). Groups C, D, I, and M all overlay or partially overlay the City of Escondido.

### **City of Vista**

The City of Vista has a large area of research industrial located in its southern portion. There is mixed use along N. Santa Fe Avenue, Vista Village Drive, Civic Center Drive, and S. Santa Fe Avenue in the city center. Commercial areas extend along W. Vista Way, and at the intersection of Sycamore Avenue and Highway 78. Rural residential is located along the northern and eastern borders of the city, with much of the rest of the city consisting of medium to low-density residential uses (City of Vista 2011). The City of Vista is located within Group O.

### **City of San Marcos**

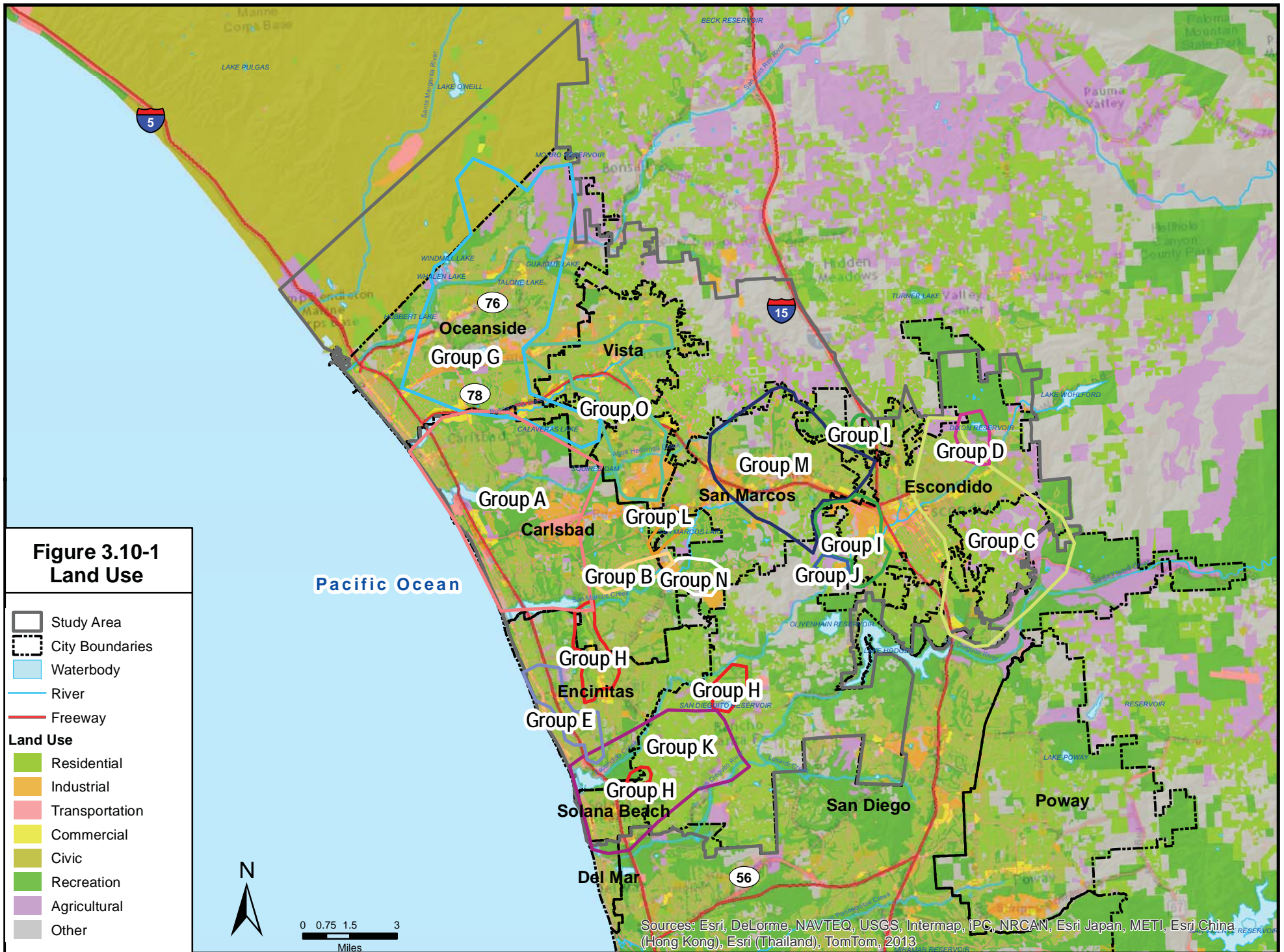
The City of San Marcos is located between Escondido, Vista, Carlsbad and Encinitas. It is home to Cal State San Marcos and Palomar College. Much of the city is open space and parks. The northern area of the City is primarily agricultural, and agriculture is also found along the southwestern edge and near Lake San Marcos. Most of the residential areas are rural and low density, with some high density housing located near the city center. Industrial areas are located near Highway 78 and Pacific St., as well as along the railroad, and near the border with Carlsbad (City of San Marcos 2013). Groups M, N, and I overlay most of the City of San Marcos.

### **City of Solana Beach**

The City of Solana Beach is located in the southernmost part of the Study Area along the coast. It is located within Groups H and K. The majority of the city is residential, followed by open space and recreation areas, and commercial uses (City of Solana Beach 2006).

### **County of San Diego**

The County of San Diego's General Plan addresses land use in the unincorporated areas located within the Study Area. Land uses within the unincorporated area are primarily residential and rural lands (County of San Diego 2011a). Groups H, J, K, and O all fall at least partially within the unincorporated areas of the County, primarily in semi-rural and village designated areas.



## **Planning**

The Study Area is generally within the service areas of the participating agencies that make up the Coalition, as defined in the Project Description. These agencies consist of water supply and wastewater agencies, as well as cities and other special districts. Specific planning activities occur within each agency or organization's jurisdiction, some of which may overlap, specifically Leucadia WWD, which partially overlaps Carlsbad MWD, Olivenhain MWD, and Vallecitos WD, and San Elijo JPA, which partially overlaps Santa Fe ID and Olivenhain MWD. The City of Escondido is a Coalition member, but is served by multiple water agencies: City of Escondido, Rincon del Diablo MWD, and Vallecitos WD. Agencies or organizations not part of the Coalition also may have planning jurisdictions within the Study Area, including the cities of Vista, San Marcos, Carlsbad, Encinitas, Solana Beach, as well as San Diego County.

## **Habitat Conservation Programs**

Within the portion of San Diego County that drains west to the Pacific Ocean, there are two habitat conservation planning programs: the Multiple Habitat Conservation Program (MHCP) applies to incorporated lands in northwestern San Diego County and the Multiple Species Conservation Program (MSCP) applies to all remaining non-military lands draining westward. The Study Area falls within both the North County MSCP and the North County MHCP.

### **Multiple Species Conservation Program (MSCP)**

The MSCP Plan (County of San Diego 1998) was established to identify and protect large, connected preserve areas that address a number of species at the habitat level. The MSCP is administered by the County of San Diego and addresses 12 jurisdictions and 582,000 acres within the County draining westward. There are four subareas within the MSCP:

1. The County of San Diego Subarea Plan (adopted 1997) applies to unincorporated land that is served by the City of San Diego Metro Wastewater Sewer System and the boundaries extend from the southern portion of Ramona and the San Dieguito River; east to Poway, Lakeside and Alpine; and south to the border with Mexico.
2. The City of San Diego Subarea Plan (adopted 1997) applies to 206,000 acres within the incorporated City of San Diego.
3. The North County Subarea Plan (under development) extends from the area around the incorporated cities of Oceanside, Encinitas, San Marcos, Vista, and Escondido east to the Cleveland National Forest and north to the Riverside County.
4. The East County Subarea Plan (not yet begun) will cover the land from Alpine east to Imperial County and north to Riverside County.

The combination of the MSCP Plan and the subarea plans serve as a multiple species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act (ESA) and a Natural Community Conservation Plan (NCCP) pursuant to the NCCP Act and the California Endangered Species Act (CESA). The participating jurisdictions and special districts then submit these plans to the U.S. Fish & Wildlife Service (USFWS) and California Department of Fish & Wildlife (CDFW) in support of applications for permits and management authorizations, respectively, to impact listed species and other species of concern (County of San Diego 1998).

Unincorporated areas within the Study Area fall within both the South County MSCP and the North County MSCP Subarea Plans. Although the South County MSCP Subarea Plan includes some of the Study Area, this area is limited to the unincorporated area around Hodges Reservoir, and generally south of the San Dieguito River. A portion of Rancho Cielo and Madura are located within proximity to the



Study Area and are within the South County MSCP Subarea Plan; however, these communities lie outside any of the Groups associated with the Proposed Project.

The North County MSCP Subarea Plan designates Pre-Approved Mitigation Areas (PAMAs) within the North County MSCP Subarea. PAMAs are areas that have been identified by wildlife agencies as preferred locations for mitigation for unavoidable impacts and are intended to cumulatively provide a contiguous habitat area across the Subarea (City of San Diego 1998). Groups that lie partially or wholly within PAMAs include Groups C, D, G, H, I, J, K, and N. Of these, only Groups J, K, H and I contain a majority of their areas within a PAMA. Groups C, D, and G all contain some areas designated as PAMAs, but these areas represent only a small portion of the area for those Groups. A brief description of the relative location of PAMAs within each of the relevant Groups is provided below (County of San Diego 2008).

#### *Group C*

Group C overlies two designated PAMAs. The first is located in the northern portion of Group C, in the unincorporated area of the County near the junction with Group D, immediately north of the City of Escondido, and west of Dixon Reservoir. This PAMA includes Intensive Agriculture, and Moderate Habitat Values. The second designated PAMA is located in the southern portion of Group C, in the unincorporated area of the County near the intersection of Highway 78 and Bear Valley Parkway, southeast of the City of Escondido. This PAMA is designated as Very High Habitat Value.

#### *Group D*

As described above, Group D partially overlies a PAMA near its northern junction with Group C, north of the City of Escondido and West of Dixon Reservoir. This PAMA includes Intensive Agriculture, and Moderate Habitat Value.

#### *Group G*

Group G overlies a small portion of Very High Habitat Value along the San Luis Rey River near Highway 76 and east of College Boulevard. This PAMA includes Guajome Regional Park (outside of Group G), and runs along North Santa Fe Avenue.

#### *Group H*

The Group H alternative located in the unincorporated area of the County near San Dieguito Reservoir overlies a large PAMA area with primarily Very High Habitat Value, with High, Moderate, and Low Habitat Values scattered within.

#### *Group I*

Group I partially overlies a PAMA that extends along either side of Interstate-15 from Escondido to Fallbrook. Only the northern portion of Group I overlies this PAMA. Within this area of Group I, the PAMA contains High, Moderate, and Low Habitat Values. Group I also overlies a PAMA southeast of the City of Escondido, near Citracado Parkway. This PAMA is a mix of primarily Very High, High, and Low Habitat Values.

#### *Group J*

Group J overlies a PAMA that is in the same cluster of PAMA that is overlain by Group H. The portion of the PAMA underlying Group J is primarily Medium and Low Habitat Value, with some Intensive Agriculture and minimal High Habitat Values. This portion of the PAMA lies north of Harmony Grove Rd. and west of Country Club Drive.

### *Group K*

Group K overlies a few PAMA areas in the unincorporated county immediately east and northeast of the City of Solana Beach. The westernmost area of this PAMA is Very High and High Habitat Values, while the PAMA areas along Lomas Santa Fe Dr. are a mix of Very High, Moderate, Low, and Developed Habitat Values.

### *Group N*

Group N contains a small area of High Habitat Value PAMA in its northern area near Lake San Marcos.

## **Multiple Habitat Conservation Program (MHCP)**

The MHCP Plan (SANDAG 2003) is a comprehensive conservation planning process that addresses the needs of multiple plant and animal species in northwestern San Diego County. The MHCP encompasses the seven incorporated cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. These jurisdictions will implement their portions of the MHCP Plan through citywide “subarea” plans. The MHCP is administered by the San Diego Association of Governments (SANDAG) and addresses approximately 112,000 acres.

The Proposed Project falls within the area covered by the MHCP Plan, often referred to as the North County MHCP. As with the MSCP Plan, through the adoption and implementation of the North County MHCP, local jurisdictions are able to receive incidental take authorizations from USFWS and CDFW. This makes planning for growth and implementing projects more streamlined, while also protecting the rich biological diversity of the region. The North County MHCP identifies areas of primary conservation efforts, delineated by Focused Planning Area (FPA). FPAs are divided into hardline areas (calling for 90 - 100 percent conservation) and softline areas (less than 90 percent conservation) (SANDAG 2003). The following describes the approximate location of hardline and softline areas within the Study Area, as designated in the MHCP Plan (SANDAG 2003).

### *Oceanside*

Within the Study Area, Oceanside has designated hardline areas along the San Luis Rey River, Buena Vista Lagoon, and intermittently along its border with Camp Pendleton. There are also some hardline areas along Oceanside Boulevard, and El Camino Real. Softline areas within Oceanside are located along the border with Camp Pendleton, as well as near Highway 5, and along Oceanside Boulevard, El Camino Real, and near Polar Road to Mission Ave and Foussat Road. Group G and Group O both include some Hardline and Softline Areas.

### *Carlsbad*

The Carlsbad Subarea primarily contains hardline areas. Hardline areas are located along Buena Vista Lagoon, Agua Hedionda Lagoon, and Batiquitos Lagoon. There are also hardline areas interspersed along the hillsides and ridgelines that run north-south through the middle of the Carlsbad Subarea, and hardline areas in the northeastern portion of the subarea in the open space near Calavera Lake, north of Agua Hedionda Creek, and east of College Boulevard. There are some designated hardline areas that already have permitted projects in the east and southeast of the Carlsbad Subarea. In addition to the hardline areas, there are some softline areas, primarily adjacent to the described hardline areas located in the middle of the subarea. Group A includes some of these hardline and softline areas.

### *Encinitas*

Within the Encinitas Subarea are hardline areas located between Manchester Avenue and the southern border of Encinitas. This includes the San Elijo Lagoon and San Elijo Lagoon Park. The Natural Trails Park is also a designated hardline area, with some hardline and softline areas nearby. There are also hardline and softline areas in the northern portion of the Encinitas Subarea, that extend south from the

Batiquitos Lagoon through the Encinitas Ranch Golf Course, and along Saxony Road. There are additional hardline and softline areas scattered through the Subarea, primarily east of El Camino Real. Groups E, H and K include some of these hardline and softline areas.

#### *San Marcos*

The San Marcos Subarea contains the majority of hardline areas identified for core Gnatcatcher Conservation. This is located in the southwestern portion of the San Marcos Subarea, in the open space south of Lake San Marcos, and north of Melrose Drive, and between Pearl Drive and La Plaza Drive, extending to just east of S. Twin Oaks Valley Road. There are also hardline and softline areas along N. Twin Oaks Valley Road, and in the area to the west of N. Twin Oaks Valley Rd, north of W. Borden Road. Groups L, M, and N include some of these hardline and softline areas.

#### *Vista*

The Vista Subarea has minimal hardline areas along Buena Vista Creek, and additional hardline areas acting as an extension of the Carlsbad Subarea's easternmost hardline area, between Shadowridge Drive, S. Melrose Drive, and Sycamore Avenue. Group O includes some of these hardline areas.

#### *Escondido*

The Escondido Subarea has significant hardline and softline areas at Daley Ranch, north of El Norte Parkway, and extending east to Lake Wohlford Road. There are also some hardline and softline areas in the portion of the Subarea near Old Ranch Road, as well as in the southern portion of the Subarea at Elfin Forest Recreational Reserve, Kit Carson Park, and near Lake Hodges. Groups C and D include some of these hardline and softline areas.

### **3.10.2 Regulatory Framework – Land Use and Planning**

The regulatory setting describes relevant federal, State, and local laws, regulations, plans, and their associated agencies, that have jurisdiction over land use and planning in the Study Area.

#### **Federal**

##### **Habitat Conservation Plans**

Habitat Conservation Plans serve as long-term agreements between the U.S. Fish and Wildlife Service and applicants for an incidental take permit. They are designed to mitigate the potential adverse impacts of proposed activities that may have affect a federally listed threatened or endangered species, or a species under consideration of listing. Habitat Conservation Plans are regulated by the Endangered Species Act of 1973 under Section 10(a)(1)(B) (USFWS 2011).

#### **State**

##### **Natural Community Conservation Planning Act of 2003**

The California Natural Community Conservation Plan Act of 1991 (NCCP) aims to provide protection to natural communities while remaining supportive of economic development in a region. It encourages regions to develop conservation plans by transferring some local or regional control to those regions with approved conservation plans in place. The NCCP uses an ecosystem-based approach to conservation and protection of biological diversity, and oversees conservation planning efforts including but not limited to multiple species conservation plans, multiple habitat conservation plans, and other conservation plans.

#### **Local**

##### **General Plans**

General Plans guide development of a given planning area by setting regulations and guidelines designed to achieve the general goals of the Plan. They seek to shape the character of a planning area and achieve a

long-term vision for the community. Applicable general plans for the Study Area include the County of San Diego, City of Oceanside, City of Escondido, City of Vista, City of San Marcos, City of Solana Beach, City of Encinitas, and City of Carlsbad. Each of these General Plans regulates land use within their communities and designates appropriate zoning throughout their planning areas. General plans also contain specific plans or community plans that provide for more specific planning in targeted areas and communities. Applicable land use policies of relevant General Plans are listed in **Table 3.10-1**.

### **Subregional Plans**

Subregional Plans are developed for community planning areas and are part of the overarching General Plan. They are designed to address the specific needs and goals of an area within the general planning area, often focusing on unincorporated communities, communities of special interest such as disadvantaged communities or historical areas, or areas facing different issues than the majority of the region. Portions of the North County Metropolitan Subregion, as identified in the North County Metropolitan Subregional Plan under the County of San Diego's General Plan, lie within the Study Area. The North County Metropolitan Plan applies to the unincorporated portions within the Study Area, and provides planning goals and policies for the area, forming the basis for specific zoning regulations. To the extent possible, the North County Metropolitan Plan is consistent with surrounding general plans and was developed to address the needs and goals of the North County Metropolitan subregion of the County of San Diego.

### **San Diego Regional Comprehensive Plan**

The San Diego Regional Comprehensive Plan (SANDAG 2004) was completed in 2004, and provides a framework for integration between land use and transportation development in the San Diego region. It presents a long-term vision for the Region that emphasizes smart growth to meet housing and transportation challenges while preserving open space. The Regional Comprehensive Plan is intended to guide planning decisions and general plan updates.

### **San Diego Multiple Species Conservation Plan (MSCP) and San Diego Multiple Habitat Conservation Plan (MHCP)**

Multiple Species Conservation plans and Multiple Habitat Conservation plans are prepared pursuant to the NCCP, described above. In San Diego County, both an MSCP and an MHCP are being implemented, each of which covers a number of subregional plans. The North County MHCP (SANDAG 2013) encompasses most of the Study Area, including the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Each of these cities, with the exception of Solana Beach, has committed to developing subarea plans. The goal of this plan is to conserve 19,000 acres of habitat and provide linkages between preserves in the north county area and other preserves in San Diego County. Development would be allowed around the designated preserve areas.

The County of San Diego has implemented a Multiple Species Conservation Plan, which comprises three subarea MSCPs: North County MSCP, East County MSCP, and South County MSCP (County of San Diego 2014). The County released a public review draft of a subregional plan for the North County Subarea in 2009 (CDFW N.D.). The North County MSCP (County of San Diego N D) will apply to the unincorporated areas of northwestern San Diego County, including the unincorporated parts of the Study Area. The North County MSCP also specifies creation of preserves and provides a plan for mitigation of anticipated future development, protecting native biological diversity while accommodating development needs of the region. The County adopted the South County MSCP as the *Multiple Species Conservation Program County of San Diego Subarea Plan* in 1997 (County of San Diego 1997). The South County MSCP identifies target areas for conservation in a similar manner as the North County MSCP will.

## Local Coastal Programs

Local Coastal Programs (LCPs) are planning documents that help guide development in coastal areas and protect coastal resources. They are regulated by the California Coastal Commission and required under the Coastal Act, but are developed by local jurisdictions. Within the Study Area, there are LCPs for the cities of Oceanside, Carlsbad, Encinitas, and Solana Beach, as well as the County of San Diego.

### 3.10.3 Impact Analysis – Land Use and Planning

The potential for impacts on land use resulting from the Proposed Project were evaluated using the CEQA Guidelines.

#### Thresholds of Significance

For the purposes of this analysis, an impact to land use and planning would be significant if the Proposed Project would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating and environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

#### Criteria Requiring No Further Evaluation

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Physically divide an established community:* The Proposed Project would not construct any aboveground infrastructure that would physically divide a community. The majority of the Proposed Project components are underground pipelines, while the aboveground facilities would generally have a relatively small footprint, and would not involve structures that would create a physical barrier within a community. Therefore there would be no impact.

#### Impact Statements and Mitigation Discussions

This section discusses potential impacts to land use and planning that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.10-1 Potential to conflict with applicable land use plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect.**

The General Plans that govern the Study Area define land uses, and specify policies and regulations that serve to avoid or mitigate environmental effects, including zoning of uses to avoid conflicts between different uses. Because the Proposed Project would serve existing and identified planned demands, and would be constructed in accordance with any applicable General Plan policies, construction, and zoning guidelines, it would not conflict with any other local planning documents, policies, and regulations. The Proposed Project does not include development, nor would it serve unplanned development. There may be temporary disturbances during construction activities, and some permanent changes in land use from expanded and additional aboveground facilities. However, compliance with existing land use and zoning regulations would ensure that these impacts are less than significant.

Portions of the Study Area fall within the LCPs for the cities of Oceanside, Carlsbad, Encinitas, and Solana Beach, and within the County of San Diego's San Dieguito Land Use Plan (which incorporates its

LCP). The LCPs provide guidelines for development within their designated coastal zones, and may provide for restrictions on development or BMPs that must be implemented during construction, as well as provide for land use. The Proposed Project would not change land uses, but construction would occur in areas governed by LCPs, and would involve construction activities, such as excavation, that are regulated by said LCPs. All work within an adopted LCP shall be compliant with the applicable LCP, as applicable to the project component and responsible agency, and as discussed in **Mitigation Measure MM 3.1-1b** (see *Section 3.1 Aesthetics*), which requires compliance with local regulations. Implementation of this mitigation measure would reduce impacts to levels that are less than significant.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**MM 3.1-1b** shall apply to all Proposed Project components that would be located within a LCP and shall be implemented by the lead agency for the individual components, as applicable.

Significance Determination after Mitigation

Less than significant.

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**Impact 3.10-2 Potential to conflict with any applicable habitat conservation plan or natural community conservation plan.**

Portions of the Proposed Project lie within the North County MHCP (SANDAG 2003) and North County MSCP (County of San Diego, 1997). As described above, the North County MHCP describes areas of greatest conservation concern, and includes designated hardline (90-100 percent conservation) and softline (less than 90 percent conservation) areas that call for differing levels of conservation. There is the potential for construction activity to occur within designated hardline and softline areas, resulting in some temporary disruption associated with buried project components and possibly new above ground facilities that would result in long-term loss of habitat. The North County MSCP designated PAMAs where mitigation measures for unavoidable impacts should be focused. The Groups that include hardline, softline, or PAMA areas are Groups A, C, D, E, G, H, I, J, K, M, N, and O. **Mitigation Measure MM 3.4-2** requires compensation for disturbance to any native habitat in accordance with the North County MSCP and South County MSCP (see *Section 3.4, Biological Resources*). **Mitigation Measure MM 3.1-1a** requires restoration of pipeline alignments to pre-construction conditions, including all hardline and softline areas of the MHCP. Implementation of these mitigation measures would reduce potential habitat impacts to levels that are considered less than significant.

Significance Determination before Mitigation

Potentially significant.

Mitigation Measures

**Mitigation Measure MM 3.1-1a** shall apply to all pipeline components that overlay any designated hardline or softline area within the MHCP. **Mitigation Measure MM 3.4-2** shall apply to all Proposed Project components. These mitigation measures shall be implemented by the lead agency for the individual components, as applicable.

Significance Determination after Mitigation

Less than significant.

**Table 3.10-1: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
The Land Use Element (2002) of the City of Oceanside General Plan: <ul style="list-style-type: none"> <li>• Goal: The consistent, significant, long term preservation and improvement of the environment, values, aesthetics, character and image of Oceanside as a safe, attractive, desirable and well-balanced community.</li> <li>• Policy A: The goals, objectives, and policies of the City of Oceanside’s General Plan shall direct the City in determining the location, type, and timing of improvements within the City.</li> <li>• Goal 1.01 General Plan Consistency [Implementation of the Land Use Element]</li> <li>• Objective: To ensure all projects are consistent with the General Plan.</li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
The Land Use Element (2013) of the City of Carlsbad General Plan: <ul style="list-style-type: none"> <li>• Goal A.2: A City which provides for an orderly balance of both public and private land uses within convenient and compatible locations throughout the community and ensures that all such uses, type, amount, design and arrangement serve to protect and enhance the environment, character and image of the City.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT
<b>City of Encinitas</b>		
The Land Use Element of the Encinitas General Plan (2013) contains the following land use Goals and Policies relevant to the Proposed Project: <ul style="list-style-type: none"> <li>• Goal 2: The City should manage slow, orderly growth in accordance with a long-term plan which protects and enhances community values.</li> <li>• Policy 2.4: Require developments to pay the capital costs of public facilities and services to serve those developments. Seek to require developments outside the City which impact City facilities and services to pay their share of the costs for improvements of City facilities and services. For development within the City, seek to require those developments to pay their fair share of costs for such facilities and services.</li> </ul>	E, H	San Elijo WRF
<b>City of Escondido</b>		
The Land Use and Community Plan Element of the Escondido General Plan (Escondido 2012): <ul style="list-style-type: none"> <li>• Goal 13: Adequate and accessible civic, utility, institutional, educational, cultural, and service uses supporting the needs of Escondido’s residents and businesses.</li> <li>• Public Facility Overlay Policy 13.3: Maintain a buffer zone around the Hale Avenue Resource Recovery Facility (HARRF) and restrict development in order to minimize public exposure to odors and public health risks. Limit the amount of new residential development within this zone and permit non-residential uses that would not adversely impact existing residences. Encourage development to incorporate site planning and architectural layout techniques that minimize exposure to odors.</li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Vista</b></p> <p>Land Use and Community Identity Element of the Vista General Plan (2011):</p> <ul style="list-style-type: none"> <li>• LUCI Goal 1: Increase the level of design quality and preserve and enhance Vista’s identity and image.</li> <li>• LUCI Policy 1.6: Encourage undergrounding of utilities, and discourage new electric and communications lines to be added to existing aboveground utility systems.</li> <li>• LUCI Policy 1.8: Preserve Vista’s major creek corridors, such as Buena Vista Creek and Agua Hedionda Creek and their major tributaries, as defining elements in the character of the community and pursue opportunities to enhance these waterways through public works projects, private development, redevelopment, environmental mitigation, and other means.</li> <li>• LUCI Goal 3: Preserve and protect existing residential neighborhoods from actions, activities, or land uses that may have an adverse impact upon the enjoyment of the residential living environment.</li> <li>• LUCI Policy 3.2: Mitigate unacceptable levels of noise, odors, pollution, dust, light, and glare upon residential areas and other sensitive receptors, such as schools and day care centers.</li> <li>• LUCI Policy 3.3: Require visual and acoustic buffering between non-residential and residential land uses and other sensitive receptors by employing techniques such as landscaping, setbacks, soundwalls, and sensitive siting of buildings.</li> <li>• LUCI Goal 6: Revitalize or redevelop aging or underutilized uses, properties, districts, and corridors.</li> <li>• LUCI Policy 6.6: Require graffiti-resistant materials and construction techniques, including landscaping, on all perimeter walls for commercial, industrial, institutional, and recreational development and redevelopment.</li> </ul>	O	<i>None</i>
<p><b>City of San Marcos</b></p> <p>Land Use and Community Design Element of the San Marcos General Plan (2013):</p> <ul style="list-style-type: none"> <li>• Goal LU-5: Promote community design that produces a distinctive, high-quality built environment with forms and character that create memorable places and enrich community life.</li> <li>• Policy LU-5.4: Require building and site design that respects the natural topography and iconic ridgelines that serve as the visual backdrop for San Marcos.</li> <li>• Policy LU-5.7: Architecture shall be enhanced with high-end building materials, varied roof lines, and decorative details.</li> <li>• Goal LU-8: Ensure that existing and future development is adequately serviced by infrastructure and public services.</li> <li>• Policy LU-8.1: New development shall pay its fair share of required improvements to public facilities and services.</li> <li>• Policy LU-8.3: Focus Capital Improvement Plan infrastructure improvements in areas needed to support more concentrated development and that is contiguous to existing development and available infrastructure.</li> <li>• Goal LU-13: Water Service and Supply: Manage and conserve domestic water resources by reducing water usage and waste on a per capita basis, to ensure an adequate water supply for existing and future residents.</li> <li>• Policy LU-13.1: Work closely with local and regional water providers to ensure high quality water supplies are available for the community.</li> <li>• Policy LU 13.2: Actively promote water conservation programs aimed at reducing demand.</li> <li>• Goal LU-14: Wastewater: Ensure an adequate wastewater system for existing and future development.</li> <li>• Policy LU 14.1: Work closely with local service providers to ensure an adequate wastewater system for existing and future development is in place.</li> <li>• Goal LU-17: Utilities and Communications: Encourage provision of power and communication systems that provide reliable, effective, and efficient service for San Marcos.</li> </ul>	I, M, N	<i>None</i>



Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>Policy LU-17.3: The City shall prohibit above ground utility equipment within any of the pedestrian pathway and street frontage areas. All above ground utilities shall be placed either within; “wet closets” within the buildings, underground vaults, or behind buildings where they are not visible. The developer shall be responsible to contact the applicable utility agencies in advance to coordinate utilities prior to approval of the final street improvement plans for both public and private street frontages and prior to submittal of building permits.</li> </ul>		
<p><b>City of Solana Beach</b></p> <p>The City of Solana Beach General Plan (2001) has policies related to land uses in its Land Use Element:</p> <ul style="list-style-type: none"> <li>Goal 3.1: To promote development of a well-balanced and functional mix of residential, commercial, industrial, open space, recreational, and institutional land uses.</li> <li>Objective 6.0: Provide for the development of an adequate amount of institutional land uses to meet the social, economic, cultural, spiritual, and educational needs of the community.</li> <li>Policy 6.b: Within areas designated as institutional, the city shall permit the development of publicly owned facilities and schools, churches and synagogues, hospitals and medical centers, and retirement care facilities and convalescent homes.</li> </ul>	H, K	None
<p><b>County of San Diego</b></p> <p>Conservation and Open Space Element and the Land Use Element of the San Diego General Plan (2011c and 2011a) contains policies and goals aimed at protecting agricultural resources, none of which are relevant to the Proposed Project.</p> <ul style="list-style-type: none"> <li>Goal LU-2: Maintenance of the County’s Rural Character. Conservation and enhancement of the unincorporated County’s varied communities, rural setting, and character.</li> <li>Policy LU-2.8: Mitigation of Development Impacts. Require measures that minimize significant impacts to surrounding areas from use or operations that cause excessive noise, vibrations, dust, odor, aesthetic impairment and/or are detrimental to human health and safety.</li> <li>Goal LU-5: Climate change and land use. A land use plan and associated development techniques and patterns that reduce emissions of local greenhouse gases in accordance with state initiatives, while promoting public health.</li> <li>Policy LU-5.3: Sustainable Planning and Design. Incorporate into new development sustainable planning and design.</li> <li>Policy LU-5.5: Projects that Impede Non-Motorized Travel. Ensure that development projects and road improvements do not impede bicycle and pedestrian access. Where impacts to existing planned routes would occur, ensure that impacts are mitigated and acceptable alternative routes are implemented.</li> <li>Goal LU-9: Distinct Villages and Community Cores. Well-defined, well-planned, and well-developed community cores, such as Villages and Town Centers, that contribute to a community’s identity and character.</li> <li>Policy LU-9.4: Infrastructure Serving Villages and Community Cores. Prioritize infrastructure improvements and the provision of public facilities for Villages and community cores as sized for the intensity of development allowed by the Land Use Map.</li> <li>Goal LU-12: Infrastructure and Services Supporting Development. Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.</li> <li>Policy LU-12.3: Infrastructure and Services Compatibility. Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.</li> <li>Policy LU-12.4 Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas. Require context sensitive Mobility Element road design that is compatible with community character and minimizes visual and environmental impacts; for Mobility Element roads identified in Table M-4, an LOS D or better may not be achieved.</li> <li>Goal LU-13: Adequate Water Quality, Supply, and Protection. A balanced and regionally integrated water management approach to ensure the long-</li> </ul>	H, J, K, O	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p>term viability of San Diego County’s water quality and supply.</p> <ul style="list-style-type: none"> <li>• Policy LU-13.1: Adequacy of Water Supply. Coordinate water infrastructure planning with land use planning to maintain an acceptable availability of a high quality sustainable water supply. Ensure that new development includes both indoor and outdoor water conservation measures to reduce demand.</li> <li>• Goal LU-14 Adequate Wastewater Facilities. Adequate wastewater disposal that addresses potential hazards to human health and the environment.</li> <li>• Policy LU-14.3 Wastewater Treatment Facilities. Require wastewater treatment facilities serving more than one private property owner to be operated and maintained by a public agency. Coordinate the planning and design of such facilities with the appropriate agency to be consistent with applicable sewer master plans.</li> <li>• Goal LU-16 Appropriately Sited Waste Management Facilities. Solid waste management facilities that are appropriately located and sited in a manner that minimizes environmental impacts and potential conflicts from incompatible land uses, while facilitating recycling and resource recovery activities.</li> <li>• Policy LU-16.1 Location of Waste Management Facilities. Site new solid waste management facilities identified in the San Diego County Integrated Waste Management Plan, in a manner that minimizes environmental impacts and prevents groundwater degradation, and in accordance with applicable local land use policies.</li> <li>• Policy LU-16.2 Integrity of Waste Management Facilities. Avoid encroachment of incompatible land uses upon solid waste facilities in order to minimize or avoid potential conflicts.</li> <li>• Policy LU-16.3 New Waste Management Facilities. Encourage the establishment of additional recycling and resource recovery facilities in areas with Industrial land use designations or other appropriate areas based on the type of recycling.</li> </ul>		

### 3.11 Mineral Resources

Areas with mineral resources of importance to the region and the state are present within the Study Area. The primary mineral resource available within the Study Area is Portland cement concrete (PCC)-grade aggregate, a locally important construction material. The County of San Diego found that as development continues, the region has increased importation of PCC-grade aggregate to meet demand. Although local production continues, it is insufficient to meet demand. PCC-grade aggregate has been declared a locally-important resource that is of economic value to the region as a whole. Groups A, C, G, M, and N each include some mineral resource areas, but no impacts to these resources would occur from the Proposed Project, which would either not be constructed near the mineral resources within these Groups, or would be constructed within existing roadway ROWs.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to mineral resources.

#### 3.11.1 Physical Environmental Setting – Mineral Resources

This section describes the physical setting of mineral resources within the Study Area.

##### Mineral Resources

The County of San Diego contains a variety of mineral resources, classified by the California State Geologist into Mineral Resource Zones (MRZs) based on potential value and significance to the region and the state. **Table 3.11-1** describes the MRZ classifications as defined by the State of California. Per the state, the majority of the Study Area is classified as MRZ-3, indicating that the significance of the potential mineral resources in these areas cannot be determined with current data. There are pockets of MRZ-1, MRZ-2, and MRZ-4 within the Study Area, as well as a few mineral extraction sites (quarries). Mineral resources of significance to the region or the state are found in MRZ-2 zones, located along portions of the San Luis Rey River, near the Carlsbad Quarry, San Marcos Quarry, along the upper portion of the San Dieguito River, and in a small portion north of San Marcos near I-15 (California Division of Mines and Geology 1996a).

**Table 3.11-1 – Mineral Resource Zone (MRZ) Definitions**

MRZ Classification	Definition
MRZ-1	Area where adequate information indicates no significant mineral deposits, or where there is little likelihood of their presence.
MRZ-2	Area where adequate information indicates significant minerals are present or where there is a high likelihood of their presence.
MRZ-3	Areas containing mineral deposits whose significance cannot be evaluated from available data.
MRZ-4	Areas where available information is inadequate for classification in any other MRZ.

Source: California Division of Mines and Geology. 1996a.

There are three types of mineral resource categories of importance in San Diego County: construction materials, industrial and chemical mineral materials, and metallic and rare metals. Of these, construction materials are the most important to the region (County of San Diego 2011). Construction mineral resources in the western portion of the County of San Diego, including the Study Area, are primarily PCC-grade aggregate. Mining operations for PCC have continued and, despite reclassification of some areas from MRZ-3 to MRZ-2 zones, overall available resources have decreased over time. Per-capita

consumption of PCC decreased between 1985 and 1996, when the California Department of Conservation Division of Mines and Geology updated the mineral land classification for the area (California Division of Mines and Geology 1996b). Additional mineral resources identified within local General Plans include silica sand currently extracted in the City of Oceanside at Oceanside Blvd. and El Camino Real (located in Group F). Access to mineral resources is hampered by urbanization and build-out, which is prevalent in much of the western county. The County of San Diego’s General Plan identifies maintaining access to aggregate mineral resources as a priority for maintaining economic activity (County of San Diego 2011).

MRZ-2 zones located within the Study Area are found along the San Luis Rey River, near I-5 north of San Marcos, south of Hwy-78 in Carlsbad at the Carlsbad Quarry and the area immediately south (approximately College Blvd. and Hwy-78). There are also MRZ-2 areas along the San Dieguito River from approximately I-15 in the west to approximately the San Pasqual Academy in the east, with an arm of MRZ-2 jutting north at approximately Cloverdale Road to approximately Mountain View Drive, and an MRZ-2 area located near South Lake (San Marcos Quarry). A final MRZ-2 zone is located along San Marcos Creek immediately downstream of Lake San Marcos (California Division of Mines and Geology 1996a). **Table 3.11-2** shows which Groups within the Proposed Project contain MRZ-2 designated zones.

**Table 3.11-2 – Groups Containing MRZ-2 Zones**

MRZ-2 Location	Groups
San Luis Rey River	G
North of San Marcos along I-15	-
Carlsbad Quarry	A
South of Lake San Marcos	N
Near South Lake	M
Upper San Dieguito River	C

Source: California Division of Mines and Geology. 1996a.

As described in **Table 3.11-1**, MRZ-3 zones are areas where mineral resources are potentially present, but there is not enough data to determine their significance. The majority of the Study Area is classified as MRZ-3, with the exception of the MRZ-2 areas described above, and some MRZ-4 and MRZ-1 areas located in San Marcos and Escondido. All of the Groups contain at least a portion of MRZ-3 areas (California Division of Mines and Geology 1996a).

### 3.11.2 Regulatory Framework – Mineral Resources

#### Federal

There are no federal regulations related to mineral resources that apply to the Proposed Project.

#### State

##### **Surface Mining and Reclamation Act of 1975 (SMARA)**

SMARA requires a reclamation plan for surface mining operations to reduce the environmental impacts of mining operations and ensure that lands are restored to a useable condition. Conservation of mineral resources is also encouraged through SMARA. SMARA applies to mining activities from January 1975 to the present, and is regulated by the State Mining and Geology Board. Per the 1996 *Update of Mineral Land Classification: Aggregate Materials in the Western San Diego County Production-Consumption Region*, there are 27 mining sites within San Diego County, five of which are located within the Study Area (California Division of Mines and Geology 1996b).

## Local

### **General Plans**

General Plans for the County of San Diego and the cities of Oceanside, Carlsbad, and San Marcos address mineral resources in the Study Area. A discussion of mineral resources is provided within the Open Space/Conservation Element, Environmental Resource Element, or other relevant Element of the General Plans. The relevant goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.11-3** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **3.11.3 Impact Analysis – Mineral Resources**

#### Methodology for Analysis

The potential impacts from the Proposed Project on mineral resources within the Study Area were evaluated using the thresholds of significance in the CEQA Guidelines.

#### Thresholds of Significance

For the purposes of this analysis, an impact to mineral resources would be significant if the Proposed Project would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

#### Criteria Requiring No Further Evaluation

Because aggregate mineral resources have been identified as important to the region, and are found within the Study Area, both thresholds of significance identified above are evaluated for this project.

#### Impact Statements and Mitigation Discussions

This section discusses potential impacts to mineral resources that could result in conjunction with the Proposed Project.

#### **Impact 3.11-1 Potential to result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state.**

The Proposed Project involves construction of recycled water pipelines, treatment facility expansions and upgrades, storage tanks, groundwater wells, and associated appurtenances. None of these activities include mineral extraction, though excavation activities would occur during construction. As described within the San Diego County General Plan, access to mineral resources provides the primary barrier to successful and economical extraction of these resources. The potential impact of the Proposed Project on the availability of known mineral resources that would be of value to the region and residents of the state is therefore analyzed with respect to the potential to impede access to these resources. Groups A, C, G, M, and N each include some known mineral resource areas and are analyzed further below.

#### **Group A**

The mineral resources located in Group A include an MRZ-2 zone that includes the South Coast Materials Company's Carlsbad Quarry. Although this site falls within both the City of Carlsbad and the City of Oceanside, it is not included in either city's General Plan because the quarry was closed in 1995. This site was undergoing rehabilitation following removal of mineral processing plants as of 2011, with plans to convert approximately 27% of the total area to a preserve, with additional uses to be determined (Helix,

2011). Portions of the pipelines included in Group A would be constructed near this MRZ-2 zone, but would be constructed within or near the roadway ROW, and would not have an impact on future access or availability of mineral resources in this area. Furthermore, the closing of the quarry and associated mining activities indicate that existing mineral resources at the site are no longer economically viable to extract. No above ground facilities in Group A would be constructed within this MRZ-2 zone. No impacts would occur and no mitigation is necessary.

### **Group C**

One small pipeline in the southwestern portion of Group C overlies an MRZ-2 zone, but this falls within an urban/developed area (City of Escondido, 2012), and as an underground component constructed primarily within roadway ROWs, would not impede access to these mineral resources further than is currently available.

### **Group G**

The mineral resources located in Group G consist of silica sand that is mined north of Oceanside Blvd. and east of El Camino Real and along the San Luis Rey River within the City of Oceanside. The pipeline within Group G is anticipated to extend along El Camino Real and near the San Luis Rey River in this area, but would be constructed within the roadway ROW, and would not have an impact on access or availability of these mineral resources. Further, the City of Oceanside's General Plan states that most of the sand included in this deposit underlies developed land and is already considered "unavailable" (City of Oceanside, 2002). Construction of project facilities would, therefore, not affect availability of this resource compared to existing conditions. No impacts would occur and no mitigation is necessary.

### **Group M**

The mineral resources located within Group M are not located near any Proposed Project-related activities (short-term), which would have no impact on availability of mineral resources. No impacts would occur and no mitigation is necessary.

### **Group N**

Although mineral resources are located within Group N, the only Proposed Project-related activities in Group N (short-term), are potable reuse infrastructure (conveyance pipelines and expansion of the Meadowlark WRF to advanced water treatment. Conveyance pipelines are not anticipated to have an impact on availability of mineral resources, and the expansion of the Meadowlark WRF would be contained within or adjacent to the existing site, which is not near any MRZ-2 areas. No impacts would occur and no mitigation is necessary.

### **Significance Determination before Mitigation**

No impact.

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### **Impact 3.11-2 Potential to result in the loss of availability of a locally-important mineral resource recovery site delineated on a land use plan.**

As discussed above, the Proposed Project contains some areas of locally-important mineral resource recovery sites, designated as MRZ-2 zones and found to be locally important by the County of San Diego General Plan. Only one site in the Study Area was found to be locally-important, the silica sand mining operation located in Group G within the City of Oceanside (Oceanside, 2002). As evaluated under **Impact 3.11-1**, Proposed Project activities would not include mineral resource extraction, nor are

Proposed Project components anticipated to impede future access to locally-important mineral resources. No impacts would occur and no mitigation is necessary.

**Significance Determination before Mitigation**

No impact.

**Table 3.11-3: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
Although the City of Oceanside's General Plan includes a discussion of its mineral resources, it contains no goals and policies relevant to mineral resources for the Proposed Project (City of Oceanside 2002).	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
The City of Carlsbad's General Plan's Open Space and Conservation Element classifies Category 2 Open Space as Open Space for Managed Production of Resources, including major mineral resources. However, there are no economically significant mineral resources within the City of Carlsbad (City of Carlsbad 2006).	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT
<b>City of Encinitas</b>		
<i>None</i>	E, H	San Elijo WRF
<b>City of Escondido</b>		
<i>None</i>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF
<b>City of Vista</b>		
<i>None</i>	O	<i>None</i>
<b>City of San Marcos</b>		
The City of San Marcos' General Plan (City of San Marcos 2012) acknowledges the presence of MRZ-2 zones within its sphere of influence. The following goal and policies are included in the General Plan to address these mineral resources: <ul style="list-style-type: none"> <li>• <b>Goal COS-2:</b> The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations, and by working with property owners, local organizations, and agencies, the City can limit the conversion of resource land to urban uses. <ul style="list-style-type: none"> <li>○ <b>Policy COS-2.4:</b> Ensure compliance with State requirements for mineral resources contained in SMARA.</li> </ul> </li> </ul>	I, M, N	<i>None</i>

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.



Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Solana Beach</b>		
<i>None</i>	H, K	<i>None</i>
<b>County of San Diego</b>		
<p>The County of San Diego's General Plan's Conservation and Open Space Element (County of San Diego 2011) includes the following goals and policies relevant to mineral resources for the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal COS-10 Protection of Mineral Resources:</b> long-term production of mineral materials to meet local average annual demand, while maintaining a 50-year reserve using techniques and reclamation methods consistent with SMARA standards such that adverse impacts are minimized.                             <ul style="list-style-type: none"> <li>○ <b>Policy COS-10.1 Siting of Development:</b> discourage development that would impede future mining in areas designated as having substantial potential for mineral extraction.</li> <li>○ <b>Policy COS-10.2 Protection of State-Classified or Designated Lands:</b> discourage incompatible land uses on or adjacent to areas designated as MRZ-2 and other potential mineral lands. Consider the potential mineral resources of MRZ-3 zones when making land use decisions.</li> </ul> </li> </ul>	H, J, K, O	<i>None</i>

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## 3.12 Noise

This section provides a description of the existing noise environment in the Study Area, provides the relevant regulatory framework, and evaluates potential impacts related to noise from implementation of the Proposed Project. The Proposed Project has the potential to expose people to or generate noise levels in excess of local standards, generate vibration, and create temporary and permanent increase in noise levels in excess of noise levels without the project. Mitigation measures identified in this section would reduce potential impacts to less than significant.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential noise-related impacts.

### 3.12.1 Physical Environmental Setting – Noise

The following sections describe the existing setting of the Study Area.

#### Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound, as described in more detail below, is mechanical energy originating from a disturbance or vibration; this energy is transmitted through a medium (air) in the form of a wave.

#### **Sound Properties**

A sound wave is introduced into a medium by a vibrating object. The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. The frequency of a wave is measured as the number of complete back-and-forth vibrations of a particle per unit of time. If a particle of air undergoes 500 longitudinal vibrations in 1 second, then the frequency of the wave would be 500 vibrations per second. A commonly used unit for frequency is hertz (Hz) which is defined as one cycle per second. Each particle vibrates due to the motion of its nearest neighbor. For instance, a guitar string vibrating at 500 Hz will cause the air particles in the room to vibrate at the same frequency (500 Hz), which carries a sound signal to the ear of a listener that is detected as a 500-Hz sound wave.

#### **Sound and the Human Ear**

Due to the ability of the human ear to detect a wide range of sound pressure fluctuations, sound pressure levels are expressed in logarithmic units called decibels (dB). The sound pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold (Caltrans 1998). Since the human ear is not equally sensitive to all sound frequencies, a frequency-dependent rating scale called the A-weighted dB (dBA) scale was devised to relate noise to human sensitivity. The A-weighted dB scale has been chosen by most authorities for the purpose of regulating environmental noise.

#### **Sound Propagation**

As sound (noise) propagates from the source to the receptor, attenuation (i.e., the noise reduction in relation to distance) depends on such factors as the inverse square law, surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse square law describes the attenuation due to the pattern in which sound travels from the source to a receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance.

However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern, with an attenuation rate of 3 dBA per doubling of distance. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as

wind speed, temperature, and humidity may affect noise levels. Furthermore, the presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation depends on the barrier size and frequency of the noise. A noise barrier may be any natural or manmade feature, such as a hill, tree, building, wall, or berm.

### Noise Descriptors

The selection of a proper noise descriptor for a specific source is based on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below.

- $L_{max}$  (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time. The  $L_{max}$  may also be referred to as the “peak (noise) level.”
- $L_{min}$  (Minimum Noise Level): The minimum instantaneous noise level during a specific period of time.
- $L_x$  (Statistical Descriptor): The noise level exceeded X percent of a specific period of time.
- $L_{eq}$  (Equivalent Noise Level):  $L_{eq}$  used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The  $L_{eq}$  is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- $L_{dn}$  (Day-Night Noise Level): The 24-hour  $L_{eq}$  with a 10-dBA “penalty” for the noise-sensitive hours between 10:00 p.m. and 6:00 a.m. The  $L_{dn}$  accounts for the fact that noise during this period of time is a potential source of sleep disturbance.
- CNEL (Community Noise Equivalent Level): The CNEL is similar to the  $L_{dn}$  described above, but with an additional 5 dBA “penalty” for the noise-sensitive hours between 7:00 p.m. to 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the CNEL is typically about 0.5 dBA higher than the  $L_{dn}$ .
- SEL (Single-Event [Impulsive] Noise Level): The SEL describes a receiver’s cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some reference value (approximately 40 dB).

### Negative Effects of Noise on Humans

Exposure to noise can result in physical damage to the auditory system, which can lead to gradual or traumatic hearing loss. Gradual hearing loss is due to sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is due to sudden exposure to extremely high noise levels over a short period. However, gradual and traumatic hearing loss can both result in permanent hearing damage. In addition, noise can interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference can be classified as annoying, the inability to hear a warning signal is considered dangerous. Noise can also contribute to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the noise frequency, band width, level, and exposure time (Caltrans 1998).

### Vibration

Ground vibration consists of rapidly fluctuating motions or waves, which are also measured in decibels. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be perceptible inside residences. As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate by a few ten-thousandths to a few thousandths of an inch. Differences in subsurface geologic conditions and distances from the source of vibration will result in different vibration levels characterized by different frequencies

and intensities. Vibration amplitudes will decrease with increasing distance from the source. High frequency vibrations attenuate much more rapidly than low frequencies, such that low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances.

### **Human Response to Vibration**

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce damage to structures. The duration of the event has an effect on human response, as does the frequency. Generally, as the duration and frequency of vibrations increase, the potential for adverse human response increases. While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibrations. Vibrations in buildings may be perceived as motion of building surfaces or rattling of windows, items on shelves, and pictures hanging on walls. Vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when the structure and the source of vibration are connected by foundations or utilities, such as sewer and water pipes.

### **Sensitive Receptors**

Noise-sensitive land uses generally include those uses where exposure to noise would result in adverse effects, as well as uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. In addition, other noise sensitive uses include care facilities, schools, churches, transient lodging, hospitals, health care facilities, libraries, museums, cultural facilities, golf courses, and other passive recreational sites.

### **Noise Setting**

#### **Regional – San Diego County**

The major source of noise in the County and the region as a whole is transportation-related activity. Transportation noise sources include automobiles, trucks, other vehicles, aircraft operations and railroads. Traffic on the County's roadways is the most significant and pervasive source of noise in the County due to the traffic volumes, and speed and mix of vehicles. Another area of concern is the noise from private, military, and County generated aircraft operations. Aviation operations are concentrated around airport buildings, runways, and along approach and departure routes. Non-transportation-related noise sources include industrial processing, mechanical equipment, pumping stations, and heating, ventilating and air condition (HVAC) equipment. In addition, non-transportation noises include industrial and commercial operations, maintenance, manufacturing, loading docks, and warehousing noise (County of San Diego 2011).

#### **City of Oceanside**

Noise sources in the City include the Oceanside Municipal Airport, highways (State Routes 78 and 76), Atchison, Topeka and Santa Fe (AT&SF) Railroad, and other major local roadways. Based on a 1995 mapping of noise along fixed routes, the 65 dB contour from these roadways ranges from 50 feet to over 300 feet (City of Oceanside 2002).

#### **City of Carlsbad**

Noise sources in the City include roads, McClellan-Palomar Airport and AT&SF Railroad, with the largest noise contribution from roadways, specifically Interstate 5. Interstate 5 has the greatest existing and projected roadway noise levels and affects the greatest number of existing dwellings. Other mobile noise sources include off-road motorcycle noise (e.g., dirt road or two-cycle engine motorcycles), motor

boats (e.g., on the Agua Hedionda Lagoon), and modified vehicle exhaust systems (City of Carlsbad No Date).

#### **City of Encinitas**

The primary noise source in the City is roadways. Based on the noise contour maps for post 2010 traffic conditions, noise levels along roadways could increase to up to 80 dB (City of Encinitas 1989).

#### **City of Escondido**

Sources of noise in the City include both transportation (roadways [Interstate 15 and Highway 78], airport [McClellan-Palomar Airport in the City of Carlsbad and the Ramona Airport], and railroads [North County Transit District SPRINTER light rail and the AT&SF railroad]) and non-transportation related activities (e.g., industrial processing, mechanical equipment, pump stations, and heating, ventilating, and air conditioning equipment). Based on the existing noise contours, noise levels of up to 70 dBA CNEL occur along Interstate 15 and some of the major roadways within the City. Because of these major roadways, the existing noise levels at the nearest receptors range from 61 to 81 dBA CNEL depending on the roadway (City of Escondido 2012a; City of Escondido 2012b).

#### **City of Vista**

The primary noise source in the City of Vista is transportation (McClellan-Palomar Airport, NCTD SPRINTER and roadways including State Route 78 and major arterials). Noise measurements conducted in 2009 show that average noise levels on certain roadways range from 59 to more than 70 dB L<sub>eq</sub> (City of Vista 2011a; City of Vista 2011b).

#### **City of San Marcos**

Noise sources in the City of San Marcos consist primarily of vehicular traffic on major roadways (e.g., State Route 78) and rail traffic. Existing noise levels show up to 70 dB CNEL for major roadways. The City of San Marcos is located entirely outside of the present and future 60 dBA CNEL noise contour for McClellan-Palomar Airport, and therefore, airport operations do not substantially affect the ambient noise environment of San Marcos. (City of San Marcos 2012).

#### **City of Solana Beach**

The City of Solana Beach General Plan identifies the predominant noise source in Solana Beach as roadways, including Interstate 5, Highway 101 and other arterial roads. The railroad is also a major noise source. Other major noise sources include car racing at the Del Mar Fairgrounds, which is owned and operated by the State of California, and airplanes that fly over the City (City of Solana Beach 1988).

### **3.12.2 Regulatory Framework – Noise**

#### **Federal**

The federal Noise Control Act of 1972 (Public Law 92-574) directed EPA to promote an environment that reduces noise pollution to protect the health and welfare.

The Federal Transit Administration (FTA) has identified vibration criteria/guidelines/recommendations for ground-borne vibration based on the building types that neighbor roadway/transit corridors. Based on the FTA's document *Transit Noise and Vibration Impacts Assessments* (FTA 2006), construction-period vibration levels of 0.2 in/sec peak particle velocity (PPV) should be considered as the damage threshold criterion for "non-engineered timber and masonry buildings" and 0.12 in/sec PPV for "buildings extremely susceptible to vibration damage". These vibration threshold criteria are stated in PPV, which is most applicable to construction-related vibration sources (i.e., machinery and equipment).

## State

The State of California has adopted noise compatibility guidelines for general land use planning. The level of acceptability of the noise environment is dependent upon the activity associated with the particular land use. As described by the State of California in their land use compatibility guidelines for a community noise environment, an exterior noise environment up to 60 dBA CNEL and 65 dBA CNEL is normally acceptable for single-family and multi-family residential, respectively, without special noise insulation requirements. A Noise environment up to 70 dBA CNEL is considered “conditionally acceptable” for single-family and multi-family residential uses, while 75 dBA CNEL is identified as a “clearly unacceptable” noise level for all residential uses (State of California 1998).

The State has synthesized vibration criteria and standards that have been developed over the years by researchers, organizations, and governmental agencies to provide guidelines for threshold criteria for vibration damage. Based on Caltrans’s Transportation and Construction Vibration Guidance Manual (September 2013), the vibration damage potential threshold criteria for “fragile buildings” are 0.2 in/sec PPV for transient sources and 0.1 in/sec PPV for continuous sources<sup>1</sup>. The vibration damage potential threshold criteria for older residential structures are 0.5 in/sec PPV for transient sources and 0.3 in/sec PPV for continuous sources.

## Local

### General Plans

The General Plans for the seven municipalities within the Study Area contain policies addressing noise. The goals, objectives, and policies included in the general plans of the individual municipalities are outlined in **Table 3.12-9** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### City of Oceanside

Chapter 38 (Noise Control) of the City of Oceanside Municipal Code is intended to prohibit unnecessary, excessive and annoying noises from all sources subject to its police power. The Noise Control Ordinance sets forth the sound level limits for different land uses during the day (7:00 AM to 9:59 PM) and night (10 PM to 6:59 AM). The limits are generally as shown in **Table 3.12-1** (City of Oceanside 1990):

**Table 3.12-1 – City of Oceanside Municipal Code Sound Limits by Land Use**

Land Use	7:00 AM to 9:59 PM	10 PM to 6:59 AM
Residential	50 to 55	45 to 50
Commercial	65	60
Industrial	70	65
Agricultural and Open Space	50	45
Downtown	65	55

Source: City of Oceanside. Noise Control Ordinance. 1990

Section 38.15 of the Noise Control Ordinance provides exemptions for construction, maintenance or other public improvement activities by government agencies or public utilities. Specifically, this section permits the authorization of construction that exceeds the noise, duration or hour of work limits upon a determination that the authorization furthers the public interest.

<sup>1</sup> Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

### City of Carlsbad

Chapter 8.48 (Noise) of the City of Carlsbad Municipal Code addresses noise. Section 8.48.010 identifies the limits for construction hours, and specifies that “it is unlawful to operate equipment or perform any construction in erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land during the following hours except as follows (City of Carlsbad 2013):

- After six p.m. on any day, and before seven a.m. Monday through Friday, and before eight a.m. on Saturday;
- All day on Sunday; and
- On any federal holiday.

Section 8.48.020 provides an exception to the construction hour limitations. The building official, city engineer, or other official designated by the manager may modify the hours of construction for specified reasons, including but not limited to “the character and nature of the neighborhood in the vicinity of the work site, and...if the work is in the interest of the general public.” Section 8.48.030 requires that signs be posted at jobsite entrance(s) indicating hours of work (City of Carlsbad 2013).

### City of Encinitas

The intent of Chapter 9.32 (Noise Abatement and Control) of the City of Encinitas Municipal Code is to secure and promote public health, comfort, convenience, safety, welfare, prosperity, peace and quiet of the city and its inhabitants. Section 9.32.410 identifies the sound level limits for construction equipment. As indicated, except for emergency work, it is unlawful “to operate construction equipment at any construction site on Sundays, and days appointed by the President, Governor or the City Council for a public fast, thanksgiving or holiday.” In addition, this section prohibits the operation of “construction equipment at any construction site on Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.” and the use of equipment or combination of equipment “so as to cause noise at a level in excess of seventy-five (75) decibels for more than 8 hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes. Section 9.32.411 prohibits the handling or transporting in public places any container or construction material in a way that creates disturbing, excessive, or offensive noise. Section 9.32.424 provides that the Noise Control Officer may grant variances on a case-by-case basis (City of Encinitas 1990).

### City of Escondido

Article 12 (Noise Abatement and Control) of the City of Escondido Municipal Code outlines the rules and regulations regarding noise. The purpose of this article is securing and promoting the public health, comfort, convenience, safety, welfare, prosperity, peace and quiet of the City of Escondido and its inhabitants. Section 17-229 identifies the sound level limits based on land use, as shown in **Table 3.12-2** below.

**Table 3.12-2 – City of Escondido Municipal Code Sound Limits by Land Use**

Land Use	7 AM to 10 PM	10 PM to 7AM
Residential	50 to 55	45 to 50
Commercial	60	55
Industrial	70-75	70-75
Agricultural and Open Space	50	45
Downtown	65	55

Section 17-234 specifies limitations for construction equipment. Specifically, the section prohibits operation of “construction equipment at any construction site, except on Monday through Friday during a



week between hours of seven (7) a.m. and six (6) p.m. and on Saturdays between the hours of nine (9) a.m. and five (5) p.m., and provided that the operation of such construction equipment complies with the requirements of subsection (d) of this section.” The operation of construction equipment is prohibited on Sundays and on holidays. In addition, the section specifies prohibits the use of equipment that cause noise in excess of the one-hour average sound level limit of seventy-five (75) dB at any time, unless a variance has been obtained in advance from the city manager. Signs specifying construction hours are also required per this section (City of Escondido 1990).

**City of Vista**

Chapter 8.32 (Noise Control) of the City of Vista Municipal Code identifies noise regulations. Specifically, Section 8.32.040 adopts the County of San Diego regulations relating to noise control, with one change to the regulations relating to applicable exterior property line noise limits, as shown in **Table 3.12-3** below (City of Vista 2014). Please see the section below discussing the County of San Diego for the county’s noise regulations.

**Table 3.12-3 – City of Vista Municipal Code Sound Limits by Land Use**

Land Use Zones	7 AM to 10 Pm	10 PM to 7AM
A-1, E-1, O & OSR, R-1B, MHP	50	45
R-M	55	50
C-1, C-2, O-3, C-T, OP, M-U, and Downtown Specific Plan	60	55
M-1, I-P, all areas of the Vista Business Park Specific Plan and Specific Plan 14	70	70

**City of San Marcos**

Chapter 10.24 (Noise) of the San Marcos Municipal Code identifies regulations regarding noise control. Section 10.24.20 prohibits specific noises that disturb a reasonable person of normal sensitivities. The following noises are in violation of Chapter 10.24 (City of San Marcos 2008):

- Noises in proximity to schools, courts, churches or hospitals. The creation of any excessive noise on any street adjacent to a school, institution of learning, church or court while such facilities are in use, or adjacent to any hospital which unreasonably interferes with work of the institution or which disturbs or unduly annoys patients of the hospital; however, this subsection shall not apply unless conspicuous signs are displayed in such streets indicating that there is located in the vicinity a school, hospital court or church.
- Erection or demolition of buildings, excluding owner resident additions or remodeling, and the grading and excavation of land including the use of blasting, the startup and use of heavy equipment such as dump trucks and graders and the use of jack hammers except on week days Monday through Friday between the hours of 7:00 a.m. and 6:00 p.m. and on Saturdays 8:00 a.m. to 5:00 p.m. The City Manager may waive any or all of the provisions of this subsection in cases of urgent necessity, or in the interest of public health and safety. The provisions of this subsection may also be waived or modified pursuant to a Conditional Use Permit or other development entitlement processed and issued in accordance with the applicable City requirements and procedures.
- Late Night Disturbances that are plainly audible by inhabitants or occupants of any adjacent or neighboring residential properties or units, or are plainly audible at a distance of fifty (50) feet that occur on week days, Monday throughout Friday, weekends, Saturday through Sunday, between the hours of 11:00 p.m. and 7:00 a.m. the following day shall be prima facie evidence of violation of this subsection.

### City of Solana Beach

Chapter 7.34 (Noise Abatement and Control) was developed in 1990 in response to Action 9 of the General Plan stated above. The purpose of the Chapter 7.34 of the City of Solana Beach Municipal Code is to secure and promote the public health, comfort, convenience, safety, welfare, prosperity, peace and quiet of the city and its inhabitants. Section 7.34.040 identifies the sound level limits as shown in **Table 3.12-4**.

**Table 3.12-4 – City of Solana Beach Municipal Code Sound Limits by Land Use**

Land Use	7 AM to 10 Pm	10 PM to 7AM
Residential	50 to 55	45
Commercial	60	55
Industrial	70	60
Public/Institutional and Open Space	60	45

Section 7.34.100 prohibits the erection, demolition, alteration or repair of any building structure or the grading or excavation of land in such a manner as to create disturbing, excessive or offensive noise before 7:00 a.m. or after 7:00 p.m. Monday through Friday, before 8:00 a.m. or after 7:00 p.m. on Saturday, and all day on Sunday and specified holidays. Exceptions may be granted by the city manager in nonresidential zones. This section also specifies that construction noise cannot exceed 75 dB for more than eight hours during any 24-hour period when measured at or within property lines of any property which is developed and used for residential purposes. Section 7.34.110 also prohibits the handling or transporting of any container or construction material in a way that creates a disturbing, excessive, or offensive noise (City of Solana Beach 1991).

### County of San Diego

The purpose of the Chapter 4 (Noise Abatement and Control) of the County of San Diego Municipal Code is to regulate noise in the unincorporated area of the County to promote public health, comfort and convenience of the County’s inhabitants and its visitors. Section 36.404 (General Sound Level Limits) identifies the sound level limits as shown in **Table 3.12-5** (County of San Diego 2009a).

Section 36.408 of the municipal code addresses hours of operation of construction equipment. Except for emergency work, it shall be unlawful for any person to operate or cause to operate, construction equipment between 7 PM and 7 AM or on a Sunday or a holiday (County of San Diego 2009a).

**Table 3.12-5 – County of San Diego Municipal Code Sound Limits by Land Use**

Land Use	7 AM to 10 PM	10 PM to 7 AM	7 AM to 7 PM	7 PM to 10 PM
RS, RD, RR, RMH, A70, A72, S80, S81, S90, S92, RV, and RU with a General Plan Land Use Designation density of less than 10.9 dwelling units per acre.	50	45		
(2) RRO, RC, RM, S86, V5, RV and RU with a General Plan Land Use Designation density of 10.9 or more dwelling units per acre.	55	50		
(3) S94, V4, and all commercial zones.	60	55		
(4) V1, V2			60	55
V1, V2		55		
V1		50		
V2	50			
V3	70	65		
(5) M50, M52, and M54	70	70		
(6) S82, M56, and M58	75	75		

Section 36.409 of the municipal code sets sound level limitations on construction equipment. Specifically, the ordinance prohibits any person to operate construction equipment or cause construction equipment to be operated to levels that exceeds an average sound level of 75 decibels for an eight-hour period, between 7 AM and 7 PM, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received (County of San Diego 2009a).

Section 36.410 of the municipal code sets maximum sound levels for certain land uses, as measured at the boundary line of the property where the noise source is located or any occupied property where the noise is received, for 25 percent of the minutes in the measurement period. Specifically, these limits are 82 dBA for residential, village zoning or civic use, and 85 dBA of agricultural, commercial, or industrial use (County of San Diego 2009a).

### **3.12.3 Impact Analysis – Noise**

#### **Methodology for Analysis**

This analysis evaluates anticipated changes in the physical environment resulting from the Proposed Project against the thresholds of significance identified below and the noise regulations provided above, to determine if direct and indirect changes from existing conditions would constitute potentially significant effects. Project changes are described and potential impacts, if any, are identified under each impact discussion. Where impacts would be considered potentially significant, mitigation measures are identified to reduce impacts to a less-than-significant level.

#### **Thresholds of Significance**

Noise impacts and effects associated with the Proposed Project were analyzed in accordance with the CEQA Guidelines, and with consideration of the County of San Diego's Guidelines for Determining Significance (County of San Diego 2009b). For the purposes of this analysis, a noise impact would be significant if the Project would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- Create a substantial permanent increase in ambient noise levels in the vicinity of the project above levels without the project;
- Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project; or
- Expose people to excessive noise near a public-use airport or private airstrip.

#### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Expose people to excessive noise near a public-use airport or private airstrip.* There are public use airport and airstrips throughout the Study Area, and proposed facilities could be located in proximity to airports/airstrips. However, the Proposed Project does not include inhabited structures or facilities within any airports/airstrips, and therefore the Proposed Project would not expose people (residents or workers) to excess noise near a public use airport or private airstrip. Further, the Proposed Project is consistent with applicable General Plans, which are themselves consistent with the applicable ALUCPs that address noise. Thus, no further evaluation is required.

## **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to noise that could result from implementation of the Proposed Project. Mitigation measures are identified where appropriate.

### **Impact 3.12-1 Potential to expose persons to or generate noise levels in excess of standards established in local general plan or noise ordinances or applicable standards of other agencies.**

The facilities associated with the Proposed Project would be located throughout the Study Area, within different types of land uses. Construction activities associated with the Proposed Project would result in temporary noise increases. Construction noise levels would fluctuate depending on the construction phase, equipment type, and duration of use; distance between noise source and receptor; and presence or absence of barriers between noise source and receptor. Typical construction equipment generates noise levels between 70 to 89 dBA at a distance of 50 feet from the source, as shown in **Table 3.12-6** below.

**Table 3.12-6: Typical Noise Levels for Construction Equipment**

<b>Equipment</b>	<b>Typical Noise Levels (dBA, at 50 feet)</b>	<b>Equipment</b>	<b>Typical Noise Levels (dBA, at 50 feet)</b>
Front end loaders	80	Shovel	82
Backhoes, excavators	80-85	Pumps	76
Tractors, dozers	84-85	Generators	81
Graders, scrapers	85-89	Compressors	81
Concrete pumps, mixers	82-85	Pneumatic tools	85
Cranes (movable)	83	Pavers	89
Cranes (derrick)	88	Compactors	82
Truck	88	Drill rigs	84
Jack Hammer	88	Roller	74
Pile driver (sonic)	96	Pile driver (impact)	101

Source: FHWA, 2006; FTA, 2006.

Noise levels from pile drivers would have the potential to generate higher noise levels than those shown in **Tables 3.12-1 through 3.12-5**. While certain construction activities (e.g., pipeline installation) would not involve pile driving, it has not been determined whether construction of other structures would require pile driving. As such details have not yet been determined, a more conservative approach assuming the use of pile driving is included in this analysis.

As the definitive locations of all proposed facilities have not yet been established, noise levels at the nearest sensitive receptors, such as schools or hospital, cannot be determined. In general, construction would be temporary and sporadic, but would vary depending on the facility being constructed. Construction along pipeline alignments would continuously move from one location to another, as pipeline installation proceeds from one segment to the next. Thus, noise levels would affect any one receptor for only a short duration of time. Construction of above-ground facilities (e.g., pump stations, storage tanks, and treatment plants), while still intermittent and sporadic depending on the phase of construction, would occur for an overall longer period of time (compared to pipeline installation), and thus expose people to elevated noise levels during the construction period.

Operation of the proposed above-ground facilities, including pump stations and other mechanical devices at the treatment facilities (e.g., aerator), could permanently generate noise levels above ambient levels. Noise levels of these facilities cannot be estimated as details of their design have not been determined. For example, noise levels of pump stations would vary depending on the number of pumping units, their distance from the nearest sensitive receptors, and whether enclosures are included in the design.

The land use jurisdictions within the Study Area have identified noise standards and limits in their general plans and municipal codes. Specifically, these regulations restrict both exterior sound limits for specific type of land uses from operation of projects, limit construction equipment noise above certain levels for a specified duration of time, and restrict when construction activities could occur. The Coalition members shall comply with the noise regulations set by the general plans and noise ordinances in their respective jurisdictions, as applicable to the project component and responsible agency. However, construction of the proposed facilities may expose people to and generate noise levels in excess of established standards depending on the locations of the facilities, the type of construction activity (including if pile driving is needed), and distances to sensitive receptors. Noise impacts would be considered potentially significant, requiring the implementation of noise control measures in **Mitigation Measures MM 3.12-1a** and **MM 3.12-1b** (for construction) and **MM 3.12-1c** (for operation). Impacts are considered less than significant after mitigation.

#### Significance Determination before Mitigation

Potentially significant

#### Mitigation Measures

**Mitigation Measures MM 3.12-1a**, **MM 3.12-1b**, and **MM 3.12-1c** shall apply to all components of the Proposed Project and shall be implemented by the lead agency for each individual project component, as applicable.

**MM 3.12-1a Noise and Vibration Control During Construction.** The Coalition members shall incorporate into contract specifications for all proposed components the following noise and vibration control measures:

- Impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction will be hydraulically or electrically powered whenever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust would be used. This muffler can lower noise levels from the exhaust by up to 10 dBA. External jackets on the tools themselves would be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures will be used such as drilling rather than impact equipment whenever feasible.
- Wherever possible, sonic or vibratory pile drivers will be used instead of impact pile drivers. If sonic or vibratory pile drivers are not feasible, acoustical enclosures will be provided as necessary to reduce noise levels. Engine and pneumatic exhaust controls on pile drivers will be required as necessary to ensure that exhaust noise from pile driver engines are minimized to the extent feasible. Where feasible, pile holes will be pre-drilled to reduce potential noise and vibration impacts. No impact pile drivers shall be used in the vicinity of sensitive receptors unless necessary. For above-ground facilities, temporary noise barriers may be erected at some locations to reduce noise impacts to residents adjacent to construction sites.
- Comply with compaction standards for backfill. Vibration generated during soil compaction may be minimized by using a small compactor.
- During sheetpile driving for the trench excavation, use the following measures: pushing the sheetpile in as far as possible with the excavator CAT before using the vibrator; using a small, hand-operated vibratory hammer or one with a different operational frequency to further reduce the vibration potential; flooding the soils before tamping with the vibrator; and/or operating the vibratory CAT with “throttling” when a vibrator must be used.
- All equipment and trucks used for project construction shall use the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and

- acoustically attenuating shields or shrouds) and be maintained in good operating condition to minimize construction noise impacts. All internal combustion engine-drive equipment shall be fitted with intake and exhaust mufflers which are in good condition.
- Unnecessary idling of internal combustion engines shall be prohibited. In practice, this would mean turning off equipment if it would not be used for five or more minutes.
  - Stationary noise-generating construction equipment, such as air compressors and generators, shall be located as far as possible from homes and businesses.
  - Staging areas shall be located as far as feasibly possible from sensitive receptors.
  - For construction activities anticipated to generate noise above local standards even with the noise attenuation measures listed above, timing and length of construction activities generating excessive noise shall be adjusted to maintain average or impulsive noise levels within acceptable limits, as set forth in applicable local regulations.

**MM 3.12-1b Pre-Construction Notification.** Prior to construction, written notification to residents within 500 feet of the proposed facilities undergoing construction shall be provided, identifying the type, duration, and frequency of construction activities. Notification materials shall also identify a mechanism for residents to register complaints with Coalition members if construction related noise impacts should occur.

**MM 3.12-1c Noise and Vibration Minimization during Operation.** Coalition members shall design the proposed pumps and mechanic, noise-generating equipment at treatment plants to ensure that operational noise levels at the property line do not exceed the affected jurisdictions' noise ordinance standards. Coalition members shall implement the following noise minimization measures to the extent they are feasible:

- Noise-generating facilities shall be located as far away from sensitive receptors as possible.
- Shielding and other specified measures as deemed appropriate and effective by the design engineer would be incorporated into the design to comply with performance standards.
- Project equipment shall be outfitted and maintained with noise-reduction devices such as equipment closures, fan silencers, mufflers, acoustical louvers, vents, noise barriers, and acoustical panels to minimize operational noise.
- The orientation of any necessary acoustical exits shall always be facing away from nearby sensitive receptors.
- Berms or noise walls shall be incorporated, where appropriate, to absorb and/or redirect noise away from nearby sensitive receptors.
- Contractors shall test each pump and its drive system and any other mechanical devices that generate vibration after installation to confirm that the equipment has been properly installed, aligned and connected, is free of defects and excessive noise and vibration. If the testing indicates noncompliance with the affected jurisdictions' noise ordinances, additional measures (e.g., installation of sound proofing material inside the wall; installation of sound dampening material around the valves) shall be taken until compliance can be demonstrated.

#### Significance Determination after Mitigation

Less than significant.

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**Impact 3.12-2 Potential to expose persons to or generation of excessive groundborne vibration or groundborne noise levels.**

Construction activities would result in groundborne vibration, with the primary sources including sheet pile installation and construction vehicle movements. In addressing the range of potential issues associated with ground vibration, there are generally two forms of impacts that should be addressed: (1) annoyance to individuals or the community; and (2) damage to buildings. Vibration from construction activities is typically below the threshold of perception when the activity is more than about 50 feet from the receiver. Depending on the location of the proposed facilities, the Proposed Project could occur within 50 feet of existing structures. As such, proposed construction has the potential to expose nearby persons to groundborne vibrations.

Construction of the Proposed Project would generate groundborne vibration at close proximity to existing structures. The Transportation and Construction Vibration Guidance Manual (Caltrans, 2013) uses peak particle velocity (PPV) to quantify vibration amplitude<sup>2</sup>. The level of potential impact resulting from project construction is generally contingent on the structural composition of the potentially affected buildings. To assess a project’s vibration impacts, Caltrans has prepared a publication regarding vibration impact assessments. There are no applicable local standards for structural damage from vibration. However, for determination of whether or not vibration impacts would be considered significant, Caltrans guidelines for vibration damage potential (summarized in **Table 3.12-7** below) are considered in this analysis.

**Table 3.12-7: Caltrans Guidelines for Vibration Damage Potential**

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous / Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2	0.5

Source: Caltrans 2013.

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls.

Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Construction activities under the Proposed Project would employ the use of equipment similar to those identified in **Table 3.12-8** and would likely be situated greater than 25 feet from existing structures. Proposed Project construction could generate vibration levels up to 0.210 PPV at 25 feet, which could exceed thresholds established for structural damage of fragile buildings. Because the precise locations of the facilities have not yet been determined and thus the type of existing structures that could be affected are not known, it is possible that the Proposed Project would result in significant impacts.

<sup>2</sup> PPV is the maximum instantaneous positive or negative peak of the vibration signal, measured as a distance per time (such as millimeters or inches per second). The PPV measurement has been used historically to evaluate shock-wave type vibrations from actions like blasting, pile driving, and mining activities, and their relationship to building damage.

Measures to reduce noise levels also reduce vibration; therefore, **Mitigation Measure MM 3.12-1a** (above) would reduce construction-related vibration to a less than significant level because noise controls and shielding have an associated effect on vibration. **Mitigation Measure MM 3.12-2** which requires project-level geotechnical investigations and mitigation would further ensure potential impacts during construction to less than significant. With the incorporation of mitigation, construction of the Proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

**Table 3.12-8: Construction Equipment Vibration Levels**

Equipment PPV at 25 feet (in/sec)	Equipment PPV at 25 feet (in/sec)
Vibratory roller	0.210
Large bulldozer	0.089
Caisson Drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Federal Transit Administration 1995 as referenced in Caltrans 2013.

Operation of the pump stations and other mechanical devices at treatment plants could generate vibration, and could have an effect on adjacent sensitive receptors or nearby structures depending on the size of the facilities (e.g., pumps), and their final locations. Thus, impacts would be considered potentially significant and **Mitigation Measure MM 3.12-1c** which requires noise minimization during operation would reduce potential impacts to less than significant.

Significance Determination before Mitigation

Potentially significant

Mitigation Measures

**Mitigation Measures MM 3.12-1a** and **MM 3.12-1c** (above) and **MM 3.12-2** shall apply to all Proposed Project components and shall be implemented by the lead agency for each individual project component, as applicable.

**MM 3.12-2 Geotechnical Evaluation and Mitigation.** Once the locations of the proposed facilities have been identified, Coalition members shall determine the type of structures that would be located in the vicinity of the proposed facilities. The lead agency for each project component shall retain a licensed geotechnical engineer(s) to prepare design-level geotechnical evaluations to include verification that performance standards for vibration impacts, as established by the Caltrans vibration damage potential guidelines, can be attained. Coalition members shall include trench-excavation and trench-wall support systems designed to protect against settlement and vibration impacts, where structures and other utilities are in close proximity to the proposed excavation, in accordance with Occupational Safety and Health Administration (OSHA) standards or as designed by a registered engineer. All recommendations to attain these performance standards shall be incorporated into the project design.

Significance Determination after Mitigation

Less than significant.



**Impact 3.12-3 Potential for a substantial temporary/periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project.**

The Proposed Project would include the construction and operation of proposed facilities, including pump stations and treatment facilities that generate noise. Construction activities would intermittently and temporarily generate noise levels above existing ambient levels in the project vicinity. Construction-related noise levels along the pipeline alignments would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. The effect of construction noise would depend upon how much noise would be generated by the equipment, the distance between the construction activities and the nearest noise-sensitive uses, and the existing noise levels at those sensitive uses. **Table 3.12-6** above shows the typical noise levels generated by different types of construction equipment. As shown, the noisiest non-impact construction equipment would generate up to 89 dBA at 50 feet, assuming no noise mitigation features. An increase of 10 dBA would be considered substantial, as it would be perceived as a doubling of noise level. Temporary and periodic noise would likely occur across all land use types, including residential, commercial, and industrial uses, and may occur in other non-urban uses depending on the locations of proposed facilities. As the exact locations of the proposed facilities have not been defined, the distance of the nearest sensitive receptors from construction noise sources are not currently known. Stationary noise sources are expected to attenuate at 6 dBA per doubling of distance. Noise generated along the pipeline corridor would continuously move from one location to the next as construction proceeds, such that the duration of impact to any one sensitive receptor would be limited. Noise generated from construction at new treatment facilities, pump stations, or storage tanks would be fixed at one location. Because the exact noise levels at nearby sensitive receptors cannot be calculated at this time, it is assumed that potential impacts from construction would be potentially significant. However, with the implementation of mitigation measures specified above (**Mitigation Measures MM 3.12-1a** and **MM 3.12-1b**) noise levels would be reduced substantially. Because high noise levels typically occur only sporadically during construction, while specific pieces of equipment are being used (rather than continuously) and due to the limited duration of the impact, the residual impacts associated with facility construction would be considered less than significant.

During construction, truck traffic would generate noise levels along haul routes. The number of truck trips that would be generated in each community has not yet been established, and would be determined during design when the locations of the proposed facilities are decided. Truck traffic would occur in and around construction sites, and along designated haul routes. Sensitive receptors located adjacent to project construction areas and along haul routes would be subject to truck noise during project construction. Truck volumes would vary with each component and with each phase of development. Truck noise depends upon vehicle speed, load, terrain, and other factors. The effects of construction-related truck traffic would depend on the level of background noise already occurring at a particular receptor site, and the existing ambient noise levels. In quiet environments, truck noise would be more noticeable than where the existing ambient noise level is high. Impacts associated with construction truck traffic are considered potentially significant. **Mitigation Measure MM 3.12-1a** would reduce potential impacts to less than significant because it requires use of best available noise control techniques on all construction trucks.

Operation of certain above-ground facilities (e.g., pump stations and treatment facilities) would generate noise that may also exceed ambient noise levels. The precise locations of these facilities have not yet been determined, and as such noise levels at the nearest sensitive receptors cannot be calculated at this time. Noise generated from these facilities would be expected to result in a permanent increase in noise levels above ambient noise levels, and could exceed noise standards of the affected jurisdiction for specified land uses as specified in **Impact 3.12-1** above. Without noise attenuation, impacts would be considered potentially significant. However, with implementation of operational noise controls specified in

**Mitigation Measure MM 3.12-1c** above, potential impacts associated with an increase in permanent noise would be reduced to less than significant levels.

**Significance Determination before Mitigation**

Potentially significant

**Mitigation Measures**

**Mitigation Measures MM 3.12-1a** through **MM 3.12-1c** above shall apply to all project components and shall be implemented by the lead agency for each individual project component, as applicable.

**Significance Determination after Mitigation**

Less than significant.

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**Table 3.12-9: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Oceanside</b></p> <p>The Noise Element of the City of Oceanside General Plan identifies a goal, objective, and policies addressing noise. The relevant goal, objective, and policies, including the following (City of Oceanside 2002):</p> <ul style="list-style-type: none"> <li>• Goal: To minimize the effects of excessive noise in the City of Oceanside.</li> <li>• Objective: To protect the residents and visitors to Oceanside from noise pollution. To improve the quality of Oceanside's environment.</li> <li>• Policies: <ul style="list-style-type: none"> <li>○ Noise levels shall not be so loud as to cause danger to public health in all zones except manufacturing zones where noise levels may be greater.</li> <li>○ Noise shall be controlled at the source where possible.</li> <li>○ Noise shall be intercepted by barriers or dissipated by space where the source cannot be controlled.</li> <li>○ Noise shall be reduced from structures by the use of soundproofing where other controls fail or are impractical.</li> <li>○ Noise levels shall be considered in the approval of any projects or activities, public or private, which requires a permit or other approval from the City.</li> <li>○ Noise levels shall be considered in any changes to the Land Use and Circulation Elements of the General Plan.</li> </ul> </li> <li>• Noise levels of City vehicles, construction equipment, and garbage trucks shall be reduced to acceptable levels.</li> </ul> <p>The General Plan Noise Element has also established desirable maximum noise levels for various types of noise. Relevant noise levels are as follows:</p> <p><u>Motor Vehicles</u></p> <ol style="list-style-type: none"> <li>1. Off Highway Motor Vehicles: <ul style="list-style-type: none"> <li>• Use restrictions for off-road vehicles should be such that vehicles will not emit noise in excess of: <ul style="list-style-type: none"> <li>82 dBA – for a vehicle 6,000 lb or more in weight</li> <li>74 dBA – for any other on-highway vehicle used off-road</li> <li>70 dBA – for any off-road vehicles less than 6,000 lb in weight</li> </ul> </li> </ul> </li> </ol> <p><u>Construction Noise</u></p> <ol style="list-style-type: none"> <li>1. Off Highway Motor Vehicles: It should be unlawful for any person within any residential zone or 500' therefrom to operate any pile driver, power shovel, pneumatic, power hoist, or other construction equipment between 8 PM and 7 AM generating an ambient noise level of 50 dBA at any property line, unless an emergency exist.</li> <li>2. It should be unlawful for any person to operate any construction equipment at a level in excess of 86 dBA at 100' from the source.</li> <li>3. It should be unlawful for any person to engage in construction activities between 6 PM and 7 AM when such activities exceed the ambient noise level by 5 dBA. A special permit may be granted by the Director of Public Works if extenuating circumstances exist.</li> </ol>	<p>G, O</p>	<p>El Corazon Site<sup>1</sup> San Luis Rey WWTP and AWT</p>

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

**Program Environmental Impact Report**

**Public Draft**

<p><u>Disturbers of Peace</u> It should be unlawful for any person to make or continue any loud, unnecessary noise that causes annoyance to any reasonable person of normal sensitiveness. Standards should include but not be limited to noise level intensity, noises that are usual or unusual/natural or unnatural, the level and intensity of background noise, the proximity of noise to residential sleeping facilities, the nature and zoning of areas within which noise emanates, the density of inhabitation, time of day or night, duration of noise, whether noise is recurrent, intermittent, or constant, and whether noise is produced by commercial or noncommercial activity.</p>		
<p><b>City of Carlsbad</b> The Noise Element of the City of Carlsbad General Plan identifies a goal, objective, and implementing policies and action programs that addressing noise. The relevant goal, objective, and implementing policies are as follows (City of Carlsbad, No Date):</p> <ul style="list-style-type: none"> <li>• Goal: A City which is free from excessive, objectionable or harmful noise</li> <li>• Objectives             <ul style="list-style-type: none"> <li>○ B.2: To control harmful or undesirable noise.</li> <li>○ B.3: To protect the hearing and well-being of Carlsbad residents and visitors.</li> <li>○ Implementing Policies and Action Programs</li> <li>○ C.5: Attempt to control noise primarily at its source. Where this is not feasible, controls along the transmission path of the noise should be required.</li> </ul> </li> </ul>	A	<p>Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT</p>
<p><b>City of Encinitas</b> The Noise Element of the City of Encinitas General Plan identifies goals and policies that address noise. The following goal and policies are relevant to the Proposed Project (City of Encinitas 1989):</p> <ul style="list-style-type: none"> <li>• Goal 1: Provide an acceptable noise environment for existing and future residents of the City of Encinitas.</li> <li>• Policy 1.1: Review actions or projects that may have noise generation potential to determine what impact they may have on existing land uses...the impact of non-transportation projects must be generally evaluated on a case-by-case basis. The following guidelines will aid in evaluating the impacts of commercial and industrial projects.             <ul style="list-style-type: none"> <li>a) Performance Standards Adjacent to Residential Areas. New commercial construction adjacent to residential areas should not increase noise levels in a residential area by more than 3 dB (<math>L_{dn}</math>) or create noise impacts which would increase noise levels to more than an <math>L_{dn}</math> of 60 dB at the boundary of the nearest residential area, whichever is more restrictive.</li> <li>b) Performance Standards Adjacent to Commercial and Industrial Areas. New commercial projects should not increase noise levels in a commercial area by more than 5 dB (<math>L_{dn}</math>) or increase noise to an <math>L_{dn}</math> in excess of 70 dB (office buildings, business and professional) or an <math>L_{dn}</math> of 75 dB (industrial) at the property line of an adjacent commercial/industrial use, whichever is more restrictive.</li> </ul> <p>These criteria may be waived, if, as determined by a noise analysis, there are mitigating circumstances (such as higher existing noise levels) or where backgrounds are unusually low and the characteristics of a new noise source are not adequately described by using the <math>L_{dn}</math> noise descriptor, additional acoustical analysis is encouraged and the conclusions of such analysis will be considered by the City.</p> </li> <li>• Policy 1.2: An <math>L_{dn}</math> of 60 dB is the maximum acceptable outdoor noise level in residential outdoor use areas. The City recognizes that there are residential areas in which existing noise levels exceed an acceptable level.</li> </ul>	E, H	<p>San Elijo WRF</p>

<ul style="list-style-type: none"> <li>• Policy 1.4: The City will limit truck traffic in residential and commercial areas to designated truck routes. Limit construction, delivery, and through traffic to designated routes. Distribute maps of approved truck routes to City traffic officers.</li> <li>• Goal 3: Ensure that residents are protected from harmful and irritating noise sources to the greatest extent possible.</li> <li>• Goal 4: Provide for measures to reduce noise impacts from stationary noise sources.</li> <li>• Policy 2.1: Ensure inclusion of noise mitigation measures in the design and operation of new and existing development.</li> </ul> <p>The Noise Element defines acceptable noise levels for different types of land uses. Noise levels between 50 to 60 L<sub>dn</sub> or CNEL are acceptable for single- and multiple-family residential uses, schools, libraries, churches, hospitals, and nursing homes. Noise levels up to 65 L<sub>dn</sub> or CNEL are acceptable for transient lodging. Noise levels up to 70 L<sub>dn</sub> or CNEL are acceptable for playgrounds, parks, golf courses and industrial uses. Noise levels up to 67.5 L<sub>dn</sub> or CNEL are acceptable for commercial uses</p>		
<p><b>City of Escondido</b></p>		
<p>Chapter VI, Protection Element, of the City of Escondido General Plan defines acceptable noise levels for different types of land uses. Noise levels between 50 to 60 L<sub>dn</sub> or CNEL are acceptable for single-family residential uses. Noise levels up to 65 dB L<sub>dn</sub> or CNEL are acceptable for multiple-family residential mixed uses, transient lodging, schools, libraries, churches, hospitals, and nursing homes. Noise levels up to 70 L<sub>dn</sub> or CNEL are acceptable for commercial uses, playgrounds, and parks. Noise levels up to 75 L<sub>dn</sub> or CNEL are acceptable for golf courses, riding stables, water recreation, cemeteries, and industrial uses (City of Escondido 2012a).</p> <p>The General Plan identifies a goal and policies to address noise, as follows:</p> <ul style="list-style-type: none"> <li>• GOAL 5: Protection of the community from excessive noise exposure.</li> <li>• Noise Policy 5.1: Require development to meet acceptable exterior noise level standards as established in Figure VI-23, and use the future noise contour map (FigureVI-17) as a guide for evaluating the compatibility of new noise sensitive uses with projected noise levels.</li> <li>• Noise Policy 5.2: Apply a CNEL of 60 dB or less for single family and 65 dB or less for multi-family as goals where outdoor use is a major consideration (back yards and single family housing developments, and recreation areas in multifamily housing developments) as discussed in Figure VI-13, and recognize that such levels may not necessarily be achievable in all residential areas.</li> <li>• Noise Policy 5.5: Require construction projects and new development to ensure acceptable vibration levels at nearby noise-sensitive uses based on Federal Transit Administrator criteria.</li> <li>• Noise Policy 5.6” Require the preparation of noise studies, as deemed necessary by the Planning Department, to analyze potential noise impacts associated with new development which could significantly alter existing noise levels in accordance with provisions outlined in Figure VI-14.</li> <li>• Noise Policy 5.7: Encourage use of site and building design, noise barriers, and construction methods as outlined in Figure VI-15 to minimize impacts on and from new development.</li> <li>• Noise Policy 5.10: Require development projects that are subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible.</li> <li>• Noise Policy 5.12: Limit “through truck traffic” to designated routes to minimize noise impacts to residential neighborhoods and</li> </ul>	<p>C, D, I, M</p>	<p>HAARF Escondido AWTF Harmony Grove WRF</p>

<sup>3</sup> Figure references refer to figures that are included in the City of Escondido General Plan, which are not included in this document.

**Program Environmental Impact Report**

**Public Draft**

<p>other noise-sensitive uses (see Mobility and Infrastructure Element).</p>		
<p><b>City of Vista</b></p>		
<p>The Noise Element of the City of Vista General Plan identifies goals and policies to protect residents from unwarranted and offensive noise and its intrusion into residential neighborhoods. Relevant goals and policies are excerpted below (City of Vista, 2011a):</p> <ul style="list-style-type: none"> <li>• NE Goal 1: Protect people who live, work, and recreate in the City from excessive transportation noise with an emphasis on protecting residential neighborhoods and other noise-sensitive receptors (i.e., picnic areas, recreation areas, playgrounds, active sports areas, golf courses, parks, residences, motels, hotels, schools, churches, libraries, and hospitals).</li> <li>• NE Goal 2: Protect people who live, work, and recreate in the City from unwarranted and excessive levels of noise, with special emphasis on protecting residential neighborhoods from intrusive noise.</li> <li>• NE Policy 2.3: Require new development to minimize noise impacts upon adjacent uses through site and building design, setbacks, berms, landscaping, and/or other noise abatement techniques.</li> </ul>	<p>O</p>	<p><i>None</i></p>
<p><b>City of San Marcos</b></p>		
<p>The Noise Element of the City of San Marcos General Plan defines acceptable noise levels for different types of land uses. Noise levels between 50 to 60 L<sub>dn</sub> or CNEL are acceptable for single-family residential uses. Noise levels up to 65 dB L<sub>dn</sub> or CNEL are acceptable for multiple-family residential mixed uses, transient lodging, schools, libraries, churches, hospitals, residential care facilities, child care facilities, passive recreational parks, nature preserves, contemplative spaces, cemeteries, active parks, golf courses, athletic fields, outdoor spectator sports, water recreation, and commercial and industrial uses (City of San Marcos 2008).</p> <p>Relevant General Plan goals and policies relating to noise are as follows (City of San Marcos 2008):</p> <ul style="list-style-type: none"> <li>• Goal N-1: Promote a pattern of land uses compatible with current and future noise levels.</li> <li>• Policy N-1.1: Address the potential for excessive noise levels when making land use planning decisions in accordance with Table 7-3 Land Use Compatibility Noise Standards.</li> <li>• Policy N-1.2: Ensure that acceptable noise levels are maintained near noise-sensitive uses.</li> <li>• Policy N-1.4: Require new development projects to provide barriers to reduce noise levels, or provide sufficient spatial buffers to separate excessive noise generating land uses and noise-sensitive land uses.</li> <li>• Policy N-1.5: Require an acoustical study for proposed developments in areas where the existing and projected noise level exceeds or would exceed the Normally Acceptable levels identified in Table 7-3.</li> <li>• Goal N-3: Control non-transportation-related noise from commercial, industrial, construction, and other sources on noise sensitive land uses.</li> <li>• Policy N-3.1: When adjacent to noise sensitive receptors, require developers and contractors to employ noise reduction techniques during construction and maintenance operations.</li> <li>• Policy N-3.2: Limit the hours of construction and maintenance operations located adjacent to noise-sensitive land uses.</li> <li>• Policy N-3.5: Require industrial land uses to locate vehicular traffic and operations away from adjacent residential areas as much as possible</li> </ul>	<p>I, M, N</p>	<p><i>None</i></p>

City of Solana Beach		
<p>The Noise Element of the City Solana Beach General Plan (1988) references the State of California noise compatibility guidelines for general land use planning. The level of acceptability of the noise environment is dependent upon the activity associated with the particular land use. According to the land use compatibility guidelines for a community noise environment, an exterior noise environment up to 60 dBA CNEL is normally acceptable for single-family and up to 65 dBA CNEL is acceptable for multi-family residential, without special noise insulation requirements. A noise environment up to 70 CNEL is considered “normally acceptable” for schools, libraries, churches, hospitals, nursing homes, playgrounds, parks, and commercial uses. A noise environment up to 75 CNEL is considered “normally acceptable” for, golf courses, riding stables, water recreation, cemeteries, and industrial uses.</p> <p>The relevant goal, objective, and issue/actions of the General Plan addressing noise are as follows:</p> <ul style="list-style-type: none"> <li>• GOAL 3.1: To protect public health and welfare by eliminating existing noise problems and by preventing significant degradation of the future acoustic environment.</li> <li>• Objective 3.0: Establish measures to control impacts from non-transportation noise sources.</li> <li>• Issue 2 – Noise and Land Use Planning Integration. Community noise considerations are to be incorporated into land use planning. These measures are intended to prevent future noise and land-use incompatibilities.</li> <li>• Action 6: Establish standards that specify acceptable limits of noise for various land uses throughout the City. These criteria are designed to fully integrate noise considerations into land use planning to prevent new noise/land use conflicts. Exhibit 144 shows criteria used to assess the compatibility of proposed land uses with the noise environment. These criteria are the bases for the development of specific Noise Standards. These standards, presented in Exhibit 15, define the City policies related to land uses and acceptable noise levels. These tables are the primary tools which allow the City to ensure noise integrated planning for compatibility between land uses and outdoor noise.</li> <li>• Issue 3 – Community Noise Control for Non-Transportation Noise Sources. The focus of control of noise from non-transportation sources is the Community Noise Ordinance. The ordinance can be used to protect people from noise generated on adjacent properties.</li> <li>• Action 9: Amend and adopt a new comprehensive community noise ordinance to ensure that City residents are not exposed to excessive noise levels from existing and new stationary noise sources. The purpose of the ordinance is to protect people from non-transportation related noise sources such as music, machinery and pumps, air conditioners and truck traffic on private property. The Noise Ordinance does not apply to motor vehicle noise on public streets, but it does apply to vehicles on private property. The Noise Ordinance is designed to protect quiet residential areas from stationary noise sources. The noise levels encouraged by the ordinance are typical of a quiet residential area.</li> <li>• Action 10: Enforce the new community Noise Ordinance. The most effective method to control community noise impacts from non-transportation noise sources is through application of the community noise ordinance.</li> <li>• Action 14: Require construction activity to comply with limits established in the City Noise Ordinance.</li> </ul>	H, K	<i>None</i>

<sup>4</sup> Exhibits from the Solana Beach General Plan are not included in this document.

County of San Diego		
<p>The Noise Element of the County of San Diego General Plan (2011) references the State of California noise compatibility guidelines for general land use planning. The level of acceptability of the noise environment is dependent upon the activity associated with the particular land use. As described by the County in its land use compatibility guidelines for a community noise environment, an exterior noise environment up to 60 dBA CNEL is normally acceptable for single-family residential. A noise environment of up to 65 dBA CNEL is acceptable for multi-family residential, transient lodging, schools, churches, hospitals, nursing homes, child care facilities, passive recreation parks, nature preserves, contemplative spaces, and cemeteries. A noise environment up to 70 CNEL is considered “normally acceptable” for active parks, golf courses, athletic fields, outdoor spectator sports, water recreation, commercial uses, and industrial uses. (County of San Diego 2011). The County furthers set those guidelines as noise standards.</p> <p>The relevant goals and policies of the Noise Element related to noise are as follows (County of San Diego 2011):</p> <ul style="list-style-type: none"> <li>• GOAL N-1: Land Use Compatibility. A noise environment throughout the unincorporated County that is compatible with the land uses.</li> <li>• Policy N-1.1 Noise Compatibility Guidelines. Use the Noise Compatibility Guidelines (Table N-1)<sup>5</sup> and the Noise Standards (Table N-2) as a guide in determining the acceptability of exterior and interior noise for proposed land uses.</li> <li>• Policy N-1.4: Adjacent Jurisdiction Noise Standards. Incorporate the noise standards of an adjacent jurisdiction into the evaluation of a Proposed Project when it has the potential to impact the noise environment of that jurisdiction.</li> <li>• GOAL N-3: Groundborne Vibration. An environment that minimizes exposure of sensitive land uses to the harmful effects of excessive groundborne vibration.</li> <li>• Policy N-3.1: Groundborne Vibration. Use the Federal Transit Administration and Federal Railroad Administration guidelines, where appropriate, to limit the extent of exposure that sensitive uses may have to groundborne vibration from trains, construction equipment, and other sources.</li> </ul>	<p>H, J, K, O</p>	<p><i>None</i></p>

<sup>5</sup> Tables from the San Diego General Plan are not included in this document.



### 3.13 Population and Housing

Cities within the Study Area were home to over 685,000 people in 2012. The Proposed Project would provide a supplemental water supply to the Study Area. Because it does not construct or demolish existing housing, the Proposed Project would not displace people. The Proposed Project is designed to meet existing and projected demands, and would therefore not induce population growth, despite the increase in potable water availability resulting from the increased use of non-potable water and the potable reuse components of the Proposed Project.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to population and housing.

#### 3.13.1 Physical Environmental Setting – Population and Housing

The following sections describe the existing physical setting of the Study Area as related to population and housing.

##### Population

According to the 2010 U.S. Census, San Diego County is home to nearly 3.1 million people (U.S. Census 2010). The San Diego Association of Governments (SANDAG), comprising the County of San Diego and its 18 municipalities, projects the County’s population to increase to approximately 4.4 million people by 2050 (SANDAG 2011). This represents an increase of approximately 42 percent (1.3 million people) county-wide. The Study Area is a little larger than the area encompassed by the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, though much of the unincorporated areas are less densely populated than the incorporated cities. The total population of the seven cities within the Study Area was 666,325 at the time of the 2010 U.S. Census (American FactFinder 2010). From the 2010 Census to 2012, the population for these cities is estimated to have grown to 685,133, an increase of 2.8 percent in two years. SANDAG’s 2050 Regional Growth Forecast projects the total population of these cities to increase to 867,176 by 2050, or an increase of 31.5 percent from 2010 conditions (SANDAG 2010). **Table 3.13-1** shows the population of the seven cities within the Study Area as of the 2010 Census, as well as estimated and projected future populations.

**Table 3.13-1 –Populations of Cities within the Study Area**

City	2010 Population <sup>1</sup>	2012 Estimated Population <sup>1</sup>	Projected 2050 Population <sup>2</sup>
Carlsbad	105,328	109,318	129,381
Encinitas	59,518	60,994	76,659
Escondido	143,911	147,575	177,586
Oceanside	167,086	171,293	217,364
San Marcos	83,781	86,752	105,708
Solana Beach	12,867	13,154	15,942
Vista	93,834	96,047	144,536
<b>Total Study Area</b>	<b>666,325</b>	<b>685,133</b>	<b>867,176</b>

Source: (1) American FactFinder 2010; (2) SANDAG 2010

**Table 3.13-2** shows how many people are served by each of the Coalition member agencies. Some Coalition members have overlapping jurisdictions, and some individuals may receive services from more than one Coalition member. Further, the City of Encinitas is not a Coalition member, but exists within the Study Area. Some, but not all areas of the City of Encinitas, are served by Coalition members including

Leucadia WWD, Olivenhain MWD, or San Elijo JPA. Therefore, the total number of people within the Study Area is not equal to the total number of people served by Coalition members.

**Table 3.13-2 –Populations Served by Water Supply Coalition Members**

<b>Coalition Member</b>	<b>Population Served (2010)</b>	<b>Population Served (2015)</b>	<b>Population Served (2030)</b>
Carlsbad MWD	84,838	89,470	99,759
City of Escondido	132,255	133,672	151,335
City of Oceanside	183,095	189,275	209,602
Olivenhain MWD	66,872	66,993	71,101
Rincon del Diablo MWD	29,955	29,947	35,388
Santa Fe ID	19,386	19,839	21,165
Vista ID	125,962	127,372	146,084
Leucadia Wastewater District	59,298	Approx. 63,500	66,962
San Elijo JPA	Approx. 32,000	-	-
<b>Total Study Area</b>	<b>733,661</b>	<b>720,068</b>	<b>801,396</b>

Source: Carlsbad MWD 2011; City of Escondido 2011; City of Oceanside 2011; Olivenhain MWD 2011; Rincon del Diablo MWD 2011; Santa Fe ID 2011; Vista ID 2011; Leucadia 2013; San Elijo JPA, N.D.A.

### Housing

The Regional Housing Needs Assessment (RHNA), prepared by SANDAG for the County of San Diego and its 18 incorporated cities (SANDAG 2011), identified housing issues and needs for various income levels and across jurisdictions. The RHNA found that the County as a whole has a high capacity for high density housing growth (approximately 52 percent of total 2050 growth capacity), and a high need (41.5 percent) for housing for the above-moderate income category. The very low income category was found to have need for 22.5 percent of the projected housing needs from 2010-2020. For the incorporated cities within the Study Area, the RHNA projected a need for 23,634 additional units, of which 9,787 units were allocated to very low and low income categories (SANDAG 2011).

For much of San Diego County, affordability of housing is a significant concern. In general, housing is costly in the region. The general plans for the incorporated cities within the Study Area describe the housing situation and set policies and programs designed to address identified housing needs.

### **3.13.2 Regulatory Framework – Population and Housing**

#### Federal

There are no federal regulations associated with population and housing that are relevant to the Proposed Project.

#### State

There are no State regulations associated with population and housing that are relevant to the Proposed Project.

#### Local

##### **Regional Housing Needs Assessment (RHNA)**

The State requires councils of governments to develop an RHNA for inclusion in housing elements of general plans. The final RHNA Plan, prepared by SANDAG for the County of San Diego and its 18 incorporated cities (SANDAG 2011), identified housing issues and needs for various income levels and across jurisdictions, in compliance with the housing element law (Government Code Section 65584(d)).

The goals of the RHNA Plan include increasing housing supply and mix, and affordability; promoting infill and socioeconomic equity; promoting an improved relationship between jobs and housing; and allocating lower proportion of need to income categories that have a disproportionately high share of existing housing. The final RHNA Plan serves the 2013 through 2020 planning cycle for housing elements (see discussion above).

### **General Plans**

General Plans include a Housing Element that address population planning. The Study Area falls within the jurisdiction of the General Plans of the County of San Diego and the cities of Escondido, Encinitas, Oceanside, Carlsbad, Vista, San Marcos, and Solana Beach. The Proposed Project does not include housing, nor would it affect existing housing and planned development. Therefore the housing and population goals within these General Plans are not relevant to the Proposed Project.

### **3.13.3 Impact Analysis – Population and Housing**

#### **Methodology for Analysis**

The potential impacts on population and housing from the Regional Recycled Water Project were evaluated using the thresholds of significance included in the CEQA Guidelines.

#### **Thresholds of Significance**

In accordance with the CEQA Guidelines, an impact to population and housing would be significant if the Proposed Project would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of housing units, necessitating the construction of replacement housing elsewhere;
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere;

#### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Displace substantial numbers of housing units, necessitating the construction of replacement housing elsewhere:* The Proposed Project would not involve demolition of existing housing units, nor would it change land use or zoning such that housing cannot be accommodated where planned. Therefore, there would be no impact from the Proposed Project on displacement of housing units.
- *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere:* The Proposed Project would not impact housing availability, nor would it require importation of significant numbers of workers that would require additional housing. There would be no impact from the project on displacement of people necessitating construction of replacement housing elsewhere.

#### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to population and housing that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

### **Impact 3.13-1 Potential to induce substantial population growth.**

As described in *Chapter 2 Project Description*, the Proposed Project would increase total deliveries in the short-term by 18,808 AFY, including both recycled water and potable water (via potable reuse) supplies. The Proposed Project was designed to provide water to serve existing and planned future demand, as established in the jurisdictions' and special districts' planning documents, and would not construct additional housing or new development projects. Therefore, the Proposed Project would not directly cause substantial population growth. The increase in recycled water use from the Proposed Project would reduce potable water demand and the potable reuse components would offset imported water use in the region. An increased availability of potable water achieved through reduced demand could indirectly lead to population growth by increasing the number of people whose potable demands could be met by additional available supply.

The County of San Diego's imported water wholesaler, the San Diego County Water Authority (SDCWA), sells water to local agencies to meet demand that exceeds local supplies. SDCWA's Strategic Plan calls for a diversification of water supplies to increase water supply reliability and security. There are four recommended strategies for supply diversification, which include conservation and non-potable reuse. Given the regional goal to increase supply diversification in part through conservation and in part through reuse, two objectives that would be met by the Proposed Project, it is unlikely that the excess available potable supply would be used to support additional, unplanned, growth. Further, the Proposed Project is to be primarily constructed within built-out areas.

As stated in the Project Description and supported by the Facilities Plan and Feasibility Study for the Proposed Project, the proposed facilities associated with the Proposed Project would accommodate planned growth and ultimately reduce demands for imported water within the Study Area. Consequently, the Proposed Project is intended to match and adequately serve planned and approved development (growth) as determined by applicable land use jurisdictions in the Study Area. While the Proposed Project accommodates planned growth within the Study Area it would not induce growth and would not result in significant growth inducing impacts. No mitigation is necessary.

#### **Significance Determination before Mitigation**

Less than significant.

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## 3.14 Public Services

This section presents the physical and regulatory setting for public services within and surrounding the Proposed Project. The impact analysis evaluates the potential adverse impacts of the Proposed Project related to public services that could result from the implementation of the Proposed Project. The analysis is based on a review of local plans. Based on this analysis, the Proposed Project would not result in any significant impacts related to public services.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to public services.

### 3.14.1 Physical Environmental Setting – Public Services

The following sections describe the existing public services of the Study Area.

#### Police Services

There are a number of police departments serving the Study Area. The cities of Oceanside, Carlsbad, and Escondido have police departments that serve their respective jurisdictional areas, while the San Diego County Sheriff's Department provides contract police services to the cities of Encinitas, Vista, San Marcos, and Solana Beach, in addition to providing services to unincorporated areas of the County (San Diego County 2013a). The California Highway Patrol provides traffic control services in the unincorporated portions of San Diego County (San Diego County 2013a). Agencies responsible for police services in the Study Area are listed in **Table 3.14-1**.

#### Fire Protection Services

Fire protection services are provided throughout the Study Area by a number of Fire Departments. City fire departments are responsible for serving their respective jurisdictional areas, while CalFire and the San Diego County Fire Authority serve unincorporated areas of San Diego County (San Diego County 2014a). Agencies responsible for fire protection services in the Study Area are listed in **Table 3.14-1**.

#### Schools

Each city within the Study Area has at least one school district responsible for providing public education. The County has a number of school districts, including those specific to elementary and high school public education. In some cases, school districts serve more than one city. For instance, the Encinitas Union School District and the San Marcos Unified School District serve areas within the City of Carlsbad, in addition to serving their respective cities. School districts responsible for public education in the Study Area are listed in **Table 3.14-1**. Individual public schools within Groups are identified in *Section 3.8 Hazards and Hazardous Materials* (see **Table 3.8-4**).

#### Other Emergency Services

Emergency medical services are provided within the Study Area by a number of different entities. In many cities, the city's Fire Department provides emergency medical services. In some cities, such as Encinitas, other agencies, in addition to the local Fire Department, are responsible for emergency medical services. The San Diego County Office of Emergency Services (OES) coordinates the overall county response to disasters by altering and notifying appropriate agencies, coordinating efforts of the responding agencies, and ensuring availability of resources (San Diego County 2014b). Agencies responsible for other emergency services in the Study Area are listed in **Table 3.14-1**.

**Table 3.14-1 – Providers of Public Services in the Study Area**

Jurisdiction	Police	Fire Protection	Schools	Other Emergency Services
<b>County of San Diego</b>	San Diego County Sheriff's Department	CAL FIRE; San Diego County Fire Authority	Alpine Union School District; Cajon Valley Union School District; Cardiff School District; Chula Vista Elementary District; Dehesa School District; Del Mar Union School District; Fallbrook Union Elementary District; Jamul-Dulzura Union School District; Lakeside Union School District; La Mesa-Spring Valley School District; Lemon Grove School District; National School District; Rancho Santa De School District; Santee School District; San Ysidro School District; South Bay Union School District; Spencer Valley School District; Vallecitos School District Fallbrook Union High School District; Grossmont Union High School District; Julian Union High School District; Sweetwater Union High School District; Bonsall Unified School District; Borrego Springs Unified School District; Coronado Unified School District; Mountain Empire Unified School District; Poway Unified School District; Ramon Unified School District; San Diego Unified School District; Valley Center – Pauma Unified District; Warner Unified School District	San Diego County Office of Emergency Services
<b>City of Oceanside</b>	Oceanside Police Department	Oceanside Fire Department	Oceanside Unified School District	Oceanside Fire Department; North County Dispatch Joint Powers Authority
<b>City of Carlsbad</b>	Carlsbad Police Department	Carlsbad Fire Department	Carlsbad Unified School District; Encinitas Union School District; San Dieguito Union High School District; San Marcos Unified School District	Carlsbad Fire Department; North County Dispatch Joint Powers Authority
<b>City of Encinitas</b>	San Diego County Sheriff's Department	Encinitas Fire Department	Encinitas Union School District	Encinitas Fire Department; County Service Area 17; San Diego Medical Services Enterprise; North County Dispatch Joint Powers Authority
<b>City of Escondido</b>	Escondido Police Department	Escondido Fire Department	Escondido Union School District; Escondido Union High School District; San Pasqual Union School District	Escondido Fire Department

**Program Environmental Impact Report**

**Public Draft**

<b>Jurisdiction</b>	<b>Police</b>	<b>Fire Protection</b>	<b>Schools</b>	<b>Other Emergency Services</b>
<b>City of Vista</b>	San Diego County Sheriff's Department	Vista Fire Department	Vista Unified School District	North County Dispatch Joint Powers Authority
<b>City of San Marcos</b>	San Diego County Sheriff's Department	San Marcos Fire Department	San Marcos Unified School District	North County Dispatch Joint Powers Authority
<b>City of Solana Beach</b>	San Diego County Sheriff's Department	Solana Beach Fire Department	Solana Beach School District	North County Dispatch Joint Powers Authority

Sources: San Diego County 2013a, 2013b, 2014a, 2014b; City of Oceanside 2014a, 2014b; Oceanside Unified School District 2014; City of Carlsbad 2014a, 2014b, 2014c; City of Encinitas 2011; Encinitas Union School District 2014; City of Escondido 2014a, 2014b; 2014c; City of Vista 2014; Vista Unified School District 2014; City of San Marcos 2014; San Marcos Unified School District 2014; City of Solana Beach 2014; Solana Beach School District 2014

### 3.14.2 Regulatory Framework – Public Services

#### Federal

##### **Uniform Crime Reporting Program (UCR)**

The Federal Bureau of Investigation currently collects information on over 14,000 law enforcement agencies across the nation through the UCR. The UCR defines law enforcement officers as individuals who ordinarily carry a firearm and a badge, have full arrest powers, and are paid from governmental funds set aside specifically for sworn law enforcement representatives. While the UCR records number of law enforcement officers per 1,000 inhabitants, there are currently neither national requirements nor recommendations for staffing level ratios. The national average of sworn officers per 1,000 inhabitants was 2.4 in 2011, with the highest in cities with fewer than 10,000 residents.

#### State

##### **California Penal Code**

All law enforcement agencies within the State of California are organized and operated in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under State law, all sworn municipal and county officers are State Peace Officers.

##### **California Department of Forestry and Fire Protection: State Responsibility Areas (SRAs) System**

Non-federal areas identified as having a fire hazard are referred to as SRAs because the State has the primary financial responsibility of preventing and suppressing fires. The agency responsible for suppressing fires in SRAs is the California Department of Forestry. Local fire agencies are responsible for suppressing fires in private property within City limits. Legislative mandates passed in 1981 (Senate Bill 81) and 1982 (Senate Bill 1916) that became effective on July 1, 1986, required the CDF to develop and implement a system to rank the fire hazards in California. Areas were rated as moderate, high or very high based primarily on fuel types. Thirteen different fuel types were considered using the 7.5-minute quadrangle maps by the US Geological Survey as base maps. SRAs include all lands regardless of ownership, except for cities and federal lands.

##### **Assembly Bill 337: The Bates Bill (adopted September 29, 1992)**

The Bates Bill was a direct result of the great loss of lives and homes in the Oakland Hills “Tunnel Fire” of 1991. The Bates Bill Process is used to identify Very High Fire Hazard Severity Zones in Local Responsibility Areas. Government Code Section 51178 specifies that the Director of the California Department of Forestry (CDF), in cooperation with local fire authorities, shall identify areas that are Very High Fire Hazard Severity Zones (VHFHSZs) in Local Responsibility areas (LRAs), based on consistent statewide criteria and the expected severity of fire hazard.

Although the State has financial responsibility for SRAs, it is not the State’s responsibility to provide fire protection services to any building or structure located within a wildland area, unless the CDF has entered into a cooperative agreement with a local agency for those purposes pursuant to Public Resources Code Section 4142. Under Assembly Bill 3819, passed in 1994 (AB 3819), “Class A” roofing, minimum clearances of 30 feet around structures, and other fire defense improvements are required in VHFHSZs.

Government Code Section 51178 states that a local agency may, at its discretion, exclude from the requirements of Section 51182 an area identified as a VHFHSZ by the CDF. Conversely, local agencies may include areas not identified as a VHFHSZ by the CDF, following a finding that the requirements of Section 51182 are necessary for effective fire protection.



Public Resources Code Section 4290 requires minimum statewide fire safety standards pertaining to road standards for fire equipment access; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; and fuel breaks and greenbelts.

## **Local**

### **General Plans**

The Study Area falls within the jurisdiction of General Plans from the County of San Diego and the cities of Escondido, Encinitas, Solana Beach, Carlsbad, Oceanside, Vista, and San Marcos. The relevant goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.14-2** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **San Diego County Office of Emergency Services and Emergency Operations Plan**

The San Diego County OES staffs the Operational Area Emergency Operations Center and acts as staff to the Unified Disaster Council. The Unified Disaster Council is a joint powers agreement between all 18 incorporated cities and San Diego County (San Diego County 2014b). In this capacity, OES is a liaison between the incorporated cities, the California Governor's Office of Emergency Services, and the Federal Emergency Management Agency, as well as non-governmental agencies such as the American Red Cross.

The San Diego County Emergency Operations Plan (San Diego County OES 2014) was developed for use by the County and all of the cities within the county to respond to major emergencies and disasters. It describes a comprehensive emergency management system which provides for a planned response to disaster situations associated with natural disasters, technological incidents, terrorism and nuclear-related incidents by describing the roles and responsibilities of all entities during an emergency.

### **3.14.3 Impact Analysis – Public Services**

#### **Methodology for Analysis**

This section evaluates whether construction and operation of the facilities associated with the Proposed Project would result in significant impacts related to public services including fire protection, police protection, schools, and other public facilities. The analysis is based on a review of local plans to determine if the Proposed Project could potentially affect the performance of existing public services or require new public services. Impacts were evaluated using the CEQA Guidelines, and consistent with the guidance provided in the County of San Diego's Guidelines for Determining Significance: Wildland Fire and Fire Protection (County of San Diego 2010).

#### **Thresholds of Significance**

For the purposes of this analysis, an impact to public services would be significant if the Proposed Project would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.

## **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to public services that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

### **Impact 3.14-1 Potential to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.**

The Proposed Project facilities would be located throughout the Study Area. These facilities include pipelines, treatment plant construction and upgrades, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances that are required to deliver recycled water, as well as groundwater wells and other facilities necessary for potable reuse. The Proposed Project would serve existing demands and does not include residential or commercial development that would directly induce population growth and require new or expanded fire protection, police, schools, parks, or other public facilities. In addition, because the Proposed Project would be consistent with applicable General Plans, implementation would not indirectly induce unplanned population growth that would place new demands on local public service providers, as the water provided by the Proposed Project would be provided to existing customers or new customers that are already included in applicable planning documents (see discussion in *Section 3.13 Population and Housing*). Thus, the Proposed Project would not result, directly or indirectly, in substantial adverse impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities. Similarly, the operation and maintenance of the Proposed Project would be consistent with relevant policies of applicable General Plans, and would not substantially increase the need for new staff from the public service entities.

During construction, accidents could occur in the work area. These accidents could temporarily increase demand for emergency services, which would occur on an as-needed and emergency basis. This short-term increase could be accommodated by the emergency service providers in the Study Area.

The Proposed Project may also cause increases in emergency response times due to traffic delays associated with construction. Construction activities may cause temporary road closures or detours which could affect the response times of emergency services including police and fire. Further discussion of this potential impact is included in *Section 3.8 Hazards and Hazardous Materials* and *Section 3.16 Traffic and Transportation*. **Mitigation Measure MM 3.16-1**, which requires a traffic management plan that considers the needs of emergency services, would reduce this potential impact to levels that are considered less than significant.

#### **Significance Determination before Mitigation**

Potentially significant.

#### **Mitigation Measures**

**Mitigation Measure MM 3.16-1** (see *Section 3.16 Traffic and Transportation*) shall apply to all Proposed Project components and shall be implemented by the lead agency for each individual project component.

**Significance Determination after Mitigation**

Less than significant.

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**Table 3.14-2: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
<p>The Community Facilities Element of the City of Oceanside General Plan addresses the current and future need for public services and facilities within the community. The purpose of the Element is to provide overall direction for the provision of adequate public facilities necessary to serve existing and future developed areas within the City (City of Oceanside 2002).</p> <p>The objectives and policies of the Community Facilities Element related to public services are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> To protect the health, safety, and welfare of Oceanside residents and property through the provision of adequate fire protection and emergency medical services to all residents, businesses, and public facilities within the City; to identify and mitigate potential hazards to the community; and to prepare for, respond to, and aid in the recovery from emergencies related to fire, explosion, hazardous materials, rescue, and medical problems as well as natural disasters such as earthquakes, floods, and storms.</li> <li>• <b>Policies:</b> <ul style="list-style-type: none"> <li>○ 3.1 The City of Oceanside shall strive to provide adequate Fire Department facilities through the achievement of the following facilities and services standards:</li> <li>○ A five (5) minute response time from fire stations to all developed areas within the City of Oceanside;</li> <li>○ Personnel staffing at a minimum of four (4) people per company;</li> <li>○ City maintained staffing levels adequate to achieve a locally desirable Insurance Service Office (ISO) rating; and</li> <li>○ A maximum response time for paramedic units of eight (8) minutes in urban areas and fifteen (15) minutes in rural areas.</li> </ul> </li> <li>• <b>Objective:</b> To maintain law and order within the community and to create and sustain a personal sense of safety and security among Oceanside residents, businesses and visitors through provision of adequate law enforcement services, personnel, and facilities.</li> <li>• <b>Policies:</b> <ul style="list-style-type: none"> <li>○ 3.1 The City of Oceanside shall strive to provide a maximum response time of five (5) minutes for all Priority I and II emergency service calls.</li> </ul> </li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<p>The Public Safety Element of the City of Carlsbad’s General Plan introduces safety considerations into the planning and decision-making processes of the City to reduce the risk of injury, loss of life, property damage and economic and social dislocation resulting from natural and manmade hazards (City of Carlsbad N.D.).</p> <p>The relevant goals, objectives, and policies and action programs of the Safety Element related to public services are as follows:</p> <p><i>Fire and Emergency Medical Services</i></p> <ul style="list-style-type: none"> <li>• <b>Goal A.1:</b> A City which minimizes the injury, the loss of life and damage to property resulting from fire hazards.</li> <li>• <b>Goal A.2:</b> A City which optimizes the organization and delivery of emergency services.</li> <li>• <b>Objective B.2:</b> To maintain an initial emergency travel response time of five (5) minutes.</li> <li>• <b>Objective B.3:</b> To coordinate the delivery of fire protection services through mutual aid agreements with other agencies when appropriate.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Encinitas</b></p> <p>The Public Safety Element of the City of Encinitas General Plan identifies goals and policies that are intended to help minimize the risks, potential property damage and human injury associated with natural and man-made safety hazards (City of Encinitas 1989). The Element also identifies appropriate actions that are needed to respond to a crisis and ways that hazards can be avoided through prudent planning. The following goals and policies within the Public Safety Element are relevant to the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 2:</b> The City of Encinitas will make an effort to minimize potential hazards to public health, safety, and welfare and to prevent the loss of life and damage to health and property resulting from both natural and man-made phenomena.</li> <li>• <b>Policy 2.1:</b> The City will cooperate with and support in every way possible current Federal, State, and County agencies responsible for the enforcement of health, safety, and environmental laws.</li> <li>• <b>Safety Service Standards:</b> <ul style="list-style-type: none"> <li>○ Adopt and implement standards for response time for delivery of fire suppression, police, medical emergency, and other emergency services;</li> <li>○ Adopt and implement standards for the siting and staffing of fire and police facilities, based on response time, population, and geographic areas as planned under the City's land use and circulation plans.</li> </ul> </li> </ul>	E, H	San Elijo WRF
<p><b>City of Escondido</b></p> <p>The Community Protection Element of the City of Escondido General Plan identifies and addresses relevant public safety issues affecting the City. Goals and policies are identifying to aid in proactively addressing threats to life and property by minimizing dangers and regulating existing and proposed development in hazard prone areas (City of Escondido 2012). The following goals and policies within the Community Protection Element relating to public services are applicable to the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 2:</b> Protection of life and property through adequate fire protection and emergency medical services. <ul style="list-style-type: none"> <li>○ <b>Fire Protection Policy 2.1:</b> Regularly review and maintain the Standards of Response Coverage and the Fire Department Strategic Plan to address staffing, facility needs, and service goals.</li> <li>○ <b>Fire Protection Policy 2.2:</b> Provide Fire Department response times for no less than 90 percent of all emergency responses with engine companies by achieving the following service standard: Provide an initial response time of seven and one-half (7 ½) minutes for all structure fire and emergency Advanced Life Support (ALS) calls and a maximum response time of ten (10) minutes for supporting companies in urbanized areas of the city.</li> </ul> </li> <li>• <b>Goal 3:</b> Protection of life and property, and enforcement of law that enhances personal safety in the community. <ul style="list-style-type: none"> <li>○ <b>Police Services Policy 3.1:</b> Regularly review and implement appropriate plans for police protection and services that address staffing, facility needs, and service goals to ensure that the community's needs are met</li> <li>○ <b>Police Services Policy 3.2:</b> Maintain an initial response time for Priority 1 calls of no more than five (5) minutes and an initial response time for Priority 2 calls of no more than six and one-half (6 ½) minutes. Constantly review these standards to ensure their adequacy and appropriateness in consideration of resource availability.</li> <li>○ <b>Police Services Policy 3.3:</b> Maintain adequate levels of sworn officers and civilian personnel to support law enforcement operations based on community needs in order to meet response time standards.</li> </ul> </li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF
<p><b>City of Vista</b></p> <p>The Public Safety, Facilities, and Services Element of the City of Vista General Plan identifies goals and policies to ensure that public facilities and services support existing and planned future development within the City of Vista (City of Vista 2011). The purpose of the element is to identify risks to life and property from natural or man-made hazards and reduce these risks. The following goals and policies related to public services are relevant to the Proposed Project:</p>	O	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"> <li>• <b>PSFS Goal 2:</b> Prepare for and provide adequate and effective emergency response services to respond to natural and human-made emergencies and disasters, and acts of terrorism.</li> <li>• <b>PSFS Goal 12:</b> Continue to provide fire protection and related emergency services to protect persons and property from fire and other community hazards.                             <ul style="list-style-type: none"> <li>○ <b>PSFS Policy 12.2:</b> Achieve an 8:55-minute total response time 90 percent of the time.</li> </ul> </li> <li>• <b>PSFS Goal 13:</b> Through coordination with State, County, and local Emergency Medical Services Association, provide local control and oversight of pre-hospital emergency medical care through Advanced Life Support Services.                             <ul style="list-style-type: none"> <li>○ <b>PSFS Policy 13.1:</b> Maintain service levels in compliance with State and County protocols.</li> <li>○ <b>PSFS Policy 13.8:</b> Provide and/or oversee emergency medical ground transport.</li> <li>○ <b>PSFS Policy 13.9:</b> Provide and maintain Paramedic Assessment engines seven days a week.</li> </ul> </li> <li>• <b>PSFS Goal 14:</b> Continue to provide an adequate level of law enforcement services to protect persons and property from criminal activity and provide a safe community environment.</li> </ul>		
<p><b>City of San Marcos</b></p> <p>The Land Use and Community Design Element of the City of San Marcos General Plan describes the desired future physical composition of the City and the planned relationship of uses (City of San Marcos 2012). In general, the City aims to determine the future location, type, and intensity of new development, and to establish the desired mix and relationship between projects. The Element forms the basis for policies and implementation programs that will help the City reach its land use and community design goals.</p> <p>Relevant goals and policies relating to public serves are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal LU-10: Fire Protection, Emergency Services, and Law Enforcement:</b> Provide effective, high-quality and responsive services.</li> <li>• <b>Policy LU-10.1:</b> Provide demand-based fire-fighting and emergency medical services infrastructure, equipment, and personnel to provide a high level of fire, emergency medical, and law enforcement service in San Marcos to meet existing and future demands.</li> </ul>	I, M, N	None
<p><b>City of Solana Beach</b></p> <p>The Safety Element of the City Solana Beach General Plan identified existing conditions and issues involving potential hazards and public safety considerations within the City. The element sets goals, objectives and policies to minimize potential hazards and to provide a safe and secure environment for the public (City of Solana Beach 2001).</p> <p>The following are the goals, objectives, and policies relevant to public services and the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.2:</b> To provide a safe and secure environment for the city's residents, workers, and visitors.</li> <li>• <b>Objective 3.0:</b> Establish an emergency preparedness program and maintain the program through regular practice drills and periodic updating of the program.</li> </ul>	H, K	None
<p><b>County of San Diego</b></p> <p>The Safety Element of the County of San Diego General Plan establishes policies related to future development that will minimize the risk of personal injury, loss of life, property damage, and environmental damage (County of San Diego 2011).</p> <p>The relevant goals and policies of the Safety Element related to public services are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal S-1:</b> Public Safety. Enhanced public safety and the protection of public and private property.</li> <li>• <b>Goal S-2:</b> Emergency Response. Effective emergency response to natural or human-induced disasters that minimizes the loss of life and damage to property, while also reducing disruptions in the delivery of vital public and private services during and following a disaster.</li> <li>• <b>Goal S-3:</b> Minimized Fire Hazards. Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.</li> </ul>	H, J, K, O	None

**Program Environmental Impact Report**

**Public Draft**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<ul style="list-style-type: none"><li>• <b>Goal S-6:</b> Adequate Fire and Medical Services. Adequate levels of fire and emergency medical services (EMS) in the unincorporated County.</li><li>• <b>Goal S-13:</b> Safe Communities. Law enforcement facilities and services that help maintain safe communities.</li></ul>		

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## 3.15 Recreation

This section presents the physical and regulatory setting for recreation within and surrounding the Proposed Project. The impact analysis evaluates the potential adverse impacts of the Proposed Project related to recreational assets that could result from the implementation of the Proposed Project. The analysis is based on a review of local plans and maps. Based on this analysis, the Proposed Project has the potential to impact recreational assets through construction of the Proposed Project or siting of staging areas and Proposed Project components. The identified mitigation measures would decrease these potential impacts to less than significant.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to recreational resources.

### 3.15.1 Physical Environmental Setting – Recreation

The following sections describe the existing recreation environment of the Study Area.

#### Recreation Areas

##### **Regional – County of San Diego**

Roughly 4 percent of the land area within unincorporated San Diego County is designated as public, semi-public, or open space used for recreation (County of San Diego 2011a). The County maintains a number of parks, including camping parks, preserves, sports parks, botanical gardens, and day use parks (County of San Diego 2014a). These parks include campgrounds, 300 miles of trails, and fishing lakes that cover more than 44,000 acres (County of San Diego 2014b). Recreational areas within the vicinity of the Study Area include Felicita County Park, Del Dios Highland Preserve, San Elijo Lagoon Ecological Preserve, San Dieguito Miracle Field, 4S Ranch Sports Park, Lusardi Creek Preserve, Quail Botanical Gardens, and Guajome County Park.

##### **City of Oceanside**

The City of Oceanside Parks and Recreation Division owns, operates, and maintains a number of parks and other public recreational facilities including golf courses, dog parks, amphitheaters, and community centers (City of Oceanside 2014). The Parks and Recreation Division has several core values, including enhancing the quality of life, being committed to the benefits of recreation, respecting and valuing the role of parks and open space, and ensuring accessibility of the City's parks (City of Oceanside 2011). Some of the larger recreational areas within the vicinity of the Study Area include the El Corazon Property, Guajome Regional Park, Luiseno Park, Melba Bishop Park and Center, and Center City Golf Course.

##### **City of Carlsbad**

There are 31 recreational areas within the City of Carlsbad, including parks, community centers, and athletic fields (City of Carlsbad 2014a). The City of Carlsbad has 9,435 acres of open space, with roughly 5 percent of that (1,169 acres) dedicated to outdoor recreation such as public parks and trails (City of Carlsbad 2014b). Some of the larger recreational areas within the vicinity of the Study Area include Holiday Park, Pine Park, Chase Field, the Crossings at Carlsbad, Poinsettia Park, Beach Camp Ground, La Costa Golf Course, and Carrillo Park.

##### **City of Encinitas**

There are 41 recreational sites within the City of Encinitas, including a number of overlooks, 333.13 acres of parks, 47.87 acres of beaches, 40.5 miles of trails, and 86.63 acres of open space (City of Encinitas 2011). The Parks and Recreation Department is responsible for maintaining and repairing these facilities,

providing safe and aesthetically pleasing areas, and administering capital improvement projects (City of Encinitas 2014). Some of the larger recreational areas within the vicinity of the Study Area include Encinitas Ranch Golf Course, Oakcrest Park, Manchester Preserve, and San Elijo Lagoon.

### **City of Escondido**

The City of Escondido operates and maintains a number of recreational facilities, including Lake Dixon, Lake Wohlford, Daley Ranch, and nine urban park facilities (City of Escondido 2014). The City of Escondido Recreation Department is responsible for these areas and provides recreational services and maintenance of parks and related facilities. Some of the larger recreational areas within the vicinity of the Study Area include Washington Park, East Valley Community Center, Mountain View Park, and Ryan Park.

### **City of Vista**

There are a number of recreational areas within the City of Vista. The Public Works Department is responsible for maintaining these city parks, as well as the La Mirada Canyon open space (City of Vista 2014a). The Recreation and Community Services Department provides programs and activities that relate to recreation and operates additional recreational facilities including the Wave Waterpark and the Moonlight Amphitheatre (City of Vista 2014b). Some recreational areas within the vicinity of the Study Area include The Wave Waterpark, Breeze Hill Park, Buena Vista Park, Shadowridge Park, Brengle Terrace Park, Moonlight Amphitheatre, and the Gloria E. McClellan Senior Center.

### **City of San Marcos**

The Community Services Department of the City of San Marcos is responsible for overseeing the City's parks, recreational programs, and other recreational facilities including camp programming, aquatics, trail and nature center activities, and teen and senior services (City of San Marcos 2014). Published in 1990, the San Marcos Parks Master Plan presents a vision of the parks and recreational future of the City (City of San Marcos 1990). The City currently has 24 parks, but has plans to build an additional five parks in the coming years. This will bring the total number of parks located within the City to 17 neighborhood and community parks and 12 mini-parks (City of San Marcos 2014). Some of the larger recreational areas within the vicinity of the Study Area include Discovery Park, Double Peak Regional Park, Mission Sports Park, Cerro de Las Posas Park, Hollandia Park, and Walnut Grove Barn and Park.

### **City of Solana Beach**

There are approximately 2,200 acres within the City of Solana Beach; roughly 13 percent of this is dedicated to recreation and open space (City of Solana Beach 2014). The Parks and Recreation Department is tasked with overseeing these areas, which include beaches, parks, and golf courses (City of Solana Beach 1988). Some of the larger recreational areas within the vicinity of the Study Area include Holmwood Canyon Ecological Preserve, Solana Public Beach, La Coloma Park, San Dieguito County Park, and Lomas Santa Fe Golf Course.

## **3.15.2 Regulatory Framework – Recreation**

### **Federal**

The National Recreation and Parks Association (NRPA) is dedicated to the advancement of public parks, recreation, and conservation. NRPA strives to create communities where everyone has easy access to park and recreation opportunities. Funded by dues, grants, registrations, and charitable contributions, the NRPA produces research, education, and policy initiatives in support of parks, recreation, and environmental conservation efforts. Recent benchmarking conducted by the NRPA based on national median amount of parkland indicates that there are roughly 9.1 acres of parkland per 1,000 residents (NRPA 2014).

## State

The California Landscaping and Lighting Act of 1972 authorizes local legislative bodies to establish benefit related assessment districts, or Landscaping and Lighting Districts (LLADs). The purpose of these Districts is to finance the costs and expenses of landscaping and lighting public areas (California Tax Data n.d.). These costs include installation and maintenance of landscaping, statues, fountains, general lighting, traffic lights, recreational and playground courts and equipment, and public restrooms. The Act also allows acquisition of land for parks and open spaces, as well as construction of community centers (California Tax Data n.d.).

## Local

### **General Plans**

The Study Area falls within the jurisdiction of General Plans from the County of San Diego and the cities of Escondido, Encinitas, Solana Beach, Carlsbad, Oceanside, Vista, and San Marcos. Recreation is generally addressed in the Conservation and Open Space, Land Use, or Recreation elements within General Plans. The relevant goals, objectives, and policies included in the general plans of the individual jurisdictions within the Study Area are outlined in **Table 3.15-1** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **3.15.3 Impact Analysis – Recreation**

#### Methodology for Analysis

This section evaluates whether construction and operation of the facilities associated with the Proposed Project would result in significant impacts related to recreation and recreational facilities. The analysis is based on a review of local plans to determine existing recreational areas that may be affected by the Proposed Project.

#### Thresholds of Significance

For the purposes of this analysis, an impact to recreation would be significant if the Proposed Project would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.
- Result in the impairment of recreation facilities during construction.

#### Criteria Requiring No Further Evaluation

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.* Implementation of the Proposed Project would not directly induce population growth as no new residential or commercial development project would be constructed; all demands anticipated to be met by the project are either current demands or anticipated short-term future demands. The Proposed Project would not directly or indirectly contribute to unplanned population growth that would result in increased use of existing parks or other recreational facilities such that substantial

physical deterioration of the facility would occur or be accelerated. No further evaluation is required.

- *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment* – The Proposed Project is a regional recycled water program which includes the construction and operation of pipelines, pump stations, storage tanks, and water treatment plants. The Proposed Project does not include recreational facilities, nor does it require the construction or expansion of recreational facilities. As such, there would be no recreational facilities impact associated with the Proposed Project. No further evaluation is required.

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to recreation that could result from implementation of the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.15-1 Effects of project construction on recreation facilities.**

The Proposed Project facilities would be located throughout the Study Area. These include pipelines, storage tanks, pump stations, pressure reducing stations and valves, and other recycled water appurtenances that are required to deliver recycled water, as well as treatment facilities, groundwater wells, and other facilities associated with potable reuse. Because locations for these facilities are currently approximate, there is a potential that Proposed Project facilities could be located near recreational areas and facilities such that construction, operation, and maintenance of the Proposed Project could result in the impairment of the recreational areas and facilities. Based on the current location of proposed pipelines and treatment facilities, the Proposed Project is not anticipated to be located near Guajome Regional Park, Lake Wohlford, Lake Hodges, or the bluffs overlooking Solana Beach.

Proposed Project pipelines would be installed in existing public right-of-ways (ROWs) and newly acquired easements (where necessary), and would be buried except for circumstances such as channel bridge crossing. As such, pipelines would likely only impair recreational facilities during their construction, particularly if they are on ROWs near recreational facilities. Construction would close portions of the ROW and could potentially limit access to these facilities for a period of time. Construction could also create noise impacts that may affect use of recreational facilities. **Mitigation Measures MM 3.12-1a** and **MM 3.12-1c** (see *Section 3.12 Noise*) would control noise and vibration during construction, thereby reducing potential noise and vibration impacts to recreational facilities.

Similarly, the construction of the above-ground structural components of the Proposed Project could also result in the impairment of recreational facilities, particularly if these Proposed Project components are located near or adjacent to recreational facilities. Construction of these structural components could potentially result in temporary closures to ROWs or temporary detours that could limit access to these recreational facilities for a period of time. Additionally, operation and maintenance of these structural components could potentially result in the impairment of recreation facilities by detracting from the experience of visiting these recreational facilities.

The cities and County within the Study Area have elements within their General Plans that guide the development and maintenance of open space and recreational areas within their jurisdictions. As such, construction of the Proposed Project must adhere to these elements and facilities would be designed to comply with these elements. **Mitigation Measure MM 3.15-1** directs Coalition members to minimize storage of construction equipment near recreational facilities. Additionally, **Mitigation Measure MM 3.1-1a** (see *Section 3.1 Aesthetics*) requires restoration of underground alignments to pre-existing conditions, while **Mitigation Measure MM 3.1-1b** requires that above ground facilities are designed and constructed to minimize visual interruptions. With implementation of these mitigation measures, impacts associated with the impairment of recreational facilities would be reduced to less than significant levels.

### Significance Determination before Mitigation

Potentially significant.

### Mitigation Measures

**Mitigation Measures MM 3.15-1** shall apply to all groups included within the Proposed Project. In addition, **Mitigation Measure MM 3.1-1a** (see *Section 3.1 Aesthetics*) shall apply to the pipeline components and **Mitigation Measure MM 3.1-1b** (see *Section 3.1 Aesthetics*) shall apply to above-ground components of the Proposed Project. **Mitigation Measure MM 3.12-1a** and **Mitigation Measures MM 3.12-1c** (see *Section 3.12 Noise*) shall apply to all project components during construction activities, and shall be implemented by the lead agency for each individual project component as applicable.

**MM 3.15-1 Minimize Storage of Construction Equipment Near Recreational Facilities.** To the extent possible, Coalition members shall attempt to locate construction staging areas away from open space and recreational facilities and viewsheds. Locating these staging areas away from recreational facilities and viewsheds will reduce the visual impacts associated with locating these staging areas near or adjacent to recreational facilities. If a staging area must be located near or adjacent to a recreational facility, the Coalition shall make every reasonable attempt to keep the area free and clean of rubbish and debris by promptly removing all such material from the site so as not to detract from the overall experience of the recreational facility.

### Significance Determination after Mitigation

Less than significant.

**Table 3.15-1: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<p><b>City of Oceanside</b></p> <p>The Recreation and Trails Element of the City of Oceanside General Plan states specific goals and objectives that will improve the operation and design of the City’s trail system (City of Oceanside 2002a). The Element’s goal is to provide a safe, efficient trail network to enable residents’ access to the City’s recreation resources. The relevant goals and objectives of the Recreation and Trails Element related to recreation are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal 8:</b> An interconnected network of pedestrian facilities within the City, linking recreational and other destinations.</li> </ul> <p>The purpose of the Land Use Element of the City of Oceanside’s General Plan is to describe land use activity and identify the proposed general distribution, location, and extent of land uses within the City (City of Oceanside 2002b). The element provides direction related to how future development will occur and addresses the relationship between development, community enhancement, and natural resource management (City of Oceanside 2002b). The relevant goals, objectives, and policies of the Land Use Element related to recreation are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal 1:</b> The consistent, significant, long term preservation and improvement of the environment, values, aesthetics, character, and image of Oceanside as a safe, attractive, desirable, and well-balanced community.                         <ul style="list-style-type: none"> <li>○ <b>Objective:</b> To provide and maintain common open areas for a wide range of uses.</li> <li>○ <b>Policies:</b> <ul style="list-style-type: none"> <li>A. Common open space must be accessible and useable by potential users of the common open space.</li> <li>C. Where feasible, common open space shall be integrated with adjacent common or public open spaces, trails, or bicycle transit systems to promote an open space or trails network throughout the City.</li> </ul> </li> </ul> </li> <li>• <b>Goal 2:</b> The continual long term enhancement of the community through the development and use of land which is appropriate and orderly with respect to type, location, and timing, and intensity.                         <ul style="list-style-type: none"> <li>○ <b>Objective:</b> To identify and preserve a variety of lands that, due to their topography, use, natural resources, values, and/or limitations, are best left in an open or natural state.</li> <li>○ <b>Policies:</b> <ul style="list-style-type: none"> <li>A. Public parks, flood channels, public and private outdoor recreation facilities, water recharge areas, and water bodies shall be designated as open space.</li> <li>B. The City shall require open space designation on lands set aside for significant permanent protection and enhancement through the utilization of planned common open space in proposed land development or use.</li> <li>D. The City shall encourage the preservation of continuous natural open space that provide wildlife habitat.</li> </ul> </li> <li>○ <b>Objective:</b> To enhance the well-being of City residents by providing opportunities for relaxation, rest, activity, and education through a well-balanced system of private and public park and recreational facilities distributed to serve the entire community.</li> </ul> <p>There are a number of policies under the above objective that provide further guidance as to how public recreation facilities within the City of Oceanside shall be managed. However, they are not relevant to the project and have been excluded here.</p> </li></ul>	<p>G, O</p>	<p>El Corazon Site<sup>1</sup>                      San Luis Rey WWTP and AWT</p>

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Carlsbad</b>		
<p>The Parks and Recreation Element of the City of Carlsbad’s General Plan provides a policy framework by which the City plans, develops, and provides park facilities, trails, and recreational programs (City of Carlsbad n.d. a). The City’s Recreation Department is committed to enhancing access to open space, creating a strong community, providing lifelong learning opportunities, and establishing and preserving safe places to gather (City of Carlsbad n.d. a). The relevant goals, objectives, and policies and action programs of the Parks and Recreation Element related to recreation are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal A.3:</b> City that preserves areas of scenic, historic, and cultural value. <ul style="list-style-type: none"> <li>○ <b>Objective B.6:</b> To ensure that Special Resource, Open Space and Cultural/Historic Areas meet the needs of Carlsbad residents, tourists and employees in the City of Carlsbad.</li> <li>○ <b>Objective C. 3:</b> Acknowledge and attempt to preserve the environmental sensitivity and ecology within appropriate Special Resource Areas.</li> </ul> </li> </ul> <p>The purpose of the Land Use Element of the City of Carlsbad’s General Plan is concerned with providing sufficient land to meet the needs of the community, while preserving the quality and quantity of the natural environment (City of Carlsbad n.d. b). The relevant goals and objectives of the Recreation and Trails Element related to recreation are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal A.1:</b> A City which preserves and enhances the environment, character, and image of itself as a desirable residential, beach, and open space oriented community.</li> <li>• <b>Objective B.2:</b> To create a visual form for the community, that is pleasing to the eye, rich in variety, highly identifiable, reflecting cultural and environmental values of the residents.</li> <li>• <b>Policy C.12:</b> Develop and retain open space in all categories of land use.</li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT
<b>City of Encinitas</b>		
<p>The Recreation Element of the City of Encinitas General Plan identifies goals and policies that address recreation within the City. Specifically, the Element is concerned with expanding the City’s existing recreational facilities and broadening the range of services (City of Encinitas 1989). The following goals and policies within the Recreation Element are relevant to the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3:</b> The Coastal Areas will continue to play a dominant role in providing residents with open spaces for recreation (Coastal Act/30220).</li> <li>• <b>Goal 4:</b> A City-wide system of parks which combine established standards and community desires shall be established and maintained. <ul style="list-style-type: none"> <li>○ <b>Policy 4.3:</b> Neighborhood parks should be accessible by pedestrians living in the immediate area.</li> </ul> </li> </ul>	E, H	San Elijo WRF
<b>City of Escondido</b>		
<p>The Resource Conservation Element of the City of Escondido General Plan identifies open space areas and establishes policies for developing a system that includes natural areas, parks, trails, and other recreational amenities (City of Escondido 2012a). The following goals and policies within the Resource Conservation Element relating to recreation are applicable to the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 2:</b> A network of trails that connect the community and provide opportunities for creation and alternative transportation use.</li> </ul> <p>The Land Use and Community Form Element of the City of Escondido General Plan guides decision-making on growth, development, and change within Escondido to ensure that a balance of land uses are provided at appropriate intensities, locations, and combinations (City of Escondido 2012b). The following goals and policies identified in this element relate to recreation and are applicable to the Proposed Project:</p>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF

Program Environmental Impact Report

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<ul style="list-style-type: none"> <li>• <b>Residential Clustering Policy 5.7:</b> Lands devoted to permanent open space should not be developed with structural uses other than agricultural accessory buildings. Uses should be restricted to agriculture; historic, archeological, or wildlife preserve; water storage or recharge area; leach field or spray disposal area; scenic areas; protection from hazardous area; or public outdoor recreation.</li> </ul>		
<p><b>City of Vista</b></p>		
<p>The Resource Conservation and Sustainability Element of the City of Vista General Plan identifies goals and policies to conserve, preserve, and enhance the City's resources. The purpose of the element is to identify Vista's important resources, protect the quality of life by maintaining the City's natural biodiversity, parks and recreational opportunities, and scenic beauty, and developing policies and implementation programs to protect, preserve, or enhance these resources (City of Vista 2011). There are no goals or policies that are relevant to the Proposed Project.</p>	O	None
<p><b>City of San Marcos</b></p>		
<p>The Parks, Recreation, and Community Health Element of the City of San Marcos General Plan describes current recreational areas within the City and outlines plans for expansion of parks, trails, and recreation facilities (City of San Marcos 2012). In general, the City aims to maintain and increase access to parks, trails, recreational facilities, and community service programs. The Element forms the basis for goals, policies, and implementation programs that will help the City reach its recreation goals. Relevant goals and policies relating to recreation are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal PR-1:</b> Plan for, acquire, develop, and maintain a system of local parks connected through an integrated network of trails and high quality recreational facilities. <ul style="list-style-type: none"> <li>◦ <b>Policy PR-1.4:</b> Promote increased access to parks and open spaces, pedestrian- and bike-oriented routes to parks and open space, greening of public rights-of-way, and a variety of active and passive uses of parks and open space.</li> </ul> </li> </ul>	I, M, N	None
<p><b>City of Solana Beach</b></p>		
<p>The Conservation and Open Space Element of the City Solana Beach General Plan addresses key issues related to conservation and open space within the City. These include potential effects of development on natural resources including biological, air resources, and cultural and scientific resources (City of Solana Beach 1988). Additionally, scenic quality of the City's open spaces and visual features needs to be protected from potentially adverse effects of future development (City of Solana Beach 1988). The Element outlines goals, objectives, and policies to protect and conserve the City's natural and cultural resources, as well as protect opens space areas and viewsheds. The following are the goals, objectives, and policies relevant to recreation and the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.2:</b> To protect and enhance sensitive open space areas and viewsheds.</li> <li>• <b>Objective 1.0:</b> Preserve existing open spaces at appropriate locations throughout the City. <ul style="list-style-type: none"> <li>◦ <b>Policy 1.a:</b> The City shall restrict development along the bluffs overlooking Solana Beach and other areas such as the Atchison Topeka and Santa Fe Railroad right-of-way to those uses which retain the open space character of these areas (e.g., parks, open space spines, trails, etc.) in accordance with the open space plan.</li> <li>◦ <b>Policy 1.b:</b> The City shall ensure the preservation of existing public beaches, parks, trails, open space areas, and gold courses pursuant to the adopted land use element of this General Plan.</li> </ul> </li> </ul> <p>The Land Use of the City Solana Beach General Plan discusses issues affecting land use planning in Solana Beach as well as identifying the goals, objectives, and policies design to facilitate sound land use development within the City. Land use issues identified include ensuring an appropriate balance of land use types within the City while recognizing physical constrains and minimizing potential conflicts relating to adjacent land uses (City of Solana Beach 1988). The goals, objectives, and policies identified to address these issues aim to promote development of a well-balance and functional combination of separate land uses (City of Solana Beach 1988).</p>	H, K	None



**Program Environmental Impact Report**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<p>The following are the goals, objectives, and policies relevant to recreation and the Proposed Project:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.1:</b> To protect development of a well-balanced and functional mix of residential, commercial, industrial, open space, recreational, and institutional land uses.</li> <li>• <b>Objective 5.0:</b> Provide an adequate amount of open space and recreational land uses to meet the needs of the entire community.                             <ul style="list-style-type: none"> <li>○ <b>Policy 5.b:</b> Adequate access shall be provided to public open space and recreational areas.</li> </ul> </li> </ul>		
<p><b>County of San Diego</b></p>		
<p>The Conservation and Open Space Element of the County of San Diego General Plan provides direction for future growth and development in the County of San Diego with respect to the conservation, management, and utilization of natural and cultural resources, the protection and preservation of open space, and the provision of park and recreation resources (County of San Diego 2011a). The relevant goals and policies of the Conservation and Open Space Element related to recreation are as follows:</p> <ul style="list-style-type: none"> <li>• <b>Goal COS-23:</b> Recreational Opportunities in Preserves. Acquisition, monitoring, and management of valuable natural and cultural resources where public recreational opportunities are compatible with the preservation of those resources.                             <ul style="list-style-type: none"> <li>○ <b>Policy COS-23.1:</b> Public Access. Provide public access to natural and cultural (where allowed) resources through effective planning that conserves the County's native wildlife, enhances and restores a continuous network of connected natural habitat and protects water resources.</li> </ul> </li> </ul>	<p>H, J, K, O</p>	<p><i>None</i></p>

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## 3.16 Transportation and Traffic

This section provides a summary of the traffic and transportation environment in the study area, and evaluates the potential impacts of the Proposed Project related to transportation and traffic. The Proposed Project has the potential to disrupt emergency response and traffic flow during project construction due to work in the roadway right-of-ways when pipelines are being installed. These potential impacts are temporary and short-term in nature, and would be reduced to less than significant through implementation of the mitigation measures identified in this section. These mitigation measures include implementation of a traffic plan and coordination with emergency services to ensure that traffic is safely routed during construction activities.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential impacts to transportation and traffic.

### 3.16.1 Physical Environmental Setting – Transportation and Traffic

This section describes the existing transportation and traffic settings of the Study Area.

#### Transportation and Traffic

Transportation in San Diego County is planned through the San Diego Association of Governments (SANDAG) in a regional effort. The 2050 Regional Transportation Plan (RTP) was adopted by SANDAG in 2011 to manage congestion and provide for long-term transportation planning and sustainable growth in the County. The RTP recognizes the interconnectivity of the different cities and communities in the county and encourages an integrated planning approach between transportation services, land use, and housing. The RTP and local General Plans complement each other, and encourage adequate transportation planning for the region (SANDAG 2011a).

The Study Area is located in northern San Diego County and contains multiple major transportation corridors. Interstates 5 and 15 run north-south, with I-5 along the coastal portions of the Study Area, and I-15 along the eastern edge of the Study Area. State Highways 76 and 78 run east-west, in the northern and mid portions of the Study Area, respectively (see **Figure ES-1** in *the Executive Summary*).

Streets are classified as local streets, collector and secondary collector streets, major (secondary) arterials, and prime arterials, based on size, traffic volumes, design, and purpose. Major and arterial roads identified within the local General Plans are provided in **Table 3.16-1**. Aside from freeways and highways, these roads are the largest, most high-speed in the Study Area, and are key routes for traffic management.

In addition to roads, the Study Area contains a regional rail system running through coastal communities. The Coaster and Amtrak California rail lines both run through the western portion of the Study Area. The Coaster runs along the Amtrak California rail line through Solana Beach, Encinitas, City of Carlsbad, and City of Oceanside. The Sprinter runs east-west from Oceanside to Escondido. Public Transportation in the Study Area is coordinated through the North County Transit District (NCTD), which manages the Coaster and Sprinter trains, the Breeze bus, and Flex and Lift shuttles. There are four major transit centers within the Study Area: Oceanside Transit Center, Escondido Transit Center, Vista Transit Center, and San Luis Rey Transit Center.

**Table 3.16-1 – Major and Arterial Roads**

Community	Arterial and Major Roads	
Carlsbad	El Camino Real Palomar Airport Road	Rancho Santa Fe Road
Escondido	Valley Center Road Lincoln Avenue	Valley Parkway Via Rancho Parkway
Encinitas	Vulcan Avenue Encinitas Boulevard El Camino Real La Costa Avenue Village Park Way Del Dios Highway Valley Parkway Citracado Parkway Bear Valley Parkway Ventre City Parkway	Via Rancho Parkway San Pasqual Road San Pasqual Valley Road El Norte Parkway Ash Street Valley Parkway Broadway E. Mission Road Ebarham Drive Deer Springs Road
Oceanside	El Camino Real Oceanside Boulevard Mission Avenue Douglas Drive Rancho Del Oro Drive Sicily Way	College Boulevard Melrose Drive N. Santa Fe Avenue North River Road Cannon Road
San Marcos	Rancho Santa Fe Road Las Posas Road Twin Oaks Valley Road	Mission Road San Marcos Boulevard
Solana Beach	Lomas Santa Fe Drive Via De La Valle Cedros Avenue	San Andres Drive Highland Drive Stevens Avenue
Vista	S. Montrose Drive Sycamore Avenue W. Vista Way Longhorn Drive Live Oak Road Lupine Hills Drive Hibiscus Avenue Faraday Street	Shadowridge Drive Santa Fe. Avenue Vista Village Drive E. Vista Way Civic Center Drive Bobier Drive Emerald Drive
County of San Diego (North Metro Area)	Monte Vista Drive South Santa Fe Avenue Buena Creek Road Sycamore Avenue Smilax Road Rancho Santa Fe Road Deer Springs Road North Twin Oaks Valley Road North Centre City Parkway Mountain Meadow Road	Rock Springs Road Nordahl Road El Norte Parkway Del Dios Highway Via Rancho Parkway Gamble Lane San Pasqual Valley Road Bear Valley Parkway San Pasqual Road Valley Center Road

Sources: City of Carlsbad 2013; City of Encinitas 2003; City of Escondido 2012; City of Oceanside 2012; City of San Marcos 2003; City of Solana Beach N.D.; County of San Diego 2011b.

### **3.16.2 Regulatory Framework – Transportation and Traffic**

#### **Federal**

There are no federal regulations associated with transportation and traffic that are relevant to the Proposed Project.

#### **State**

There are no State regulations associated with transportation and traffic that are relevant to the Proposed Project.

#### **Local**

##### **Regional Transportation Plan**

SANDAG, comprising the 18 cities and the county governments within the County of San Diego, developed a comprehensive Regional Transportation Plan (RTP) in 2011. The RTP considered current and future land use and population growth, jobs projections and locations, and other data to provide a vision for regional transportation. The RTP integrates transportation, land use, and housing planning to support future sustainable growth.

##### **San Diego County Public Road Standards**

The San Diego County Public Road Standards (2012) set design and construction standards and criteria for public roads within San Diego County. These standards are based on the level of service of the road.

##### **San Diego County Traffic Guidelines**

The County of San Diego's Traffic Guidelines (2001) provide guidance for design, construction, and policies related to transportation, roadways, and bikeways. This guidance is intended to maintain uniformity in messaging and regulations, as related to traffic, roadways, bikeways, and transportation.

##### **General Plans**

General Plans include Mobility or Circulation Elements that address transportation planning for the General Plan's jurisdiction. These elements must be able to accommodate the land uses proscribed the Land Use Element of the General Plan. General Plans for the Cities of Oceanside, Carlsbad, Encinitas, Solana Beach, San Marcos, Vista, and Escondido, as well as the County of San Diego each contain Mobility or Circulation Elements that apply to the Proposed Project. The goals, objectives, and policies included in the general plans are outlined in **Table 3.16-2** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **3.16.3 Impact Analysis – Transportation and Traffic**

#### **Methodology for Analysis**

The potential impacts of the Proposed Project on transportation and traffic were evaluated using the CEQA Guidelines and the County of San Diego's Guidelines for Determining Significance (County of San Diego 2007; 2010; 2011a).

#### **Thresholds of Significance**

For the purposes of this analysis, an impact to Transportation and Traffic would be significant if the Proposed Project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation

system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks:* The Proposed Project would not involve an airport, and would not affect air traffic levels or patterns. No further evaluation is required.

### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to transportation and traffic that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 3.16-1 Potential to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system or conflict with a congestion management program.**

Construction activities for pipelines would occur primarily in roadway ROWs, which could lead to increased construction-related traffic and lane closures or other traffic impacts related to excavation activities and pipeline installation in the ROWs. Final pipeline alignments have not been selected and potential impacts on lane closures or road crossings have not been determined. Major arterial roads, including roads that are designated in the RTP, are present in the Study Area and most Groups, and smaller roads that serve alternative transportation methods (e.g., bicycles and pedestrians) could also be along the pipeline alignments once final design is complete. Lane closures could impact the performance of the circulation system, and such impacts from the Proposed Project could be in conflict with applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system. These impacts would occur only during the construction phase of the Proposed Project, and would be short-term in nature, with all roadways restored to their pre-project conditions or better upon completion of the Proposed Project, and consistent with applicable local plans and regulations.

Construction of above ground structures, including treatment plant expansions or upgrades, storage tanks, groundwater wells, and other facilities may also result in lane detours or closures. Lane closures could impact the performance of the circulation system, and such impacts could be in conflict with applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system. These impacts would occur only during the construction phase of the Proposed Project, and would be short-term in nature.

Although the Proposed Project is not anticipated to conflict with the RTP, a traffic management plan per **Mitigation Measure MM 3.16-1** shall be implemented to ensure that traffic impacts from the Proposed Project are minimized such that potential congestion can be managed, and roadway safety maintained. Given the potential for temporary road closures during construction, **Mitigation Measure MM 3.16-1** stipulates that road closures are conducted in accordance with applicable processes. Impacts are considered less than significant after mitigation.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measure MM 3.16-1** shall apply to all Groups within the Proposed Project, and shall be implemented by the lead agency for each individual project component.

**MM 3.16-1 Traffic Management Plan.** Prior to construction of each project component, a traffic management plan shall be developed and implemented. Such a plan shall include, but is not limited to, determination of construction staging site locations and potential road closures, as well as identify alternate routes for detours, and planned routes for construction-related vehicle traffic, and identification of alternative safe routes and policies to maintain safety along bike routes during construction. For those Groups with pipelines located within the County of San Diego whose construction would require road closures, the traffic management plan shall incorporate the relevant policies and measures applicable to road closures as described in the County of San Diego's Traffic Guidelines. As part of plan development, Coalition members shall coordinate with the police, fire, and other emergency services to alert these entities about potential construction delays. To the extent possible, Coalition members shall minimize the duration of disruptions/closures to roadways and critical access points for emergency services. Coalition members shall also coordinate with any affected recreational facilities owners/operators to minimize the duration of disruptions/closures to recreational facilities and adjacent access points. The traffic management plan shall provide for traffic control measures including flag persons, warning signs, lights, barricades and cones to provide safe passage of vehicular, bicycle and pedestrian traffic and access by emergency responders. This plan shall be submitted to local planning or public works departments for review, and any necessary permits acquired prior to construction.

#### Significance Determination after Mitigation

Less than significant.

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#### **Impact 3.16-2 Potential to result in hazards due to incompatible uses.**

During construction, the Proposed Project could temporarily change the configuration of intersections and roadways within the Study Area. Specifically, lane detours or closures may be required where pipelines would be installed on roadway ROWs. Construction equipment and material could be staged temporarily either within the construction zone on roads, or in the shoulder area of the ROW. Because lane detours or closures could increase conflicts between vehicles, bicyclists, and pedestrians, potential impacts are considered significant and would require mitigation. With implementation of the traffic management plan (**Mitigation Measure MM 3.16-1**), such hazards caused by the changed configurations would be reduced to a less-than-significant level. Upon completion of construction activities, all intersections and roadways would be restored to pre-construction conditions and no impact associated with increased hazards would occur.

### Significance Determination before Mitigation

Potentially significant.

### Mitigation Measures

**Mitigation Measure MM 3.16-1** (see **Impact 3.16-1**) shall apply to all Groups in the Proposed Project, and shall be implemented by the lead agency for each individual project component.

### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.16-3 Potential to result in inadequate emergency response.**

As noted in *Section 3.10 Land Use*, the Proposed Project is located in the vicinity of multiple emergency services stations, including fire services and law enforcement facilities. Construction activities that occur in roadway ROWs could result in lane closures or block driveways such that emergency vehicle routes could be impeded. This could result in potentially inadequate emergency response. **Mitigation Measure MM 3.8-7** (see *Section 3.8 Hazards and Hazardous Materials*) would create alternative emergency response plans to allow for adequate emergency response and services during project construction. Implementation of **Mitigation Measure MM 3.16-1** would further address this issue by requiring a traffic management plan be developed. Incorporation of these mitigation measures would reduce potential impacts to levels that are considered less than significant.

### Significance Determination before Mitigation

Potentially significant.

### Mitigation Measures

**Mitigation Measures MM 3.16-1** (see **Impact 3.16-1**, above) and **MM 3.8-7** (see *Section 3.8 Hazards and Hazardous Materials*) shall apply to all Groups to ensure adequate emergency responses, and shall be implemented by the lead agency for each individual project component.

### Significance Determination after Mitigation

Less than significant.

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### **Impact 3.16-4 Potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.**

As noted above, the Proposed Project has the potential to result in lane detours or closures, which could impact bus and shuttle public transit in the Study Area. The Proposed Project is not anticipated to impact rail transit, as pipelines are not anticipated to be constructed in railway ROWs; however, implementation of **Mitigation Measure MM 3.16-4** would ensure that any potential rail crossings would be designed and constructed to avoid interruption to rail service. Additional potential impacts to public transit would be addressed with of the traffic management plan in **Mitigation Measure MM 3.16-1** (see **Impact 3.16-1**), and impacts would be less than significant with mitigation.

Construction in roadway ROWs could also impact bicycle traffic or pedestrian facilities, which are generally located within the shoulder, ROWs, and sidewalks. Although final pipeline alignments have not yet been determined, it is likely that construction activities for alignments would result in diversions of bicycle traffic, bike lane closures, or temporary sidewalk closures. Some construction activities may also require diversion of pedestrian traffic. Diversion of bicycle traffic from the bike lane, shoulder, or ROW,



and diversion of pedestrian traffic from sidewalks and pedestrian facilities, could increase exposure to hazards from passing vehicles, and could result in a potentially significant impact of the safety of bicycle traffic. **Mitigation Measure MM 3.16-1**, the traffic management plan (above), includes coordination with local agencies responsible for planning of bicycle routes and pedestrian facilities to ensure appropriate identification and implementation of safety measures during construction activities to maintain road safety for bicycles and pedestrians. With implementation of **Mitigation Measure MM 3.16-1**, potential impacts to bicycle traffic and pedestrian facilities would be less than significant.

Significance Determination before Mitigation

Potentially significant

Mitigation Measures

**Mitigation Measure MM 3.16-1** (see **Impact 3.16-1**) shall apply to all Groups of the Proposed Project. **Mitigation Measure MM 3.16-4** shall apply to all portions of the Proposed Project that could potentially cross rail lines.

**MM 3.16-4 Rail Crossing Plan.** During design and construction of pipelines that include railway crossings, all efforts shall be made to design and construct pipelines in such a manner to avoid interruption or delay of rail service. If such interruption cannot be feasibly avoided, construction or activities that interrupt service shall not occur during morning or evening commute times, and alternative service (e.g., shuttle) shall be provided during rail service interruption. Notification of the extent, location, and duration of potential service interruption shall be posted at all transit stations serving the impacted railway.

Significance Determination after Mitigation

Less than significant.

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**Table 3.16-2: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside (2012)</b>		
<b>Roadway Improvements</b> <ul style="list-style-type: none"> <li>• <b>Policy 3.20:</b> If the location and traffic generation of a proposed development will result in congestion on major streets or failure to meet the LOS D threshold, or if it creates safety hazards, the proposed development shall be required to make necessary off-site improvements.</li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad (2013)</b>		
<ul style="list-style-type: none"> <li>• <b>Goal A4:</b> A City with properly maintained, smooth functioning and safe traffic control systems.</li> <li>• <b>Objective B.3:</b> To maintain a clear and consistent set of standards for the design and construction of roads and traffic control devices.               <ul style="list-style-type: none"> <li>○ <b>Policy C.3:</b> Establish a network of truck routes throughout the City to provide for the safe movement of trucks into and out of commercial zones while reducing conflicts with traffic in residential, school and recreational areas.</li> <li>○ <b>Policy C.8:</b> Provide for the safe movement of traffic and pedestrians around all road and utility construction projects.</li> </ul> </li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT
<b>City of Encinitas (2003)</b>		
<ul style="list-style-type: none"> <li>• <b>Goal 1:</b> Encinitas should have a transportation system that is safe, convenient and efficient, and sensitive to and compatible with surrounding community character.               <ul style="list-style-type: none"> <li>○ <b>Policy 1.13:</b> Emergency response routes shall be identified as a basis for implementing an Opticon or other traffic signal control system designed to reduce emergency vehicle response time.</li> <li>○ <b>Policy 1.20:</b> No street shall be closed without prior analysis including environmental review which addresses increases in traffic on other streets which would be created by the closure.</li> </ul> </li> <li>• <b>Goal 2:</b> The City will make every effort to develop a varied transportation system that is capable of serving both the existing population and future residents while preserving community values and character.               <ul style="list-style-type: none"> <li>○ <b>Policy 2.11:</b> Encourage landscaping of freeway medians and freeway unpaved rights-of-way adjacent to the freeway using reclaimed water where available.</li> </ul> </li> </ul>	E, H	San Elijo WRF
<b>City of Escondido</b>		
None	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plan
<b>City of Vista (2011)</b>		
<ul style="list-style-type: none"> <li>• <b>Goal 2:</b> Improve the safety and efficiency of existing transportation facilities by providing complete and safe connections on roadways, sidewalks, and bikeways. Facilities should be accessible to all users, with appropriate and necessary amenities.                             <ul style="list-style-type: none"> <li>○ <b>Policy 2.5:</b> Schedule major roadway maintenance, construction, and repair activities that require eliminating or restricting one or more travel lanes during evening hours, or if evening hours are not feasible, then during non-peak periods.</li> </ul> </li> <li>• <b>Goal 3:</b> Support a regional transportation system that serves existing and future travel between Vista and other population and employment centers in North San Diego County and the larger region.                             <ul style="list-style-type: none"> <li>○ <b>Policy 3.7:</b> Coordinate with Caltrans on all plans, activities, and projects that may affect State facilities.</li> </ul> </li> <li>• <b>Goal 4:</b> Create a truck circulation system that provides effective transport of commodities while minimizing negative impacts throughout the City                             <ul style="list-style-type: none"> <li>○ <b>Policy 4.4:</b> Maintain specific truck routes for the safe and expeditious transport of hazardous materials, consistent with the City's emergency operations plan.</li> </ul> </li> </ul>	O	<i>None</i>
<b>City of San Marcos</b>		
<i>None</i>	I, M, N	<i>None</i>
<b>City of Solana Beach (N.D.)</b>		
<ul style="list-style-type: none"> <li>• <b>Goal 3.1:</b> To provide a street network to move people and goods safely and efficiently.                             <ul style="list-style-type: none"> <li>○ <b>Policy 1.c:</b> The City shall require an adequate evaluation of potential traffic impacts associated with proposed new developments prior to project approval. Further the city shall require the implementation of appropriate mitigation measures prior to or in conjunction with project development.</li> </ul> </li> </ul>	H, K	<i>None</i>
<b>County of San Diego (2011c)</b>		
<ul style="list-style-type: none"> <li>• <b>Goal M-4 Safe and Compatible Roads.</b> Roads designed to be safe for all users and compatible with their context.                             <ul style="list-style-type: none"> <li>○ <b>Policy M 4.4:</b> Accommodate Emergency Vehicles. Design and construct public and private roads to allow for necessary access for appropriately-sized fire apparatus and emergency vehicles while accommodating outgoing vehicles from evacuating residents.</li> </ul> </li> </ul>	H, J, K, O	<i>None</i>

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### 3.17 Utilities and Service Systems

This section describes the existing utilities and service systems within the Study Area, and addresses the potential environmental impacts related to utilities and service systems that may be caused by the Proposed Project. Wastewater treatment facility upgrades and construction are a key component of the Proposed Project, and potential impacts of these facilities are addressed throughout this PEIR. No additional mitigation measures are necessary to reduce environmental impacts from the treatment facility components to less than significant levels.

As described in detail in *Chapter 2, Project Description*, the environmental analysis provided herein was prepared for the short-term components of the Proposed Project. As such, groupings that solely include long-term components (B and L) were not analyzed for their potential utilities and service systems impacts.

#### 3.17.1 Physical Environmental Setting – Utilities and Service Systems

The following sections describe the physical utilities and service systems setting of the Study Area.

##### Water Supply

Potable water supplies in the Study Area come from a variety of sources, including imported water, surface water, and groundwater. Non-potable supplies in the Study Area consist of recycled water and raw imported water, as described in *Chapter 2 Project Description*. **Table 3.17-1** shows the water supply sources utilized by each Coalition member. Each Coalition member serving potable water purchases some portion of its supply from the San Diego County Water Authority (SDCWA). SDCWA is the imported water wholesaler for the region, and in turn, is supplied by Metropolitan Water District of Southern California (Metropolitan) for water from the State Water Project and via transfer and conservation agreements with Imperial Irrigation District (IID) for water from the Colorado River. SDCWA also implements other water supply projects to secure and protect additional supplies (SDCWA 2011). SDCWA and many of its 24 member agencies are seeking to reduce their reliance on imported water, and are exploring alternative options, including increased use of recycled water, potable reuse, increased groundwater extraction, and seawater desalination (SDCWA 2011).

**Table 3.17-1 – Coalition Member Water Supply Sources**

Coalition Member	Surface Water	Groundwater	Imported Water*	Recycled Water
Carlsbad MWD			•	
City of Escondido	•		•	
City of Oceanside		•	•	•
Leucadia WWD†				•
Olivenhain MWD			•	•
Rincon del Diablo MWD			•	•
San Elijo JPA†				•
Santa Fe ID	•		•	•
Vallecitos WD**			•	
Vista ID	•		•	

Source: Carlsbad MWD 2011; Escondido 2011; Oceanside 2011; Olivenhain MWD 2011; Rincon del Diablo MWD 2013; Santa Fe ID 2011; Vallecitos WD 2011; Vista ID 2011; RMC 2012.

\*Purchased from San Diego County Water Authority; includes both potable and raw imported water.

\*\*Produces and wholesales recycled water to other agencies; does not deliver recycled water to customers

†Wastewater agency does not supply potable water to customers.

## Wastewater

As discussed in *Chapter 2, Project Description*, wastewater collection and treatment services in the Study Area are provided by the cities of Carlsbad, Escondido, Oceanside, Encinitas, and Vista; Buena Sanitation District; Leucadia WWD; San Elijo JPA; Vallecitos WD; U.S. Marine Corps Camp Pendleton; Encina Wastewater Authority; Rancho Santa Fe Community Services District (CSD); Fairbanks Ranch CSD; and Whispering Palms CSD. Wastewater collected by these agencies is treated and recycled, or treated and ultimately discharged to the Oceanside Ocean Outfall, Encina Ocean Outfall, or San Elijo Ocean Outfall. **Table 3.17-2** shows treatment facilities used by wastewater agencies within or near the Study Area, and which of these facilities currently produce recycled water.

**Table 3.17-2 – Coalition Member Wastewater Treatment Facilities**

Wastewater Agency	Treatment Facility	Produces Recycled Water?	Owner
City of Carlsbad	Encina WPCF* Carlsbad WRF	No Yes	Encina Wastewater Authority Carlsbad MWD
City of Escondido	Hale Avenue Resource Recovery Facility	Yes	City of Escondido
City of Oceanside	La Salina WWTP San Luis Rey WWTP	No Yes	City of Oceanside
Leucadia WWD	Encina WPCF* Gafner WRP	No Yes	Encina Wastewater Authority Leucadia WWD
San Elijo JPA	San Elijo WRF	Yes	San Elijo JPA
Vallecitos WD	Meadowlark WRP	Yes	Vallecitos WD
City of Vista/Buena Sanitation District	Encina WPCF*	No	Encina Wastewater Authority
U.S. Marine Corps Camp Pendleton	Southern Regional Tertiary Treatment Plant	Yes	U.S. Marine Corps Camp Pendleton
City of Encinitas	Encina WPCF* San Elijo WRF	No Yes	Encina Wastewater Authority San Elijo JPA
Encina Wastewater Authority	Encina WPCF*	No	Encina Wastewater Authority
Rancho Santa Fe CSD	Rancho Santa Fe WRP	No	Rancho Santa Fe CSD
Fairbanks Ranch CSD	Fairbanks Ranch WPCF	No	Fairbanks Ranch CSD
Whispering Palms CSD	Whispering Palms WPCF	No	Whispering Palms CSD

Source: RMC 2012

\*Encina WPCF provides secondary treatment to wastewater collected by the cities of Carlsbad, Vista and Encinitas, as well as Vallecitos WD, Buena Sanitation District, and Leucadia WWD; Carlsbad MWD and Leucadia WWD use a portion of this secondary effluent for tertiary treatment at the Carlsbad WRF and Gafner WRF, respectively.

## Stormwater

Stormwater quality and flooding potential in the Study Area is described in *Section 3.9 Hydrology and Water Quality*. Stormwater is regulated under the Municipal Separate Storm Sewer System (MS4) Permit, which was reissued for San Diego County in 2013. Copermittees named in the MS4 Permit are responsible for implementation of the compliance requirements in the permit. Copermittees within the Study Area include the County of San Diego and the cities of Carlsbad, Solana Beach, Encinitas, Vista, Escondido, San Marcos, Del Mar, and Oceanside. Public Works and/or Utilities departments maintain, clean, and repair drainage systems in their respective municipalities within the Study Area.

## **Solid Waste**

Waste collection services are provided by various entities within the Study Area. The cities of Carlsbad, Del Mar, Oceanside, and Solana Beach are served by Waste Management of North County, which also provides waste collection services to Camp Pendleton and some areas of unincorporated San Diego County (Waste Management of North County 2014). The Cities of Encinitas, San Marcos, and Vista are served by EDCO, as is the unincorporated San Dieguito area within Olivenhain MWD's boundaries (City of Encinitas N.D.; City of San Marcos 2013; City of Vista N.D.). The City of Escondido is served by Escondido Disposal, Inc.

There are two transfer stations within the Study Area: Carlsbad Palomar Transfer Station and Escondido Resource Recovery. The former is located in the City of Carlsbad on El Camino Real east and south of I-5 and SR-78. The latter is located on W. Washington Avenue near SR-78 in eastern Escondido (County of San Diego 2006).

## **Utilities**

San Diego Gas and Electric (SDG&E) is the public utility providing gas and electric service for San Diego County, including the Study Area (CPUC 2014).

### **3.17.2 Regulatory Framework – Utilities and Service Systems**

This section describes the regulatory setting related to utilities and service systems that are applicable to the Proposed Project.

#### **Federal**

There are no relevant Federal regulations related to utilities and service systems that are applicable to the Proposed Project.

#### **State**

##### **California Integrated Waste Management Act (AB 939)**

The California Integrated Waste Management Act (AB 939) created the California Integrated Waste Management Board and mandated waste management planning. It also required implementation of plans to divert a minimum of 50% of solid waste from landfills by 2000. The act also prioritized (in order) source reduction, recycling and composting, and environmental safe transformation and land disposal for integrated waste management.

##### **California Department of Resources Recycling and Recovery (CalRecycle)**

CalRecycle (formerly the California Integrated Waste Management Board) is the State agency responsible for regulating and permitting solid waste management through designation of authority to approved Local Enforcement Agencies, and provides guidance and resources for reducing solid waste and improving environmental protection related to waste management and disposal.

##### **California Public Utilities Commission**

The California Public Utilities Commission (CPUC) is the regulatory body responsible for regulating investor-owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation. Regulatory responsibilities include safety oversight, creating policies to ensure fair and universal access to utility services while promoting competitive markets where possible.

##### **California Energy Commission**

The California Energy Commission (CEC) is responsible for developing energy policy and planning for California. CEC has seven key responsibilities: 1) advancing State energy policy, 2) achieving energy

efficiency, 3) certifying thermal power plants, 4) investing in energy innovation, 5) transforming transportation, 6) developing renewable energy, and 7) preparing for energy emergencies.

## **Local**

### **Water and Wastewater Master Plans**

Each of the water and wastewater agencies identified in **Tables 3.17-1** and **3.17-2** have developed planning documents that may include master plans, facility plans, urban water management plans, asset management plans, strategic or business plans, and others. These planning documents provide the basis for capital improvement decisions by the individual Coalition members.

### **MS4 Permit and Water Quality Improvement Plans**

On May 8, 2013, the San Diego RWQCB adopted the *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region*, Order R9-2013-0001, NPDES No. CAS0109266 (referred to as the Regional MS4 Permit). MS4 Permits regulate discharges, generally stormwater, from entities listed under the permit; these listed agencies are referred to as Copermittees. The Copermittees for the Regional MS4 Permit in San Diego County include the eighteen incorporated cities, the County of San Diego, the San Diego County Regional Airport Authority, and the San Diego Unified Port District.

The Regional MS4 Permit requires the Copermittees to develop stormwater management programs for each of the eleven westward-draining watersheds included within San Diego County. Locally, these plans are referred to as Water Quality Improvement Plans (WQIPs), which are adaptive planning documents that identify the highest priority water quality conditions within each watershed and establish strategies that are implemented by individual jurisdictions to achieve improvements in the quality of MS4 discharges and ultimately the quality of receiving water bodies. WQIPs relevant to the Proposed Project include:

- San Luis Rey Watershed WQIP, developed by the City of Oceanside, City of Vista, the County of San Diego, and Caltrans
- Carlsbad Watershed WQIP, developed by the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, Vista, and the County of San Diego
- San Dieguito Watershed WQIP, developed by the cities of Del Mar, Escondido, Poway, and Solana Beach, and the County of San Diego

A WQIP is not currently under development for the Santa Margarita River watershed.

### **San Diego County Integrated Waste Management Plan**

The San Diego County Integrated Waste Management Plan (CIWMP), developed in accordance with the California Integrated Waste Management Act, was created in 1997, and subsequently revised as mandated by law. The Countywide Siting Element was most recently revised in 2005, and subsequent 5-year reviews of the CIWMP have found that this element has not required an update.

### **San Diego County Local Enforcement Agency (LEA)**

The San Diego County LEA regulates and is responsible for solid waste management in San Diego County, with the exception of the City of San Diego.

### **General Plans**

The General Plans for the seven municipalities within the Study Area contain policies addressing utilities. The goals, objectives, and policies included in the general plans of these municipalities are outlined in



**Table 3.17-3** at the end of this chapter. The Grouping and Treatment Plant columns indicate which project grouping and existing or proposed treatment plants fall under each jurisdiction.

### **3.17.3 Impact Analysis – Utilities and Service Systems**

#### **Methodology for Analysis**

The potential impacts from the Proposed Project on utilities and service systems were evaluated using the thresholds of significance in the CEQA Guidelines.

#### **Thresholds of Significance**

For the purposes of this analysis, an impact to utilities and service systems would be significant if the Proposed Project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Need new or expanded water supply entitlements;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Not comply with federal, state, and local statutes and regulations related to solid waste.

#### **Criteria Requiring No Further Evaluation**

Criteria listed above that are not applicable to actions associated with the Proposed Project are identified below along with a supporting rationale as to why further consideration is unnecessary and a no impact determination is appropriate.

- *Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs.* Solid waste disposal for the Proposed Project would occur during construction activities and would not impact landfills beyond their permitted capacities. The Proposed Project would not affect the total amount of solid waste generated by wastewater treatment facilities.
- *Not comply with federal, state, and local statutes and regulations related to solid waste.* The Proposed Project would be constructed and operated in compliance with all applicable solid waste regulations. No further evaluation is required.

#### **Impact Statements and Mitigation Discussions**

This section discusses potential impacts to utilities and service systems that could result in conjunction with the Proposed Project. Mitigation measures are identified where appropriate.

**Impact 3.17-1 Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;**

**Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or**

**Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments**

Treatment facilities included in the Proposed Project would operate in compliance with applicable water reclamation and discharge permits issued by the San Diego RWQCB. *Section 3.9, Hydrology* describes, in detail, the applicable regulations established by the RWQCB, which will be adhered to as part of the Proposed Project. In addition, specific mitigation measures will be implemented to ensure compliance with standards set by the RWQCB. Implementation of **Mitigation Measures MM 3.8-1** will ensure that a Hazardous Materials Business Plan is developed to ensure that chemical spills, which would violate requirements of the RWQCB, would not occur. **Mitigation Measure MM 3.9-3** will ensure that components of the Proposed Project associated with potable reuse are adequately investigated for their conformance to applicable environmental regulations, including those established by the RWQCB. Together, these mitigation measures will ensure that the Proposed Project would not lead to an exceedance of wastewater treatment requirements.

The Proposed Project itself entails construction of new water and wastewater treatment facilities and expansion of existing facilities to offset the use of imported water and reduce ocean discharges within the Study Area. The environmental effects of the proposed facilities are evaluated throughout this document; collectively, this analysis demonstrates that construction of new water and wastewater facilities or expansion of existing facilities will not significantly impact the environment so long as identified mitigation measures are implemented. The Proposed Project would not require or result in the construction of new water or wastewater treatment facilities beyond those being analyzed within this PEIR. Impacts are considered less than significant.

As discussed in *Section 3.13 Population and Housing*, the Proposed Project would increase total deliveries of recycled water and potable reuse water within the Study Area. This section also describes that the Proposed Project was designed to serve existing and planned future demands as established in the planning documents of applicable jurisdictions and special districts. Given that the Proposed Project was designed to meet planned demands consistent with applicable General Plans and growth projections, and the Proposed Project itself includes construction and expansion of wastewater treatment facilities to meet those demands, it is not anticipated that there would be inadequate capacity to serve the Proposed Project's projected demands. Impacts are considered less than significant.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

**Mitigation Measures MM 3.8-1** (see *Section 3.8 Hazards and Hazardous Materials*) and **MM 3.9-3** (see *Section 3.9 Hydrology and Water Quality*) shall apply to all above-ground facilities, and shall be implemented by the lead agency for each individual project component.

**Significance Determination after Mitigation**

Less than significant.

**Impact 3.17-2 Potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.**

Construction of pipelines and above-ground facilities for the Proposed Project would temporarily affect drainage during construction activities. As described in *Section 3.9, Hydrology and Water Quality*, there is potential for above-ground facilities to affect drainage on a long-term basis. Potential impacts would be addressed through compliance with the *NPDES Permit and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds within the San Diego Region* (Order R9-2013-0001) and associated municipal ordinances. **Mitigation Measure MM 3.9-4**, which calls for onsite stormwater facility installation and/or improvement where necessary to accommodate above-ground facilities, would eliminate the need for construction of new municipal storm drainage facilities. Installation and/or improvements to onsite stormwater facilities are anticipated to be small-scale, and facility design and operation would be in compliance with stormwater best management practices. These mitigation measures would reduce any potential impacts to storm water drainage to levels that are considered less than significant.

**Significance Determination before Mitigation**

Potentially significant.

**Mitigation Measures**

**Mitigation Measure MM 3.9-4** (see *Section 3.9 Hydrology and Water Quality*) shall apply to all above-ground facilities, and shall be implemented by the lead agency for each individual project component.

**Significant Determination after Mitigation**

Less than significant.

**Impact 3.17-3 Have insufficient water supplies available to serve the project from existing entitlements and resources, thus requiring new or expanded entitlements**

The Proposed Project was designed to provide a supplemental recycled and reuse water supply to the Study Area to offset imported water demands and reduce ocean discharges. The water supplies associated with the Proposed Project could potentially require additional entitlements or resources in those Groups that involve cross-connections between jurisdictions. In some cases, those jurisdictions do not yet have established agreements or entitlements in place; this potentially applies to Groups A, E, G, H, I, K, M, and O. The Proposed Project and development of the Groups described in *Chapter 2 Project Description*, are based upon technical analysis and informal agreements that have been reached between the Partners to meet goals of the Proposed Project. As such, the Proposed Project includes activities such as acquiring new or expanded entitlements as necessary to deliver 18,808 additional AFY of recycled water and potable reuse water by 2025. The Proposed Project would not require any additional entitlements beyond those that are included and evaluated throughout this document as part of the Proposed Project. Impacts are considered less than significant and no mitigation is required.

**Significance Determination before Mitigation**

Less than significant.

**Table 3.17-3: Relevant Goals, Objectives, and/or Policies from General Plans**

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Oceanside</b>		
<p>The City of Oceanside’s General Plan includes the following relevant objectives and policies:</p> <ul style="list-style-type: none"> <li>• <b>Objective:</b> To provide an adequate water supply, storage and distribution system, and an adequate sanitary sewage collection and treatment system to serve Oceanside’s existing and future growth requirements in an efficient and cost effective manner, while encouraging a more compact and sequenced development pattern through the phased extension of water and sewer systems and while meeting all Federal and State mandated programs.               <ul style="list-style-type: none"> <li>○ <b>Policy 5.1:</b> The City shall undertake a program to systematically expand wastewater treatment plant capacities in a manner consistent with the growth projections of the adopted General Plan by:                   <ul style="list-style-type: none"> <li>▪ Accommodating an additional one million gallons of flow in the La Salina wastewater service area over present design capacity;</li> <li>▪ Increasing the San Luis Rey Wastewater Treatment Plant capacity from 10.5 MGD to 24 MGD.</li> </ul> </li> <li>○ <b>Policy 5.8:</b> Oceanside shall undertake an expansion program for the existing Water Filter Plant in order to adequately serve future growth requirements of the community.</li> <li>○ <b>Policy 5.13:</b> The City shall encourage water conservation techniques and programs and shall educate the community about the importance of these efforts.</li> <li>○ <b>Policy 5.14:</b> The City will develop full water reclamation facilities to serve both new and existing development.</li> </ul> </li> <li>• <b>Objective:</b> To provide adequate stormwater management facilities and services for the entire community in a timely and cost effective manner, while mitigating the environmental impacts of construction of the storm drainage system as well as stormwater runoff.               <ul style="list-style-type: none"> <li>○ <b>Policy 6.5:</b> The City shall locate and/or design new critical facilities to minimize potential flood damage from the 100-year flood. Such facilities include those that provide emergency response (hospitals, fire stations, police stations, civil defense headquarters, utility lines, ambulance services, and sewage treatment plants). Such facilities also include those that do not provide emergency response but attract large numbers of people, such as schools, theaters, and other public assembly facilities.</li> </ul> </li> </ul>	G, O	El Corazon Site <sup>1</sup> San Luis Rey WWTP and AWT
<b>City of Carlsbad</b>		
<p>The City of Carlsbad’s General Plan includes the following relevant policies:</p> <ul style="list-style-type: none"> <li>• <b>Growth Management and Public Facilities Policy C.9:</b> Cooperate with other jurisdictions to ensure the timely provision of solid waste management and sewage disposal capacity.</li> <li>• <b>Water Quality Protection Objective B.5:</b> To conserve and efficiently manage the potable water resources available to the City of Carlsbad.               <ul style="list-style-type: none"> <li>○ <b>Policy C.16:</b> Conserve, protect and enhance the water resources of the City.</li> <li>○ <b>Policy C.23:</b> Prepare a long range plan that provides for adequate potable water, and addresses water conservation and reclamation programs.</li> </ul> </li> </ul>	A	Carlsbad WRF Gafner WRF Encina WPCF Meadowlark WRF and AWT

<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

Program Environmental Impact Report

Public Draft

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of Encinitas</b>		
<p>Relevant goals and policies of the City of Encinitas' General Plan include:</p> <ul style="list-style-type: none"> <li>• <b>Resource Management Goal 1:</b> The City will conserve, protect, and enhance the water resources in the Planning Area. (Coastal Act/ 30231) <ul style="list-style-type: none"> <li>○ <b>Policy 1.3:</b> The City will implement a program for both the using and sale of treated wastewater from a new wastewater treatment facility. The City should attempt to use the treated wastewater for the landscaping of transportation corridors, parks and recreation areas, and other public uses. (Coastal Act/ 30231)</li> <li>○ <b>Policy 1.7:</b> Investigate ways to reduce the reliance of local water users on imported water. The City will seek reductions in per capita water consumption and will support reclaiming sewage effluent for reuse.</li> <li>○ <b>Policy 1.9:</b> Encourage the use of recycled liquid wastes where appropriate. (Coastal Act/ 30231)</li> </ul> </li> </ul>	E, H	San Elijo WRF
<b>City of Escondido</b>		
<p>The City of Escondido's Mobility and Infrastructure Element of its General Plan includes the following relevant goals and policies:</p> <ul style="list-style-type: none"> <li>• <b>Goal 2:</b> Adequate and sustainable infrastructure and water supply to serve a community that values and conserves water. <ul style="list-style-type: none"> <li>○ <b>Water System Policy 12.2:</b> Maintain adequate water supply, treatment, and distribution capacity to meet normal and emergency situations to provide a minimum standard of 540 gallons per day per household. This standard should be periodically reviewed and modified by updates to the Water Master Plan to account for changes in water supply, demands, and conservation practices.</li> <li>○ <b>Water System Policy 12.7:</b> Require any new water facilities to be constructed to city standards.</li> <li>○ <b>Water System Policy 12.9:</b> Employ best practices to maintain the highest possible energy efficiency in the water treatment plant and infrastructure system to reduce costs and greenhouse gas emissions.</li> <li>○ <b>Water System Policy 12.10:</b> Implement federal and state drinking water quality standards for public water infrastructure facilities and private development projects.</li> <li>○ <b>Water System Policy 12.13:</b> Continue to use and explore opportunities to increase the use of recycled water in the city.</li> <li>○ <b>Water System Policy 12.14:</b> Educate Escondido's residents and businesses about the importance of water conservation and reclamation and techniques and programs to achieve these goals.</li> </ul> </li> <li>• <b>Goal 3:</b> Provision of adequate and sustainable wastewater infrastructure to serve residents, businesses and property <ul style="list-style-type: none"> <li>○ <b>Wastewater System Policy 13.2:</b> Ensure that the Hale Avenue Resource Recovery Facility (HARRF) and supporting infrastructure provide sufficient capacity to meet normal and emergency demand for existing and future growth based on a minimum standard of 250 gallons per day for each residence served by the HARRF. This standard should be periodically reviewed and modified by updates to the Wastewater Master Plan to account for changes in sanitary waste generation and conservation practices.</li> <li>○ <b>Wastewater System Policy 13.7:</b> Require any new wastewater system facilities be constructed to city standards.</li> <li>○ <b>Wastewater System Policy 13.10:</b> Design wastewater facilities to implement practices that avoid sewage spills affecting stream courses and reservoirs.</li> </ul> </li> </ul>	C, D, I, M	HAARF Escondido AWTF Harmony Grove WRF
<b>City of Vista</b>		
<p>The City of Vista's General Plan's Public Facilities and Services (2011) includes the following relevant services goals and policies:</p> <ul style="list-style-type: none"> <li>• <b>PSFS Goal 11:</b> Continue to ensure that the City has an adequate, safe, and reliable water supply to meet the existing and planned needs of the community. <ul style="list-style-type: none"> <li>○ <b>PSFS Policy 11.3:</b> Promote water conservation programs and use of recycled water to reduce Vista's demand for potable water.</li> </ul> </li> </ul>	O	None

Relevant General Plan Goal, Objective, and/or Policy	Group	Treatment Plant
<b>City of San Marcos (2013)</b>		
<ul style="list-style-type: none"> <li>• <b>Goal LU-8:</b> Ensure that existing and future development is adequately serviced by infrastructure and public services.               <ul style="list-style-type: none"> <li>○ <b>Policy LU-8.3:</b> Focus Capital Improvement Plan infrastructure improvements in areas needed to support more concentrated development and that is contiguous to existing development and available infrastructure.</li> </ul> </li> <li>• <b>Goal LU-13:</b> Water Service and Supply: Manage and conserve domestic water resources by reducing water usage and waste on a per capita basis, to ensure an adequate water supply for existing and future residents.               <ul style="list-style-type: none"> <li>○ <b>Policy LU-13.1:</b> Work closely with local and regional water providers to ensure high quality water supplies are available for the community.</li> <li>○ <b>Policy LU-13.2:</b> Actively promote water conservation programs aimed at reducing demand.</li> </ul> </li> <li>• <b>Goal LU-14:</b> Wastewater: Ensure an adequate wastewater system for existing and future development.               <ul style="list-style-type: none"> <li>○ <b>Policy LU-14.1:</b> Work closely with local service providers to ensure an adequate wastewater system for existing and future development is in place.</li> </ul> </li> </ul>	I, M, N	None
<b>City of Solana Beach</b>		
<p>The City of Solana Beach's General Plan includes the following relevant objectives and policies:</p> <ul style="list-style-type: none"> <li>• <b>Goal 3.1:</b> To protect and conserve the city's natural and cultural resources               <ul style="list-style-type: none"> <li>○ <b>Objective 2.0:</b> Maintain adequate domestic water supplies for all residents and uses within the city                   <ul style="list-style-type: none"> <li>▪ <b>Policy 2.b:</b> The city shall support projects involving water reclamation (such as the San Elijo treatment plant) by using reclaimed water for irrigation of public landscaped areas to the greatest feasible extent. Further, the city shall encourage the use of such water in privately owned areas.</li> </ul> </li> </ul> </li> </ul>	H, K	None
<b>County of San Diego</b>		
<p>Relevant goals and policies in the County of San Diego's General Plan include:</p> <ul style="list-style-type: none"> <li>• <b>Goal LU-12: Infrastructure and Services Supporting Development.</b> Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.               <ul style="list-style-type: none"> <li>○ <b>LU-12.3 Infrastructure and Services Compatibility.</b> Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.</li> </ul> </li> <li>• <b>Goal LU-14: Adequate Wastewater Facilities.</b> Adequate wastewater disposal that addresses potential hazards to human health and the environment.               <ul style="list-style-type: none"> <li>○ <b>LU-14.3 Wastewater Treatment Facilities.</b> Require wastewater treatment facilities serving more than one private property owner to be operated and maintained by a public agency. Coordinate the planning and design of such facilities with the appropriate agency to be consistent with applicable sewer master plans.</li> <li>○ <b>LU-14.4 Sewer Facilities.</b> Prohibit sewer facilities that would induce unplanned growth. Require sewer systems to be planned, developed, and sized to serve the land use pattern and densities depicted on the Land Use Map. Sewer systems and services shall not be extended beyond either Village boundaries or extant Urban Limit Lines, whichever is more restrictive, except:                   <ul style="list-style-type: none"> <li>▪ When necessary for public health, safety, or welfare;</li> <li>▪ When within existing sewer district boundaries;</li> <li>▪ When necessary for a conservation subdivision adjacent to existing sewer facilities; or</li> <li>▪ Where specifically allowed in the community plan.</li> </ul> </li> </ul> </li> </ul>	H, J, K, O	None

## 4. Alternatives Analysis

There are three alternatives to the Proposed Project: No Project Alternative, No Coalition Alternative, and No Potable Reuse Alternative. Per CEQA requirements, the purpose of an alternatives' analysis is to describe a range of reasonable alternatives to the project that could feasibly attain the objectives of the project and evaluate the comparative merits of the alternatives (CEQA Guidelines 2014).

### 4.1 Proposed Project Objectives

The Proposed Project represents a proactive approach to water management as it supports long-term planning efforts among multiple agencies in a manner that maximizes available reuse water supplies to serve demands. The objectives of the Proposed Project are:

- Optimize reuse of available wastewater resources to reduce ocean discharges and offset demands for potable water supplies that are generally imported into the region;
- Proactively plan for facilities that would be needed to meet and offset projected non-potable and potable demands for existing and planned growth within the Coalition members' service areas;
- Combine resources and work together to maximize water reuse for the Coalition members at a level beyond what each member could supply and utilize individually; and
- Increase water supply availability and reliability, and sustainability beyond existing conditions.

#### 4.1.1 Potentially Significant Impacts of Proposed Project

Potentially significant impacts of the North San Diego Water Reuse Coalition Regional Recycled Water Project, without mitigation measures, include impacts to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Public Services, Recreation, Transportation and Traffic, and Utilities and Service Systems. As summarized within the *Executive Summary*, and demonstrated in *Chapter 3, Environmental Analysis*, with mitigation, these potential impacts are reduced to less-than-significant levels for all resource sections except for Air Quality and Greenhouse Gas Emissions, which would result in significant and unavoidable impacts.

### 4.2 Alternative Development Process

Three potential alternatives to the Proposed Project were evaluated for this analysis. These Alternatives are described below, an analysis of the potential impacts of each alternative is provided in *Section 4.3, Alternatives Evaluation*.

#### 4.2.1 Alternative Selection

Per the CEQA Guidelines, there are two types of alternatives that could be reviewed in an EIR, including: alternatives of the project that include modified project components, such as alternative project sites or processes and/or modified facilities, layout, size and scale of the proposed project, and alternatives to the proposed project that are other projects entirely or other approaches to achieving the project objectives rather than the project or modified project.

The alternatives that were selected for this analysis fall into the first category described above in that they represent modifications to the Proposed Project rather than other projects entirely. This approach was chosen, because the alternatives described below are considered the most feasible for implementation in lieu of the Proposed Project. The alternatives selected for this analysis, including the "No Project Alternative" are described below.

#### **4.2.2 No Project Alternative**

The No Project Alternative is the “business as usual” alternative. Under this alternative there would be no expansion of recycled water production or distribution systems and no potable reuse within the Study Area. Existing recycled water distribution systems would continue to operate, along with current service and water purchase agreements between agencies. Partners would continue to provide potable water for non-potable uses, and continue to purchase imported water to meet demands. Anticipated future growth would be served with potable water, and agencies would need to increase their water purchases, develop alternative supplies, implement other conservation programs, or complete other recycled water projects to free potable demand. Under this scenario, growth would still occur as currently planned and water supplies would be necessary to meet planned demands.

#### **4.2.3 No Coalition Alternative**

The No Coalition Alternative would include expansion of recycled water systems within the Partners’ service areas to meet the demands identified in the Proposed Project, but would not include cross-connections or cooperative agreements beyond those that already exist.

For Partners that would receive water from reclamation or treatment facilities owned by other agencies, alternative recycled water supplies would be necessary. This applies to Carlsbad MWD, City of Oceanside, Rincon del Diablo, Vallecitos WD, and Vista ID.

For Partners that would like to implement potable reuse, each agency would need to build and operate their own advanced water treatment facilities, and have their own access to a suitable environmental buffer. Coalition Partners whose jurisdictions overlap, or who co-own facilities, may develop a different split of the water produced by their facilities if there is no Coalition. Under this scenario, growth would still occur as currently planned and water supplies would be necessary to meet planned demands.

#### **4.2.4 No Potable Reuse Alternative**

The No Potable Reuse Alternative would include construction of recycled water distribution systems and water reclamation and treatment facility expansions, along with cooperation between Partners, as described in the Project Description. However, this alternative would not include the potable reuse components, so Partners that would have received potable water through the potable reuse portions of the Proposed Project would instead continue to rely on imported water to meet those potable demands. This alternative would directly impact water supplies of the City of Escondido, City of Oceanside, Olivenhain MWD, Rincon del Diablo MWD, Santa Fe ID, and Vallecitos WD.

This alternative would also reduce the overall water available for purchase from the San Diego County Water Authority (SDCWA) compared to the Proposed Project, and could indirectly impact potable water supplies for all SDCWA members. Under this scenario, growth would still occur as currently planned and potable water supplies would be necessary to meet planned demands.

### **4.3 Alternatives Evaluation**

This section provides an evaluation of the three potential alternatives described in *Section 4.2* with respect to the objectives of the Proposed Project, which are defined in *Section 4.1.1*.

#### **4.3.1 No Project Alternative**

Under the No Project Alternative, the existing recycled water systems of the Coalition Partners would continue to operate, but additional water reuse would not take place. As such, potable water supplies that are largely comprised of imported sources purchased from the San Diego County Water Authority (SDCWA) would be used to serve planned non-potable and potable water demands; it is anticipated that additional construction and operation of potable water treatment and distribution facilities would take place



to serve additional planned demands. Additional available wastewater within the Study Area would not be beneficially reused under the No Project Alternative, and this water would continue to be discharged to the Pacific Ocean. The No Project Alternative would also result in increased demand for wastewater discharge capacity in one of the three ocean outfalls used by Coalition members; this would result in the need to construct expensive and potentially environmentally damaging outfall facilities.

The No Project Alternative would not meet the needs of the Coalition Partners as it would not meet objectives of the Proposed Project such as increasing water supply availability and reliability (beyond existing conditions) and optimizing reuse to offset demands for imported water sources.

#### **4.3.2 No Coalition Alternative**

Under the No Coalition Alternative, potable reuse and recycled water expansion would still take place, but would occur on an individual basis rather than being coordinated across the Study Area. As such, it is likely that this alternative would not result in as much recycled water treatment and distribution or potable reuse activities compared to the Proposed Project as each agency would be limited to the facilities, infrastructure, and features of their service areas. Potable water that is largely provided by imported sources would need to be utilized to meet planned demands, and it is likely that the amount of beneficial reuse would be reduced. The No Coalition Alternative might also result in unnecessary construction of redundant distribution systems for recycled water, as individual agency systems are prevented from crossing jurisdictional boundaries on more efficient paths to their customers.

The No Coalition Alternative would not meet the needs of the Coalition Partners as it would not meet objectives of the Proposed Project such as optimizing reuse to offset demands for imported water and combining resources to result in additional reuse beyond what each agency could provide individually.

#### **4.3.3 No Potable Reuse Alternative**

Under the No Potable Reuse Alternative, potable reuse would not take place and imported water would be supplied to meet planned future potable water demands. In addition, other locally planned and available supplies such as ocean water desalination, brackish water desalination, and conservation would be used to meet planned potable water demands. The No Potable Reuse Alternative would continue Coalition members forward on construction of purple pipe systems that meet only non-potable needs and sometimes result in redundant distribution systems.

The No Potable Reuse Alternative would not meet the needs of the Coalition Partners as it would not meet objectives of the Proposed Project such as optimizing reuse to offset demands for imported water sources and increasing water supply reliability and availability.

### **4.4 Potential Impacts from Project Alternatives**

Potential impacts associated with the three alternatives to the Proposed Project were identified and compared to the potential impacts analyzed for the Proposed Project. **Table 4-1** provides an overview of the potential environmental impacts of the alternatives with respect to the potential impacts of the Proposed Project.

**Table 4-1: Comparison of Alternatives to Proposed Project**

Resource	Potential Alternatives		
	No Project	No Coalition	No Potable Reuse
<b>Aesthetics</b>	Less	Similar	Similar
<b>Agriculture and Forestry</b>	Similar	Similar	Similar
<b>Air Quality</b>	Greater	Greater	Greater
<b>Biological</b>	Less	Similar	Similar
<b>Cultural</b>	Less	Similar	Similar
<b>Geology and Soils</b>	Similar	Similar	Similar
<b>Greenhouse Gas Emissions</b>	Greater	Greater	Greater
<b>Hazards and Hazardous Materials</b>	Similar	Similar	Similar
<b>Hydrology and Water Quality</b>	Similar	Similar	Less
<b>Land Use</b>	Less	Similar	Similar
<b>Mineral</b>	Similar	Similar	Similar
<b>Noise</b>	Less	Similar	Similar
<b>Population and Housing</b>	Similar	Similar	Similar
<b>Public Services</b>	Less	Similar	Similar
<b>Recreation</b>	Less	Similar	Similar
<b>Transportation and Traffic</b>	Similar	Similar	Similar
<b>Utilities</b>	Less	Similar	Similar
<b>Environmental Justice</b>	Similar	Similar	Similar

#### 4.4.1 No Project Alternative

##### Aesthetics

Aesthetic impacts would be expected to occur under the No Project Alternative, but these impacts would likely be less than potential aesthetic impacts that could result from the Proposed Project. Because the No Project Alternative would require expansion of existing potable water supplies to meet planned demands, construction would be anticipated and could impact aesthetic resources such as scenic and visual resources identified in the Local Coastal Program and/or create new sources of light or glare, in a manner similar to the Proposed Project. However, because the No Project Alternative would generally consist of expansion of existing facilities, it is anticipated that aesthetic impacts would be less than the Proposed Project, because less new construction would be required.

##### Air Quality and Greenhouse Gas Emissions

Air quality and greenhouse gas emissions would be greater under the No Project Alternative than under the Proposed Project. Due to multiple facilities under construction concurrently, the Proposed Project would result in significant and unavoidable impacts for air quality emissions related to project construction. The Proposed Project would also result in significant and unavoidable impacts related to greenhouse gas emissions, because it would exceed the 2,500 mega-tons (MT) of carbon dioxide equivalence (CO<sub>2</sub>e) per year threshold recommended by the County of San Diego. Because the No Project Alternative would result in continued reliance upon existing water sources (including imported water), it is anticipated that existing

facilities would need to be expanded in the future to meet increasing demands that would otherwise be served by the Proposed Project. Construction emissions would likely be similar to the Proposed Project due to construction of facilities for delivery of a comparable water volume.

However, operational emissions under the No Project Alternative would be greater than those for the Proposed Project. This is because the Proposed Project would offset demands for imported water while the No Project Alternative would continue reliance on, and transportation of, imported sources in Northern California and/or Colorado River basin.

### **Agriculture, Forestry, and Mineral Resources**

As with the Proposed Project, no significant agriculture and forestry or mineral resources impacts would be expected to occur under the No Project Alternative. Given the small amount of agriculture, forestry, and mineral resources within the Study Area, it is unlikely that additional construction and operational activities that would take place under the No Project Alternative would substantially impact these resources. .

### **Biological and Cultural Resources**

Additional construction and operational activities for potable water facilities that would take place under the No Project Alternative could potentially impact biological and cultural resources. Impacts to biological resources are most likely to occur within or adjacent to currently undisturbed areas that have the potential to support protected habitat and species. Impacts to cultural resources are most likely to occur in currently undisturbed areas where previously undiscovered underground resources could be present or in portions of the Study Area that are known to contain important cultural and historical resources. However, because the No Project Alternative would generally consist of expansion of existing facilities to meet planned demands, it is anticipated that new construction in areas that could contain biological and cultural resources would be less likely compared to the Proposed Project.

### **Geology and Soils**

The Study Area is in a seismically active area, which is prone to potential impacts associated with geology and soils. The No Project Alternative would likely require additional construction and operational activities for potable water facilities to meet additional planned demands. As with the Proposed Project, additional construction and operational activities resulting from the No Project Alternative must take the potential for seismic activity into consideration during design and construction. Therefore, impacts associated with geology and soils for the No Project Alternative are considered similar to those anticipated for the Proposed Project.

However, operational emissions under the No Project Alternative would be greater than those for the Proposed Project. This is because the Proposed Project would offset demands for imported water while the No Project Alternative would continue reliance upon imported water sources and therefore would result in additional GHG emissions associated with transporting additional water supplies from imported sources in Northern California and/or Colorado River basin.

### **Hazards and Hazardous Materials**

Hazards and hazardous materials already exist within the Study Area, and it is anticipated that operation of new facilities required for the No Project Alternative, such as potable water treatment and storage facilities, could include regular storage and use of additional hazardous materials. Impacts associated with the No Project Alternative for hazards and hazardous materials would, therefore, be similar to those anticipated for the Proposed Project.

## **Hydrology and Water Quality**

The Proposed Project was found to have the potential to affect water quality (surface and groundwater), alter the existing drainage pattern of a site or area, and place structure within a 100-year flood hazard area that could impede flood flows. Given the nature of the Study Area, it is anticipated that the No Project Alternative would have similar impacts associated with these hydrology and water quality considerations. The No Project Alternative would not result in additional beneficial reuse of water resources, however, and would therefore not reduce ocean discharges and could potentially result in additional ocean discharges as wastewater flows are anticipated to increase over time with planned population growth.

Several of the individual Coalition members are currently in the planning, design, or pilot study phase of potable reuse projects. Implementation of these potable reuse projects, with associated water quality impacts, could occur in the No Project Alternative. Regulatory permitting would ensure that potential water quality impacts within local surface reservoirs and groundwater would be similar to the Proposed Project. Based on all of these considerations, the No Project Alternative would likely have a similar degree of impact as those anticipated for the Proposed Project.

## **Land Use and Planning**

The Proposed Project was found to potentially impact land use in areas governed by Local Coastal Programs or habitat conservation/natural community conservation plans. Because construction and operation activities associated with the No Project Alternative would generally include expansion of existing facilities, potential the No Project Alternative would not likely conflict with adopted plans or divide a community. Therefore, impacts to land use and planning would be less under the No Project Alternative compared to the Proposed Project.

## **Noise**

As with the Proposed Project, construction and operational activities associated with the No Project Alternative could potentially have noise-related impacts. However, because the No Project Alternative would generally result in expansion of existing facilities, it is less likely that the No Project Alternative would substantially impact noise-sensitive resources beyond existing conditions. Therefore, impacts associated with noise would be less under the No Project Alternative compared to the Proposed Project.

## **Population and Housing**

As with the Proposed Project, no significant population and housing impacts would be expected to occur under the No Project Alternative, because supplies would be produced to meet demands in accordance with adopted planning documents.

## **Public Services, Recreation, and Utilities**

The Proposed Project would potentially impact public services, recreation, and utilities due to construction and operational activities. Because the No Project Alternative would generally result in expansion of existing facilities, it is less likely that the No Project Alternative would substantially impact existing resources beyond existing conditions. Therefore, impacts associated with public services, recreation, and utilities would be less under the No Project Alternative compared to the Proposed Project.

## **Transportation and Traffic**

As with the Proposed Project, the No Project Alternative could potentially result in transportation and traffic impacts due to road or lane closures associated with construction activities. The magnitude and severity of such impacts are site-specific in that impacts vary based upon which roadways would potentially be affected. However, it is anticipated that as with the Proposed Project, construction and operation of the No Project Alternative would take potential transportation and traffic impacts into consideration. Impacts

associated with transportation and traffic from the No Project Alternative and the Proposed Project are, therefore, considered to be similar.

### **Environmental Justice**

The Study Area was found to have few predominantly minority populations, but many large areas of disadvantaged communities (DACs). The No Project Alternative would likely require additional construction and operational activities to meet additional planned demands. As with the Proposed Project, additional construction and operational activities resulting from the No Project Alternative must take the potential for impacts to DACs into consideration during design and construction. Therefore, impacts associated with environmental justice for the No Project Alternative are considered similar to those anticipated for the Proposed Project

#### **4.4.2 No Coalition Alternative**

### **Aesthetics**

The No Coalition Alternative would require construction of additional recycled water facilities, including above-ground facilities to increase recycled water production and distribution that could potentially impact aesthetic resources such as scenic and visual resources identified in the Local Coastal Program and/or create new sources of light or glare, in a manner similar to the Proposed Project. As such, this alternative would have similar impacts to the Proposed Project.

### **Air Quality and Greenhouse Gas Emissions**

Construction-related air quality and GHG emissions would be similar to the Proposed Project under the No Coalition Alternative. Due to multiple facilities under construction concurrently, the Proposed Project would result in significant and unavoidable air quality emissions for construction activities. Because the No Coalition Alternative would result in continued reliance upon existing water sources (including imported water), it is anticipated that existing facilities would need to be expanded in the future to meet increasing demands. As such, construction emissions for the No Coalition Alternative would likely also exceed air pollution and GHG standards due to the magnitude of new construction that would be required. Further, the No Coalition Alternative would not involve combining of resources between Coalition members and could potentially result in construction of redundant facilities.

Operational air quality and GHG emissions for the No Coalition Alternative would be greater than operational-related GHG emissions for the Proposed Project. Because the No Coalition Alternative would not result in the provision of as much local water sources compared to the Proposed Project, operational emissions for the No Coalition Alternative could be higher as water supplies are imported from Northern California and/or Colorado River basin to meet individual agency's demands. In total, it is anticipated that operational inefficiencies and expansion of existing facilities for the No Coalition Alternative would result in greater emissions to the Proposed Project even though it would be a smaller magnitude project.

### **Agriculture, Forestry, and Mineral Resources**

As with the Proposed Project, no significant agriculture, forestry, or mineral resources impacts would be expected to occur under the No Coalition Alternative due to the minimal occurrence of these resources within the Study Area.

### **Biological and Cultural Resources**

The No Coalition Alternative would require construction of additional recycled water facilities, which could potentially impact biological and cultural resources within the Study Area. Similar to the Proposed Project, it is anticipated that construction of additional recycled water facilities as part of the No Coalition Alternative on undeveloped portions of land or in areas with known cultural or biological resources would

have the highest likelihood of impacting biological or cultural resources. As such, the No Coalition Alternative would have similar impacts to the Proposed Project associated with potential impacts to biological and cultural resources.

### **Geology and Soils**

The potential for geological impacts associated with seismic events, landslides, and other geological features already exist within large portions of the Study Area. Similar to the Proposed Project, the No Coalition Alternative could potentially have impacts associated with geology and soils, and would need to take the potential for such impacts into consideration during design and construction.

### **Hazards and Hazardous Materials**

Hazards and hazardous materials already exist within the Study Area. Similar to the Proposed Project, the No Coalition Alternative could potentially introduce additional hazardous materials into the Study Area, such as storing chemicals onsite for treatment plant, pumping, and other operations, and could potentially result in other impacts associated with hazards and hazardous materials. As such, design and construction of the No Coalition Alternative would need to take the potential for impacts to hazards and hazardous materials into consideration. Impacts to hazards and hazardous materials are, therefore, considered similar under the No Coalition Alternative and the Proposed Project.

### **Hydrology and Water Quality**

The Proposed Project was found to have the potential to affect water quality (surface and groundwater), alter the existing drainage pattern of a site or area, and place structure within a 100-year flood hazard area that could impede flood flows. Given the nature of the Study Area, it is anticipated that the No Coalition Alternative would have similar impacts associated with these hydrology and water quality considerations. The No Coalition Alternative would result in less additional beneficial reuse of water resources compared to the Proposed Project, however, and could result in greater ocean discharges than the Proposed Project.

Additionally, individual agencies may choose to implement potable reuse projects, with associated water quality impacts, even in the absence of the Coalition. Regulatory permitting would ensure that potential water quality impacts within local surface reservoirs and groundwater would be similar to the Proposed Project. Therefore, the No Coalition Alternative would be expected to have a similar impact on hydrology and water quality compared to the Proposed Project.

### **Land Use and Planning**

The No Coalition Alternative would require construction of additional facilities, which could potentially impact land use and planning resources in the service areas of the Coalition Partners, including impacts to lands governed by Local Coastal Programs or habitat conservation/natural community conservation plans. Design and construction of the No Coalition Alternative would need to take potential land use and planning impacts into consideration in a manner similar to the Proposed Project. As such, this alternative would have similar impacts to the Proposed Project for land use and planning.

### **Noise**

The No Coalition Alternative would have the potential to generate additional noise associated with construction and operation. As determined for the Proposed Project, there are many noise-sensitive areas in the Study Area that would need to be taken into consideration during design and construction. As such, the No Coalition Alternative, similar to the Proposed Project, could have impacts associated with noise without implementation of mitigation measures.

## **Population and Housing**

As with the Proposed Project, no significant population and housing impacts would be expected to occur under the No Coalition Alternative, because supplies would be produced to meet demands in accordance with adopted planning documents.

## **Public Services, Recreation, and Utilities**

Potential impacts to public services, recreation, and utilities could occur under the No Coalition Alternative, because additional construction and operation activities could impact these resources. Similar to the Proposed Project, design and construction of the No Coalition Alternative would need to consider potential impacts to public services, recreation, and utilities resources.

## **Transportation and Traffic**

Similar to the Proposed Project, it is anticipated that the No Coalition Alternative would result in additional construction or operational activities that could generate additional vehicle trips. Further, it is likely that the No Coalition Alternative would involve construction activities (generally pipeline construction) that would require road or lane closures. As such, impacts associated with transportation and traffic are considered similar for the No Coalition Alternative and the Proposed Project.

## **Environmental Justice**

Similar to the Proposed Project, the No Coalition Alternative would require analysis to ensure that additional construction or operational activities would not disproportionately affect minority or low-income communities given that the Study Area contains both minority and economically disadvantaged communities.

### **4.4.3 No Potable Reuse Alternative**

## **Aesthetics**

The No Potable Reuse Alternative would require construction of additional facilities, likely including above-ground facilities to increase recycled water production and distribution. As such, this alternative would have similar impacts to the Proposed Project in that it could impact aesthetic resources such as scenic and visual resources identified in the Local Coastal Program and/or create new sources of light or glare.

## **Air Quality and Greenhouse Gas Emissions**

Air quality and greenhouse gas emissions would be similar to the Proposed Project under the No Potable Reuse Alternative. Due to multiple facilities under construction concurrently, the Proposed Project would result in significant and unavoidable impacts related to project construction. Construction emissions would likely be similar to the Proposed Project due to construction of facilities for delivery of a comparable water volume. Because the No Potable Reuse Alternative would result in continued reliance upon existing potable water sources, it is anticipated that existing potable water facilities, including those to import water into the region, would need to be expanded in the future to meet increasing demands that would otherwise be served by the Proposed Project. Operational emissions would be greater for the No Potable Reuse Alternative than for the Proposed Project due to the need for continued importation of water supply from Northern California and/or Colorado River basin.

## **Agriculture, Forestry, and Mineral Resources**

As with the Proposed Project, no significant agriculture, forestry, or mineral resources impacts would be expected to occur under the No Potable Reuse Alternative due to the minimal occurrence of these resources within the Study Area.

## **Biological and Cultural Resources**

The No Potable Reuse Alternative would require construction of additional facilities, which could potentially impact biological and cultural resources, especially in areas that are currently undisturbed or are known to contain sensitive biological and cultural resources. As such, this alternative would have similar impacts to the Proposed Project and would need to take the potential occurrence of sensitive biological and cultural resources into consideration during construction and design.

## **Geology and Soils**

The potential for geological impacts associated with seismic events, landslides, and other geological features already exist within the Study Area. Similar to the Proposed Project, the No Potable Reuse Alternative could potentially have impacts associated with geology and soils, and would need to consider the potential for such impacts to occur into consideration during design and construction.

## **Hazards and Hazardous Materials**

Hazards and hazardous materials already exist within the Study Area. Similar to the Proposed Project, the No Potable Reuse Alternative could potentially have impacts associated with hazards and hazardous materials as it would likely result in additional hazardous materials being stored onsite in treatment, pumping, and other facilities.

## **Hydrology and Water Quality**

The No Potable Reuse Alternative is expected to have similar impacts as the Proposed Project as related to affecting water quality (surface and groundwater), altering the existing drainage pattern of a site or area, and placing structures within a 100-year flood hazard area that could impede flood flows. The No Potable Reuse Alternative would result in less additional beneficial reuse of water resources compared to the Proposed Project, however, and would therefore be expected to result in greater ocean discharges than the Proposed Project.

The No Potable Reuse Alternative would not involve contribution of advanced treated water (purified water) to local groundwater or surface water reservoirs. Potable reuse activities have the potential to change the quality of surface water or groundwater. Regulations are currently being developed, and will be employed in the Proposed Project, that specify permitting requirements for potable reuse projects in a manner that ensures protection of applicable groundwater or surface reservoirs. While potable reuse impacts are anticipated to be minimal, such impacts would not take place under the No Potable Reuse Alternative, and water quality within groundwater and surface reservoirs in the Study Area would remain at existing conditions. Therefore, the No Potable Reuse Alternative would be expected to have a less impact on hydrology and water quality compared to the Proposed Project.

## **Land Use and Planning**

The No Potable Reuse Alternative would require construction of additional facilities, which could potentially impact land use and planning in the Study Area. As such, this alternative would have similar impacts to the Proposed Project.

## **Noise**

The No Potable Reuse Alternative would have the potential to generate additional noise associated with construction and operation. Further, the Study Area is known to contain resources that are potentially sensitive to noise. As such, the No Potable Reuse Alternative, similar to the Proposed Project, could have impacts associated with noise, and the potential for such impacts would need to be taken into consideration during design and construction.



### **Population and Housing**

As with the Proposed Project, no significant population and housing impacts would be expected to occur under the No Potable Reuse Alternative, because supplies would be produced to meet demands in accordance with adopted planning documents.

### **Public Services, Recreation, and Utilities**

Potential impacts to public services, recreation, and utilities could occur under the No Potable Reuse Alternative, because additional construction and operation activities could impact these resources. Similar to the Proposed Project, design and construction of the No Potable Reuse Alternative would need to take the presence of public services, recreation, and utilities resources into consideration to reduce potential effects.

### **Transportation and Traffic**

Potential transportation or traffic impacts could occur under the No Potable Reuse Alternative, because this alternative would result in additional construction or operational activities that could generate additional vehicle trips. Further, the No Potable Reuse Alternative could result in lane or road closures during construction. Similar to the Proposed Project, design and construction of the No Potable Reuse Alternative would need to take potential transportation and traffic impacts into consideration to reduce potential effects.

### **Environmental Justice**

Similar to the Proposed Project, the No Potable Reuse Alternative would require additional analysis to ensure that additional construction or operational activities would not disproportionately affect minority or low-income communities that are known to exist within the Study Area.

## **4.5 Environmentally Superior Alternative**

CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, the environmental analysis shall also identify an environmentally superior alternative from among the other alternatives. As discussed in *Chapter 3, Environmental Analysis*, the impacts resulting from the Proposed Project can be satisfactorily mitigated to less than significant levels for all environmental resources except Air Quality and Greenhouse Gas Emissions. As demonstrated in **Table 4-1**, none of the alternatives to the Proposed Project would reduce impacts compared to the Proposed Project in all resources categories. Further, all alternatives would be anticipated to result in greater Air Quality and Greenhouse Gas Emissions impacts as compared to the Proposed Project. Accordingly, based on the analysis presented above, the Proposed Project would be considered the Environmentally Superior Alternative, as it would satisfy the Coalition's objectives while generally resulting in similar or less impacts to all environmental resources than the No Coalition and No Potable Reuse Alternatives. While the No Project Alternative would result in less impacts than the Proposed Project for many of the categories that were analyzed, the No Project Alternative would result in greater Air Quality and Greenhouse Gas Emissions than the Proposed Project. Considering that the Proposed Project was found to have Significant and Unavoidable impacts associated with Air Quality (construction) and Greenhouse Gas Emissions (construction and operation), the Proposed Project is considered environmentally superior compared to the No Project Alternative.

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## 5. Other Environmental Considerations

This section includes discussion of other environmental considerations, including Environmental Justice considerations, potential cumulative impacts of the Proposed Project in concert with other projects occurring or planned within or near the Study Area, Significant Unavoidable, and Irreversible Impacts. Potential for growth inducement is addressed in *Section 3.13, Population and Housing*.

### 5.1 Environmental Justice

Environmental justice is defined by the U.S. Environmental Protection Agency (USEPA) as: “The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies” (USEPA 2012).

#### 5.1.1 Physical Environmental Setting – Environmental Justice

##### Economic Development

The majority of the cities within the Study Area are projected to see job growth between the years 2000 to 2050, with job growth ranging from 28 percent to 79 percent growth rates over that period. The City of San Marcos is projected to experience the highest percentage of job growth in the Study Area, but the City of Carlsbad is projected to create the greatest number of jobs, providing an additional 36,322 jobs by 2050. The only jurisdiction anticipated to lose jobs over this time frame is the City of Solana Beach, which is projected to have a -2 percent change in jobs (SANDAG 2011).

##### Unemployment Rates

Unemployment data from the U.S. Bureau of Labor Statistics shows an unemployment rate ranging from 5.8 to 6.6 percent between April and September 2014 for the San Diego-Carlsbad-San Marcos area. This unemployment rate is comparable to the national unemployment rate for the same period, which ranged from 5.9 to 6.3 percent, and was generally lower than the unemployment rate for the West Census Region and lower than the unemployment rate in the State of California (US Bureau of Labor Statistics 2014).

##### Minority and Low Income Communities

The 2013 San Diego Integrated Regional Water Management (IRWM) Plan included an analysis of disadvantaged communities (DACs) in the San Diego IRWM Region, which encompasses the entire Study Area and additional portions of San Diego County. This analysis of DACs evaluated median household incomes (MHI) by census block, using data from the 2010 United States Census and by census block group, using estimated 2013 MHIs developed by Nielsen-Claritas (US Census 2011, Nielsen-Claritas 2013). The 2013 estimates were used in an attempt to more accurately map the location of DACs given that this data was synthesized at a finer grain compared to standard U.S. Census data. Using block group data helped to refine the location of DACs, and captured more recent data (2013 vs. 2010). DACs were defined in the IRWM Plan as communities with an average MHI 80 percent or less than the statewide average per the definition of DACs provided by the California Department of Water Resources. Using this definition, for the 2010 data, communities with an MHI of \$48,706 or less were classified as DACs, and for the 2013 data, communities with an MHI of \$46,979 or less were classified as DACs (SDRWGM 2013).

Per the DAC analysis included in the 2013 San Diego IRWM Plan, there are DACs within the Study Area, although the majority of the Study Area is not classified as containing DACs. There are four major clusters

of DACs in the Study Area when considering the refined 2013 data. These clusters include a substantial portion of the City of Escondido, and portions of eastern Vista, southern San Marcos, and western Oceanside. There is also a small area designated as a DAC in the City of Carlsbad near Buena Vista Lagoon. Furthermore, the entirety of Camp Pendleton is designed as a DAC (SDRWGMG 2013). Overall MHI for the North County Metro Community Planning Area, which encompasses the majority of the Study Area, including all of the municipalities within the Study Area, has an overall estimated MHI of \$81,314, adjusted for inflation.

Minority populations are defined as areas where minorities (non-White) comprise more than 50% of the total population. In the North County Metro Community Planning Area, minorities comprise nearly 40 percent of the total population (17,055 out of 43,232 people) (SANDAG 2014). American Community Survey (ACS) data, collected by the U.S. Census Bureau, compiles demographic data, including race, by census tract. The most recent tract-level demographic data available from ACS is from 2012. Mapping of these data show that there are only three groups of Census tracts within the Study Area with populations that are classified as more than 50 percent minority. These populations are all located within the City of Oceanside, with three found in or partially within Group G. **Figure 5-1** shows the location of DACs and minority populations in relation to the Coalition Partners' service areas and the Proposed Project.

## 5.1.2 Regulatory Framework – Environmental Justice

### Federal

Executive Order 12898 requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs and activities on minority and low-income populations, and required federal agencies to develop strategies to address environmental justice. It also created an interagency environmental justice workgroup, headed by the USEPA and its Office of Environmental Justice.

### State

There are no state regulations related to environmental justice that are relevant to the Proposed Project.

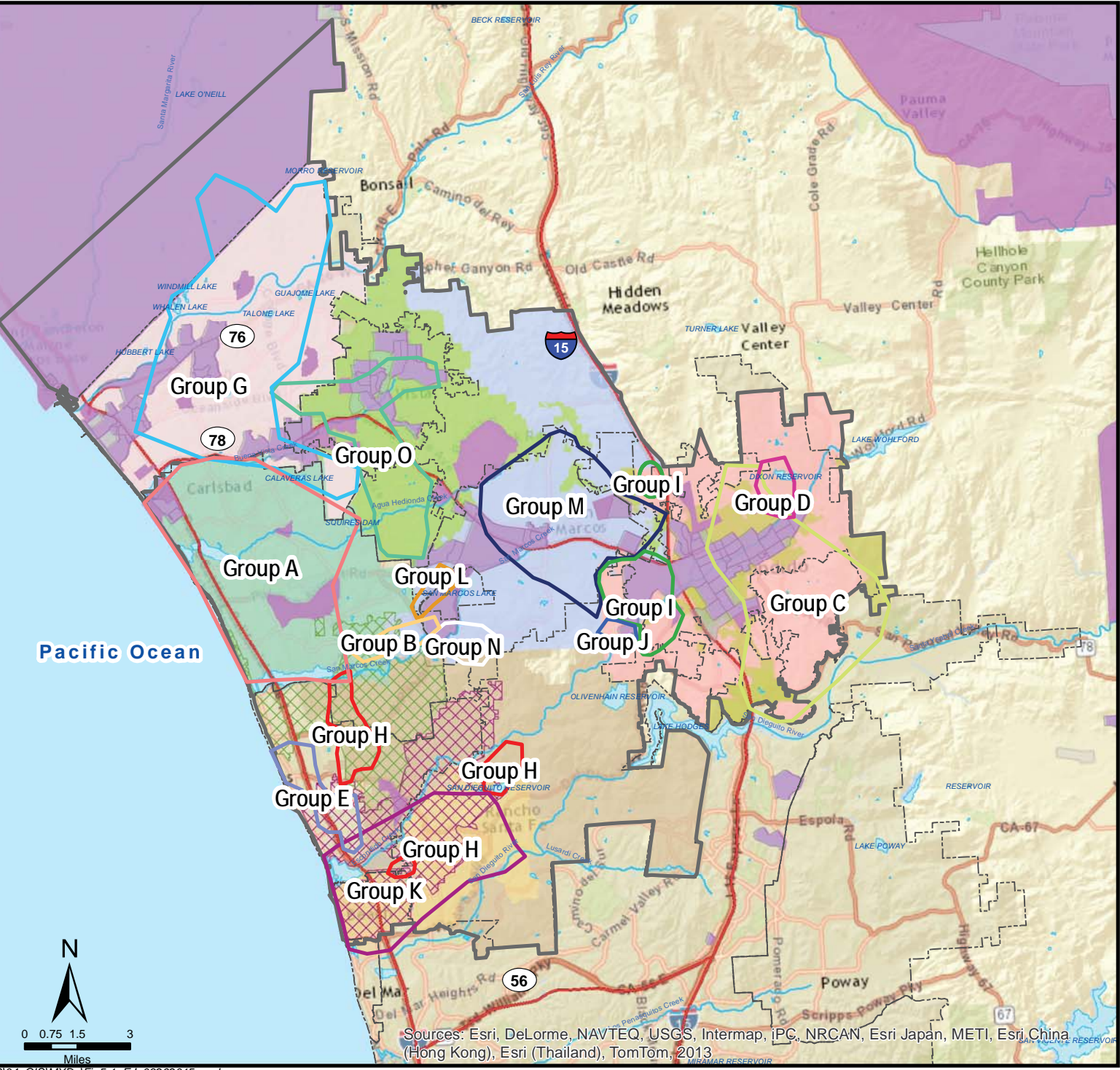
### Local

There are no local regulations related to environmental justice that are relevant to the Proposed Project.

**Figure 5-1  
Environmental Justice**

- Study Area
- 2013 Disadvantaged Communities
- 2010 Disadvantaged Communities
- >50% Minority Population
- Partners' Service Area**
- City of Carlsbad
- City of Escondido
- City of Oceanside
- Olivenhain MWD
- Rincon del Diablo MWD
- Santa Fe Irrigation District
- Vallecitos Water District
- Vista Irrigation District
- Leucadia WWD
- San Elijo JPA
- Ocean
- City Boundaries
- River
- Freeway

N  
 0 0.75 1.5 3  
 Miles



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

### 5.1.3 Impact Analysis – Environmental Justice

#### Methodology for Analysis

This analysis considered the location of environmental justice communities (minorities and DACs) in relation to the location of Proposed Project activities, facilities, and potential changes to the Study Area resulting from the Proposed Project. The proportionality of any potential impacts was evaluated by comparing impacts within environmental justice communities and non-environmental justice communities. For example, if the Proposed Project was found to have an impact related to noise, but more noise would occur in non-environmental justice communities than in environmental justice communities, the environmental justice impacts of noise would be low.

#### Thresholds of Significance

An impact related to environmental justice would be significant if the Proposed Project would:

- Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively.

#### Impact Statements and Mitigation Measures

This section discusses potential impacts related to environmental justice that could result from implementation of the Proposed Project. Mitigation measures are identified where appropriate.

#### **Impact 5.1-1 Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively.**

Overall, the Study Area has few predominantly minority population areas, and it does not contain many large areas of DACs. However, as shown in **Figure 5-1**, the Study Area does include some DACs and areas that are predominantly minority populations. Some groups associated with the Proposed Project are more likely to disproportionately affect DACs and/or minority populations. Groups with the greatest potential of having environmental justice impacts include Groups C, G, I, M, and O, which contain the largest areas of environmental justice communities. All Groups, with the exception of Groups H, I, and K, include at least some areas that qualify as DACs, as defined above. In addition, Group G contains three areas of predominantly minority populations.

Construction of pipelines would be less likely to have significant environmental justice impacts, because once constructed, pipelines require less maintenance, are located underground, and do not produce noise, odors, or other impacts. Aboveground facilities, such as treatment facilities or pump stations, are of greatest concern for long-term environmental justice impacts, especially because of potential hazardous materials, noise, odor, long-term traffic, and other potential impacts. Due to the presence of DACs and minority populations within the Study Area and specifically within many Groups, the impact to environmental justice communities is potentially significant and mitigation measures are necessary. After implementation of **Mitigation Measure MM 5.1-1**, impacts are considered to be less than significant.

#### Significance Determination before Mitigation

Potentially significant

#### Mitigation Measures

**Mitigation Measure MM 5.1-1** are required for all Groups and shall be implemented by the lead agency responsible for each applicable project component.

**MM 5.1-1 Screening Analysis and Mitigation of Potential Environmental Justice Impacts.** Once project facilities are finalized, Coalition members shall conduct a screening-level environmental justice

analysis, using the most recent income and demographic data available at that time. For those project components found to be constructed within or near an environmental justice community, efforts shall be made to reduce environmental justice impacts to less than significant levels. These efforts may include, but are not limited to, avoiding environmental justice communities when making design decisions (e.g., moving pipeline alignments to avoid environmental justice communities), incorporating impact-reducing features into facility design (e.g., include additional sound-proofing or odor control measures in facility design), and including additional mitigation measures to further reduce any potentially disproportionate impacts to environmental justice communities.

#### Significance Determination after Mitigation

Less than significant.

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## 5.2 Cumulative Impacts

CEQA requires consideration of the cumulative impacts of the Proposed Project in concert with the effects of other projects. A “cumulative impact” is defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (Section 15355, CEQA Guidelines). An analysis of the potential cumulative impacts resulting from implementation of the Proposed Project was conducted, taking into consideration other recent, current, and probable future projects within and near the Study Area.

### 5.2.1 Projects

A list of other projects with potential impacts that were considered in this analysis was developed based on research on relevant city and agency websites, consultation with Coalition members, and review of planning documents, including individual Capital Improvement Programs (CIPs). As with the rest of the potential impacts discussed in this PEIR, this analysis of cumulative impacts will serve as the basis for future project-level evaluations of the impacts of specific components of the Proposed Project.

**Table 5-1** includes the complete list of projects considered in the cumulative analysis, along with their general location. For this analysis, projects were grouped into project types to understand potential project-level impacts and facilitate the analysis. Projects were grouped into seven primary project types, described below:

- **Conveyance System (CS):** includes pipelines, pump stations, and other appurtenances related to construction of water and wastewater conveyance systems. These projects are most likely to occur primarily in roadway ROWs, and upon completion generally require restoration of the construction site to pre-construction conditions.
- **Development (DV):** includes construction of residential, commercial, and industrial buildings. May include associated facilities such as extension of pipelines. Does not include buildings associated with treatment facility construction or expansion.
- **Rehabilitation (RB):** includes maintenance and repairs to existing facilities. For conveyance systems, generally includes repairs to pipelines and replacement of existing equipment. Generally does not require extensive excavation activities, but may include some smaller areas of excavation to provide access to damaged portion of facilities.
- **Roadway Work (RD):** includes road repairs and construction, as well as painting, striping, installation of signals and crosswalks. Generally does not include extensive excavation activities.
- **Storage (ST):** includes storage facilities for water and wastewater, such as reservoirs and water tanks.

- **Treatment Facility (TRT):** includes construction and/or expansion of water and wastewater treatment facilities. Generally includes the on-site efforts only.
- **Other (O):** includes non-construction projects that may have a cumulative impact on a resource area. Such projects may include restoration of natural areas or recreational trail maintenance, among others.



**Table 5-1: Projects Considered by the Cumulative Impacts Analysis**

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
TRT	Carlsbad Desalination Project	Carlsbad, Vista, San Marcos	Carlsbad MWD, Vista ID, Vallecitos WD	Construction of desalination facility and 10 miles of pipeline to connect to SDCWA system
CS	Group 2 Pressure Reducing Station Replacement Project	Solana Beach, County of San Diego	Santa Fe ID	Replace 10 aging pressure reducing stations with 8 pressure reducing stations, and a pipeline
CS	Group 2 Pipeline Replacement Project	Solana Beach, County of San Diego	Santa Fe ID	Replace aging pipelines
CS	Replacement of San Dieguito Reservoir Pump Station	Solana Beach, County of San Diego	Santa Fe ID	Design and construction of new pump station
ST	Replacement of existing Chlorine Dioxide Generation Equipment and Replacement of Polyaluminum Chloride Tank Project	Solana Beach, County of San Diego	Santa Fe ID	Tank and equipment replacement
CS	Group 3 Pipeline Replacement Project and Government Road Pipeline Project (J-1501-1502)	Solana Beach, County of San Diego	Santa Fe ID	Combines two CIP projects that replace aging infrastructure
TRT	RE Badger Water Filtration Plant Electrical Distribution and Substation Improvements Project	Rancho Santa Fe	Santa Fe ID	Replacement of electrical service and distribution system at treatment plant
O	Grape Day Park Master Plan and Playground Design	Escondido	Escondido	Master plan for park including playground.
RB	Fire Mountain and Guajome No. 1 Reservoir repairs	Oceanside	Oceanside	Seismic retrofits and repairs of reservoirs

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
CS	Myers-Tait Sewer Pipeline Replacement Project	Oceanside	Oceanside	Sewer pipeline replacements
O	Oceanside Harbor Desalination Testing Project	Oceanside	Oceanside	Drilling of test wells to assess feasibility of desalination
CS	Leucadia Pump Station Generator Replacement	Carlsbad	Leucadia WWD	Replace pump station generator and enclosure
RB	2015 Gravity Pipeline Rehabilitation	Carlsbad, Encinitas	Leucadia WWD	Pipeline rehabilitation
RB	Scott's Valley Pipeline Repair	Carlsbad	Leucadia WWD	Pipeline rehabilitation through lining
CS	B1/B2 Force Main Replacement	Carlsbad	Leucadia WWD	Force Main replacement
CS	Saxony Pump Station Rehabilitation	Carlsbad	Leucadia WWD	Replace submersible pumps, replace valves, install new automatic transfer switch and uninterruptible power supply, replace wet well
CS	North Broadway Pipeline Extension Project	Escondido, County of San Diego	Rincon del Diablo MWD	Installation of pipeline to connect Laurashawn area to ID 1 service area
CS	Northwest Recycled Water Expansion Project	Escondido, County of San Diego	Rincon del Diablo MWD	Expansion of recycled water distribution system through pipeline installation
CS, ST	R1 Reservoir Recycled Water Conversion	Escondido, County of San Diego	Rincon del Diablo MWD	Recycled water pipeline construction and tank conversion
CS; ST	Citracado Parkway Extension	Escondido	City of Escondido/ Rincon del Diablo MWD	Road extension, bridge across Escondido Creek, 24-inch potable pipeline and 12-inch recycled water pipeline.
DV, TRT	Harmony Grove Village Development	County of San Diego	Rincon del Diablo MWD	750 home subdivision, 180,000 gpd tertiary treatment plant, wastewater disposal through onsite recycled water irrigation

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
O,TRT, CS	Santa Margarita River Conjunctive Use Project	Camp Pendleton and Fallbrook	n/a	Conjunctive use of surface and groundwater - diversion to percolation ponds. Involves diversion structure replacement, ditch and headgate improvements, storage and percolation pond improvement, new wells and collection system infrastructure, water treatment facilities, pumping plants and pipeline, and open space management
RD	Red Beach Operations Access Points Project at Marine Corps Base Camp Pendleton (P-159)	Camp Pendleton	n/a	Roads and bridges to improve vehicle and troop access and movement
RD	Operations Access Points (P-159A Green Beach)	Camp Pendleton	n/a	Roads and bridges to improve vehicle and troop access and movement
CS	San Dieguito Water District Emergency Interconnect (CWW12P)	Encinitas	Olivenhain MWD (partially)	Interconnecting pipeline with Olivenhain MWD
O	City of Vista 2007 Sewer Master Plan Update	Vista	n/a	Sewer Master Plan
O	Buena Vista Creek Enhancement Project	Vista	n/a	Creek restoration and nature trail
RD	Inland Rail Trail	Vista	Oceanside, Escondido	Class I bikeway and multi-use path
RD, DV, O	Paseo Santa Fe Project	Vista	Vista ID	Housing, roadway, and utilities and stormwater improvements
RD	Road and Traffic Projects	Vista	Vista ID	Installation of traffic signals, road improvements and reconstruction, modifications to traffic signals, installation and widening of sidewalks
RD, O	S. Santa Fe Avenue Tree and Concrete Work	Vista	Vista ID	Tree removal and replacement, sidewalk removal and replacement
RB	Sewer Improvement Projects (CIP Project No. 8165)	Vista	Vista ID	Rehabilitation of sewer pipe and repairs to service laterals, manholes, and other misc. repairs and adjustments
RB	Sewer Improvement Projects (CIP Project No. 8175)	Vista	Vista ID	Rehabilitation of sewers, repairs to laterals and miscellaneous repairs

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
RD	Sycamore Avenue and Hwy 78 Exit Improvements	Vista	Vista ID	Add a lane to off ramp
O	Future Skate Park Project	Vista	Vista ID	Sites approved for future skate park, construction begins mid-2015
O	Headworks Improvements	Solana Beach, County of San Diego	San Elijo JPA	Addition of a redundant washer/compactor and modification to the existing headworks configuration
O	Hydraulic Management	Solana Beach, County of San Diego	San Elijo JPA	Increased capacity of wastewater and recycled water storage to improve management of the ocean outfall
O	Class A Biosolids	Solana Beach, County of San Diego	San Elijo JPA	Upgrades to facilities to produce Class A biosolids to meet criteria for land application
O	Improved Energy Independence	Solana Beach, County of San Diego	San Elijo JPA	Improvement of digester gas utilization and installation of solar panels.
O	Fats, Oils & Grease (FOG) Acceptance	Solana Beach, County of San Diego	San Elijo JPA	Upgrades to SEWRF to allow it to become a FOG receiving station
O	Solids Transfer Station	Solana Beach, County of San Diego	San Elijo JPA	Transfer station for biosolids waste from wastewater treatment facilities
O	Groundwater Brine Disposal	Solana Beach, County of San Diego	San Elijo JPA	Feasibility study for a groundwater brackish desalination facility that uses remaining outfall capacity for brine disposal
O	Operations & Administration Buildings	Solana Beach, County of San Diego	San Elijo JPA	Planning for construction of upgraded Operations and Administration buildings
CS	AB Line Replacement	San Marcos, County of San Diego	Vista ID	Replacement of aging pipeline and pressure reducing station
CS	Meyers Siphon Replacement	County of San Diego	Vista ID	Replacement of aging pipeline

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
CS	Main Replacement Program	Vista, San Marcos, County of San Diego	Vista ID	Replacement of aging pipelines
CS	East Vista Way-Mason Rd Pipeline	County of San Diego	Vista ID	Replacement of aging pipelines
DV	Civic Center	Carlsbad	Carlsbad MWD	Construction of a new Civic Center for the City of Carlsbad
DV	Maintenance and Operations Center	Carlsbad	Carlsbad MWD	Construction of a new Maintenance and Operations Center for the City of Carlsbad
RD	Downtown Area Civic Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes lighting and traffic circle projects.
DV	Fire Station No. 3	Carlsbad	Carlsbad MWD	Relocation and construction of fire station.
O	Carlsbad Safety Training Center	Carlsbad	Carlsbad MWD	Training facility for police and training, including shooting range, fire training tower, residential training prop, outdoor pavilion, and storage facilities
DV	Cole Library Expansion and Improvements	Carlsbad	Carlsbad MWD	Construction of 45,155 square-foot library on current library site. Office space improvements and conversion of outdoor atrium to interior space.
DV	Dove Library Improvements	Carlsbad	Carlsbad MWD	Remodel of Dove library to accommodate library and staffing needs, improve circulation and flow, and increase space useable by the public.
O	Miscellaneous Civic Projects	Carlsbad	Carlsbad MWD	Multi-use trail creation.
O	Facility Maintenance Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes improvements to recreational facilities, roof replacement, beach access improvements, and electrical work.
O	Northwest Quadrant Parks Projects	Carlsbad	Carlsbad MWD	Includes development of recreational facilities and associated amenities, and open space and trails.
O	Northeast Quadrant Parks Projects	Carlsbad	Carlsbad MWD	Includes multi-use recreational trails and recreational fields and associated amenities.
DV, O	Southwest Quadrant Parks Projects	Carlsbad	Carlsbad MWD	Includes construction of 18,000 square-foot community facility, and development of a 42 acre park.

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
DV, O	Southeast Quadrant Parks Projects	Carlsbad	Carlsbad MWD	Includes construction of recreational facilities (fields, aquatics center, gymnasium, skate park, dog park, etc.) and associated amenities, and recreational trails.
CS, RD, TRT, ST	Drainage Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes storm drain pipeline replacement, construction of additional stormwater conveyance pipelines, drainage inlets, cleanouts, and junctions. Installation of gabions, side slope stabilization, dredging, improvements to channels. Construction of a desilting basin, detention basin, bridge, and stormwater treatment facility.
CS, RD, ST	Sewer Collection System Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes lift station improvements, access road improvements, sewer line extensions and replacement/rehabilitation, and emergency overflow basin construction.
CS, ST, O	Water Distribution System Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Projects include construction of conveyance systems, pump station improvements and removals, pressure reducing stations, tank replacement/relocation and decommission, installation of hydroelectric generators, and other distribution system improvements.
CS	Recycled Water Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes expansion of recycled water system and abandonment of potable water systems replaced by earlier recycled water projects.
RD	Traffic Signal Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes installation of traffic signals, crosswalks, striping, and other repairs.
RD	Street Projects	Carlsbad	Carlsbad MWD	A series of projects included in Carlsbad's CIP. Includes roadway widening, installation of turning lands, construction of a bridge and bridge improvements, construction and improvements of medians, roadway repairs, signage improvements, and sidewalk improvements.
CS, TRT	Sewer CIP Projects	Oceanside	Oceanside	A series of projects included in Oceanside's CIP. Includes sewer replacements, facility improvements and upgrades, lift station construction and improvements, pump station improvements, and various studies.

Project Type <sup>1</sup>	Project	Location	Coalition Member Service Area	Summary of Project
CS, TRT, ST	Water Program CIP Projects	Oceanside	Oceanside	A series of projects included in Oceanside’s CIP. Includes pipeline improvements, treatment facility improvements, recycled water projects, pump station improvements, storage tanks and reservoir improvements, and supporting work for indirect potable reuse and ocean desalination.

<sup>1</sup> Project Types: CS = conveyance system; DV = development; RB = rehabilitation; RD = roadway work; ST = storage; TRT = treatment facility; O = other.

### 5.2.2 Potential Cumulative Impacts

Analysis of potential cumulative impacts includes an evaluation of the potential cumulative impacts to each resource area evaluated in *Chapter 3 Environmental Analysis*. Discussion of potential cumulative impacts will focus on the potential cumulative impacts that could occur from each of the seven project types. Future Project-level CEQA analysis will take timing and cumulative project details into consideration when assessing the potential for cumulative impacts.

#### Aesthetics

The Study Area is visually diverse, with a number of scenic vistas and open spaces. Belowground projects would be unlikely to create cumulative aesthetic impacts. As such, Conveyance System, Rehabilitation, and Roadway project types are unlikely to contribute to potential cumulative aesthetic impacts. Aboveground projects and project components for Development, Storage, Treatment Facility, and Other project types may cumulatively create aesthetic impacts in concert with the Proposed Project. Mitigation measures have been included for the Proposed Project that would reduce its potential impact to aesthetic resources. Further, local regulations reduce the potential for projects to create aesthetic impacts. If the cumulative projects that include aboveground components include similar mitigation measures, and are consistent with local plans and regulations, the Project's contribution to cumulative aesthetic impacts are likely to be less than significant.

#### Agriculture and Forestry Resources

There are no forestry resources within the Study Area, so there would be no cumulative impacts to forestry resources. As noted in *Section 3.2 Agriculture and Forestry Resources*, the Study Area includes some Unique Farmland, Farmland of Statewide Importance, Prime Farmland, and Farmland of Local Importance. Conveyance System and Rehabilitation project types are unlikely to convert Farmland to non-agricultural uses, as they will not generally affect land use once construction is complete. There is potential for Development projects to convert Farmland, due to their inclusion of building structures. For similar reasons, Treatment Facility and Storage projects to convert Farmland. The majority of Roadway projects involve improvements to existing roads, and not construction of new roads, but could include road widening. Projects falling into the Other category are the most likely to convert Farmland, as they generally involve recreation activities that utilize currently undeveloped land.

The Proposed Project was not found to have any significant impacts to Agricultural Resources. The Proposed Project would, in fact, support continued agricultural uses through the provision of recycled water for irrigation, although it may convert insignificant areas of Farmland for storage tanks, pump stations, and other necessary facilities. Cumulatively, the Proposed Project would not contribute to cumulative impacts to agricultural resources, because the projects that would contribute the most to conversion of Farmland are likely to find significant impacts to Farmland if they do, indeed, impact agricultural resources. This is due to the nature of those projects, and their size. Cumulative impacts to agricultural resources from the Proposed Project when considering these other projects remain less-than-significant.

#### Air Quality

Mitigation measures are required for the Proposed Project to reduce the potential air quality impacts from project activities. However, despite incorporation of mitigation, construction of the Proposed Project would produce air pollutants that could not be reduced below the state and federal air quality standards. The analysis in *Section 3.2, Air Quality* shows that impacts are significant and unavoidable for construction of the Proposed Project. As with the Proposed Project, it is anticipated that the greatest sources of emissions from the projects listed in **Table 5-1** – namely the Conveyance, Roadway, Storage, Treatment projects – would occur during construction, and not during operation or maintenance. Project-level CEQA analyses may include mitigation measures for each of these projects to reduce their potential individual air quality



impacts; however, any contribution of criteria air pollutants in excess of state and federal air quality standards is considered a significant contribution to cumulative air quality impacts. Despite the incorporation of mitigation measures, the Project's contribution to cumulative impacts associated with construction-related air quality emissions are considered significant and unavoidable.

### **Biological Resource**

There is potential for cumulative impacts to Biological Resources. The Proposed Project and the Conveyance System, Development, Other, Rehabilitation, Storage, and Treatment Facility projects would involve excavation and other ground disturbance. Although many of these projects, including the Proposed Project, will occur primarily in developed areas and along roadways, minimizing impacts to biological resources, ground-disturbing activities could contribute to habitat loss and fragmentation, and direct or indirect species loss. Further, noise and vibration from equipment necessary during construction and operation of the projects could cumulatively affect species, including nesting birds, if projects in close proximity to one another are constructed concurrently.

Mitigation measures are in place for the Proposed Project to reduce its impacts to biological resources to less than significant levels. With implementation of these mitigation measures, the Project's contribution to cumulative biological resources impacts would be less than significant.

### **Cultural Resources**

The Study Area is located in areas known to be within Luiseño territory and near Kumeyaay lands. It is also home to known historical resources and numerous structures at least 50 years old. Similarly to Biological Resources, there may be cumulative impacts to Cultural Resource due to ground disturbing activities, if no mitigation measures are implemented. The Proposed Project includes mitigation measures to reduce its potential impacts to cultural resources to less than significant levels. With implementation of these mitigation measures, the Project's contribution to cumulative cultural resources impacts are expected to be less than significant.

### **Geology and Soils**

The Study Area is in a seismically active area, and the Proposed Project must take the potential for seismic activity into consideration during design and construction. Potential seismic impacts would not be affected by the cumulative projects, because the cumulative projects are not anticipated to include activities that could exacerbate seismic activities such as blasting, or pressurized injections into bedrock. Local regulations, plans, and standards require projects constructed in the Study Area to reduce risks associated with seismic activity and landslides, and include provisions to minimize soil loss and stabilize slopes. If projects are completed in compliance with standard construction practices and consistent with applicable regulations, plans, and standards, the Project's contribution to cumulative geology and soils impacts would be less than significant.

### **Greenhouse Gases**

Similar to air quality impacts, impacts to GHG emissions for the Proposed Project are significant and unavoidable. Construction of all of the project types in **Table 5-1** would contribute GHGs into the atmosphere, thereby exacerbating global climate change. Construction of the Proposed Project would produce GHG emissions in excess of the established standards, which would serve as a significant contribution to cumulative GHG impacts that would result from construction activities region-wide. Storage, Rehabilitation, and Conveyance projects would generally be unlikely to contribute significant amounts of GHG emissions during operation, as most GHG emissions from these projects would be related to maintenance trips to the sites. Roadway and Other projects may increase GHG emissions due to increased traffic. Treatment projects would indirectly produce GHG emissions during operation due to energy use.

The Proposed Project would contribute cumulatively considerable GHG impacts during operational activities due to GHG emissions in excess of established standards.

### **Hazards and Hazardous Materials**

Hazardous materials would likely be used to some degree during construction of most projects listed in **Table 5-1**. Operation of Treatment Facility projects and Storage projects, as well as some types of Other projects, could also include regular storage and use of hazardous materials. Before mitigation, the Proposed Project was found to have potentially significant impacts related to hazards and hazardous materials. Mitigation of these potential impacts would reduce these risks to less than significant.

Cumulative impacts to hazards and hazardous materials would be most significant during project construction, when hazardous materials are being transported to and from sites and actively used by most project types. All projects that would have a potentially significant impact to hazards and hazardous materials (including the Proposed Project) would be required to develop and implement a Hazardous Materials Management and Spill Prevention and Control Plan to account for project-specific considerations associated with hazardous materials. With implementation of such plans, each project's potential impact to hazards and hazardous materials would be reduced to less-than-significant levels and therefore would not increase or compound as a result of other projects in the area. As such, the Project's contribution to cumulative impacts associated with hazards and hazardous materials are expected to be less than significant with incorporation of adequate mitigation measures.

### **Hydrology and Water Quality**

The Proposed Project was found to have the potential to affect water quality (surface and groundwater), alter the existing drainage pattern of a site or area, and place structure within a 100-year flood hazard area that could impede flood flows. Mitigation measures were included to reduce these potential impacts to less than significant levels. Additionally, implementation of potable reuse projects has the potential to affect the quality of surface reservoirs or groundwater, as determined by the environmental buffer used; though regulatory permitting will ensure that potential water quality impacts are minimized.

Construction of all project types has potential to impact water quality, while operation of Treatment, Development, and Conveyance projects have potential to impact water quality due to an increase of impermeable surfaces, provision of higher-salinity water for outdoor applications in the form of recycled water, and waste discharges. Roadway projects may also contribute to water quality degradation by increasing impermeable surfaces and potentially increasing deposition of pollutants by vehicles if the projects increase vehicle traffic. Rehabilitation and Storage projects are unlikely to contribute significantly to water quality impacts during operation. Rehabilitation projects would not likely create new impermeable surfaces, nor would they likely contribute additional pollutants because they would remain serving the same purposes as without the projects. Storage projects would also not likely create significant amounts of new impermeable surfaces, nor would they likely contribute additional levels of pollutants to waterways. There is potential for Other projects to contribute to water quality impacts through a variety of means, such as poor visitor behavior at recreation sites (e.g., littering, failing to clean up after pets), or an increase in impermeable surfaces.

Drainage patterns may be affected by any project that changes the ground surface, which includes all cumulative project types, although design choices could reduce the effects to drainage patterns for many of the project types. Any project located within a 100-year flood zone, especially projects with aboveground components, has the potential to contribute to the impediment of flood flows; therefore there is potential for cumulative impacts to flood flows. Due to the Study Area's location along the Pacific Ocean, and its local topography, geology, and soils, there is potential for any project constructed within or near the Study Area to be affected by seiche, tsunami, or mudflows. However, the Proposed Project would not include habitable structures, and so does not contribute to risks to people from these threats.

Design, construction, and operation of the Proposed Project would be in compliance with all applicable regulations and standards, which provide for protection from potential hydrology and water quality impacts. As such, the Proposed Project's contribution to cumulative hydrology and water quality impacts would be expected to be less than significant.

### **Land Use and Planning**

Many of the cumulative projects are included in CIPs for the various jurisdictions within and near the Study Area. These projects are therefore consistent with local land uses and planning documents. Similarly, the Proposed Project would not alter land uses, and would therefore not constitute a substantial contribution to any potential cumulative land use and planning impacts.

### **Mineral Resources**

As noted in *Section 3.11, Mineral Resources*, there are aggregate mineral resources within the Study Area. The Proposed Project was not found to have impacts to mineral resources because it would not extract these resources, nor would it impede access to these resources. For these reasons, it is not anticipated that the Proposed Project would contribute substantially to any potential cumulative impacts to mineral resources.

### **Noise**

The Proposed Project would generate noise and vibrations during construction for all project components, and operation of proposed above-ground facilities. Although mitigation measures were included to reduce these potential impacts to less than significant, there remains the potential for the Proposed Project to contribute to potential cumulative noise impacts. All project types would produce some sort of noise and would likely produce vibrations during construction, while operations of Treatment Facilities, Conveyance Systems, and Development would likely also create noise and vibrations. Roadway projects could create noise and vibration during operation if the project resulted in additional vehicle trips or an increase in the number of large vehicles utilizing a given roadway. Projects in the Other category could create on-going noise or vibrations depending on their exact components. Storage projects and Rehabilitation projects are unlikely to produce additional noise or vibrations during operations and would not contribute to potential cumulative impacts.

Mitigation measures would be required to reduce potential individual noise and vibration impacts to less than significant levels. As such, the Proposed Project would not be expected to result in a substantial contribution to cumulative noise and vibration impacts.

### **Population and Housing/Growth Inducement**

The Proposed Project would not induce growth as it would provide water to existing users and new users in accordance with population projections included within local planning documents. Development projects would directly induce growth by providing housing and jobs, while Conveyance System, Treatment Facility, Storage, Roadway, and Other projects would accommodate additional populations similar to the Proposed Project, assuming that these projects are constructed in accordance with local planning documents. Cumulatively, these projects would serve current and planned future growth in the Study Area, and would be consistent with relevant planning documents, therefore ensuring that they would not induce growth.

The Proposed Project would not displace substantial numbers of housing units or people, and because it would not involve construction or destruction of housing, would not contribute to any potential cumulative impacts related to displacing housing. The Proposed Project would not import significant numbers of workers to the Study Area, and it is unlikely that there would be cumulative impacts related to importation of workers and subsequent need for additional housing, as there are no projects on the cumulative project list that would require a significantly large workforce that could not be met by the regional population. Due

to consistency with local planning documents, the Proposed Project would not contribute to cumulative impacts to population and housing.

### **Public Services**

The Proposed Project was found to have potentially significant impacts to public services because of the potential for delays in emergency response times related to road closures and potential traffic impacts. Any project that has the potential to affect traffic patterns would contribute to the potential delay in emergency response times, thereby potentially hindering public services. However, if cumulative projects incorporate mitigation measures similar to the Proposed Project that require coordination with emergency service providers during construction, these potential cumulative impacts would be reduced. Coordination would be most important where projects are located in the vicinity of emergency service provider facilities, along major thoroughfares, or near other projects underway at the same time. With incorporation of mitigation measures, the Proposed Project's contribution to cumulative public services impacts would be less than significant.

### **Recreation**

Aboveground components of the Proposed Project could contribute to cumulative recreational impacts by contributing to reduced appeal of recreational areas. The appeal of recreational areas could be reduced by various factors related to the cumulative projects, including but not limited to: changes to traffic patterns (Roadway, Other, and Development projects); noise impacts (Roadway, Other, Development, Conveyance System, and Treatment Facility projects); air and water quality impacts (Roadway, Other, Development, Conveyance System, and Treatment Facility projects); visual impacts (Development, Roadway, Treatment Facility, Other, and Storage projects); and changes to the type of recreational opportunities or amenities available (Other projects).

Construction-related impacts to recreational resources could also be worsened by temporary limitations to access, storage of equipment on or near recreational areas, and potential safety concerns related to proximity to construction areas. These impacts would, however, be temporary in nature, and would be less than significant for the Proposed Project. The Proposed Project would not have a substantial contribution to cumulative recreation impacts.

### **Transportation and Traffic**

There is potential for cumulative transportation and traffic impacts from the Proposed Project. Any project that would require road or lane closures could impact traffic flows. Many of the projects in the cumulative projects list would be constructed within roadways and ROWs, including all Roadway projects, and most Conveyance System and many Rehabilitation projects. There is potential for Development, Treatment Facility, Storage, and Other projects to also affect traffic and transportation if such projects would require lane closures, additional vehicle trips, or other traffic impacts. All projects would be constructed in compliance with applicable traffic, transportation, and circulation plans, which would be expected to reduce potential cumulative impacts to less than significant levels. The Proposed Project would not have a substantial contribution to cumulative transportation and traffic impacts.

### **Utilities and Service Systems**

The Proposed Project was found to have one potentially significant impact to utilities and service systems, related to storm drainage facilities. Mitigation measures for the Proposed Project require stormwater facility installation or improvements only where necessary to accommodate aboveground facilities. If the Proposed Project determination of stormwater capacity is made in consideration of other projects on the cumulative projects list, and vice versa, then the potential for cumulative impacts would be reduced. Compliance with applicable stormwater regulations and best management practices would also reduce the potential for cumulative impacts to stormwater drainage facilities. With implementation of mitigation measures, the

Proposed Project's contribution to cumulative impacts to stormwater drainage facilities would be considered less than significant.

### 5.3 Mandatory Findings of Significance

CEQA requires consideration of "Mandatory Findings of Significance", which are defined in Appendix G of the CEQA Guidelines. An analysis of the potential impacts for the topic areas covered under Mandatory Findings of Significance is provided below.

**Impact MFS-1: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?**

The Proposed Project was evaluated in detail for its potential to degrade the quality of the environment, including impacts to habitat, fish, wildlife, plant, animal communities, and rare or endangered species. A detailed Biological Resources Analysis was conducted for the Proposed Project to analyze existing conditions and potential biological resources impacts that could result from the Proposed Project; this report is included as **Appendix D** and the findings of the report are summarized in *Section 3.4, Biological Resources*. As indicated in *Section 3.4, Biological Resources*, the Proposed Project has the potential to impact biological resources, plants, animals, and sensitive communities. **Mitigation Measures MM 3.4-1 to MM 3.4-5**, which are summarized below in **Table 5-2** would be implemented to reduce the potential for biological resources-related impacts to less-than-significant levels. Therefore, potential impacts associated with the degradation of the environment that could impact biological resources are considered less than significant with mitigation incorporated.

The Proposed Project was also evaluated for its potential to impact cultural and historical resources, including the potential to eliminate important examples of the major periods of California history or prehistory. A detailed Cultural Resources Analysis was conducted for the Proposed Project to analyze potential historical impacts that could result from the Proposed Project; this report is included as **Appendix E** and the findings of the report are summarized in *Section 3.5, Cultural Resources*. As indicated in *Section 3.5, Cultural Resources*, the Proposed Project has the potential to potentially impact historical resources and other cultural resources. **Mitigation Measures MM 3.5-1 to MM 3.5-4**, which are summarized below in **Table 5-3** would be implemented to reduce the potential for cultural and historical resources-related impacts to less-than-significant levels. Therefore, potential impacts associated with the degradation of the environment that could impact cultural and historical resources are considered less than significant with mitigation incorporated.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measures** listed in **Table 5-2** (addressing biological resources) and **Table 5-3** (addressing cultural resources) shall apply to the applicable groups included within the Proposed Project and shall be implemented by the lead agency responsible for each applicable project component.

**Table 5-2: Summary of Mitigation Measures for Biological Resources**

Impact	Mitigation Measures	Relevant Grouping(s)
<p><b>Biological Resources</b> <b>Impact 1:</b> Potential to have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.4-1a:</b> Surveys and Mitigation for Sensitive Plant Species. Requires habitat assessments for sensitive plant species prior to the initiation of construction. If the surveys determine the absence of sensitive plant species habitats or individuals, no further surveys or mitigation is required. In the event that any sensitive plant species are found on site and it is infeasible to avoid impacts that are determined to be significant, mitigation would be required.</li> <li>• <b>MM 3.4-1b:</b> Surveys and Mitigation for Sensitive Wildlife Species. Requires surveys for sensitive wildlife species prior to the initiation of construction, with focused surveys in areas where potentially suitable habitat for any species is identified. If the surveys determine the absence of sensitive wildlife species habitats or individuals, no further surveys or mitigation is required. If surveys determine the potential to impact sensitive wildlife species, further consultant and mitigation would be required.</li> </ul>	<p>A, C, G, H, I, J, K, O,  A, C, G, H, I, J, K, O</p>
<p><b>Biological Resources</b> <b>Impact 2:</b> Potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.4-2:</b> Native Habitat Compensation. Requires a field assessment to confirm the presence or absence of communities prior to the issuance of any grading permit in areas determined to support sensitive habitat communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Mitigation and Monitoring Plan (MMP) shall be prepared to offset impacts to those sensitive plant communities.</li> </ul>	<p>A, C, D, G, H, I, J, K, M, N, O</p>
<p><b>Biological Resources</b> <b>Impact 3:</b> Potential to have a substantial adverse effect on federally protected wetlands.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.4-3:</b> Complete Jurisdictional Determination and Mitigation as Applicable. Requires a formal jurisdictional delineation to be conducted prior to any ground disturbing activities to confirm the presence and extent of features regulated by the U.S. Army Corp of Engineers, the Regional Water Quality Control Board and/or California Department of Fish and Wildlife. If implementation of the project results in unavoidable impacts to jurisdictional waters, the responsible agency shall obtain a CWA Section 404 permit from the USACE, a CWA Section 401 permit from the RWQCB, and Streambed Alteration Agreement permit under Section 1602 of the California Fish and Game Code from the CDFW. Mitigation shall be incorporated into the permitting, subject to approval by the regulatory agencies.</li> </ul>	<p>C, G, H, I, K, O</p>

Impact	Mitigation Measures	Relevant Grouping(s)
<p><b><u>Biological Resources</u></b> <b><u>Impact 4:</u></b> Potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.4-4:</b> Avoid Migratory Bird Nesting Season or Complete Surveys Before Construction Activities. Requires construction within or adjacent to vegetation suitable for migratory birds outside the nesting season (i.e., September 1 through January 14), if feasible, to avoid potential direct and indirect impacts to nesting birds. If vegetation removal is required during the nesting season, a qualified biologist shall survey all suitable habitats for the presence of nesting birds before commencement of clearing. If any active nests are detected, additional mitigation will be required.</li> </ul>	<p>A, C, D, E, G, H, I, J, K, M, N, O (all)</p>
<p><b><u>Biological Resources</u></b> <b><u>Impact 5:</u></b> Potential to conflict with local policies or ordinances protecting biological resources</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.4-5:</b> Conduct Inventory of Trees Having the Potential to Be Impacted, Prepare Tree Protection Plans and Acquire Permits as Required by Applicable Municipality or Jurisdiction. Requires a tree inventory of any regulated trees within the Study Area prior to any ground disturbing activities, in accordance with Tree Protection Ordinances of the applicable municipality or jurisdiction. Permits shall be obtained, as needed, for tree removal.</li> </ul>	<p>A, C, D, E, G, H, I, J, K, M, N, O</p>
<p><b><u>Biological Resources</u></b> <b><u>Impact 6:</u></b> Potential to conflict with an adopted or approved habitat conservation plan</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.4-2</b> (see above).</li> </ul>	<p>(See Above)</p>

**Table 5-3: Summary of Mitigation Measures for Cultural Resources**

<u>Impact</u>	Mitigation Measures	Relevant Grouping(s)
<p><b>Cultural Resources</b> <b>Impact 1:</b> Potential to cause a substantial adverse change in the significance of a historical resource.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.5-1a:</b> Conduct a Phase I Historical Resources Assessment. Requires conducting a Phase I Historical Resources Assessment of unevaluated potentially eligible historical resources that may be impacted by the Proposed Project. If adverse impacts/effects are identified, the project may be redesigned to avoid or reduce potential impacts/effects to less than significant, in accordance with the Standards, or mitigation measures would be required.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-1b:</b> Conduct Historical Resources Monitoring for First San Diego Aqueduct. Requires the Coalition members to retain a qualified architectural historian who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity in the vicinity of the First San Diego Aqueduct.</li> </ul>	C
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-1c:</b> Conduct Plan Review and Evaluation of Historical Resources – Olivenhain MWD and Santa Fe ID. Requires that improvements on or adjacent to Rancho Santa Fe be designed to comply with the Secretary of the Interior’s Standards for California State Historic Landmarks.</li> </ul>	H, K
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-1d:</b> Conduct Plan Review and Evaluation of Historical Resources – City of Oceanside. Requires the City of Oceanside to consult a qualified historic preservation consultant to determine historical resources and review potential project impacts. Project must conform to recommendations and meet the <i>Secretary of the Interior’s Standards for Rehabilitation</i>.</li> </ul>	G
<p><b>Cultural Resources</b> <b>Impact 2:</b> Potential to cause a substantial adverse change in the significance of an archaeological resource</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.5-2a:</b> Conduct a Phase I Archaeological Resources Assessment. Requires that a Phase I Archaeological Resources Assessment be conducted of improvement footprints to identify any archaeological resources within the footprint or immediate vicinity to support the project-level CEQA environmental document. Additional mitigation measures will be required to reduce impacts if archaeological resources are discovered.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-2b:</b> Conduct a Phase II Archaeological Resources Assessment and Mitigation. Requires that a Phase II Archaeological Resources Evaluation be conducted if resources are identified during the Phase I assessment, and impacts from the improvements cannot be avoided. Additional mitigation measures will be required, if necessary, to reduce the significance of impacts.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-2c:</b> Conduct Archaeological Sensitivity Training for Construction Personnel. Requires that a qualified archaeologist be retained to conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O



Impact	Mitigation Measures	Relevant Grouping(s)
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-2d:</b> Monitor and Report Construction Excavations for Archeological Resources. Requires that a qualified archaeological monitor be retained who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the proposed improvement.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-2e:</b> Cease Ground-Disturbing Activities and Report if Archeological Resources are Encountered. Requires that, if archaeological resources are encountered by construction personnel during implementation of the Project, ground-disturbing activities should temporarily be redirected from the vicinity of the find and applicable notification and mitigation avoidance methods to take place.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
<p><b>Cultural Resources</b> <b>Impact 3:</b> Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.5-3a:</b> Conduct Paleontological Sensitivity Training for Construction Personnel. Requires that a qualified paleontologist be retained, who shall conduct a Paleontological Sensitivity Training for construction personnel prior to commencement of excavation activities.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
	<ul style="list-style-type: none"> <li>• <b>MM 3.5-3b:</b> Monitor and Report Construction Excavations for Paleontological Resources. Requires that a qualified paleontologist be retained, who shall monitor excavation activities in certain areas of the project that would encounter fossiliferous geologic units that have been assigned “moderate”, “moderate to high”, and “high” potential as detailed in this report.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O
<p><b>Cultural Resources</b> <b>Impact 4:</b> Potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<ul style="list-style-type: none"> <li>• <b>MM 3.5-4:</b> Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered. Requires that if human remains are unearthed during implementation of the Proposed Project, the landowner must complete actions to comply with State Health and Safety Code Section 7050.5.</li> </ul>	A, C, D, E, G, H, I, J, K, M, N, O

**Significance Determination after Mitigation**

Less than significant.

**Impact MFS-2: Does the project have impacts that would be individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

As discussed in *Chapter 3, Environmental Analysis* and *Section 5.2, Cumulative Impacts*, implementation of the Proposed Project could potentially result in environmental impacts; however, for all impacts except those related to Air Quality and Greenhouse Gas Emissions, impacts would be reduced to less-than-significant levels with implementation of proposed mitigation measures. Due to the short-term nature of construction impacts associated with the Proposed Project and the staggered timeline over which projects

would be construction, implementation of the Proposed Project in combination with other current or reasonably foreseeable projects within the Study Area are not expected to be cumulatively considerable for all impacts except those related to Air Quality and Greenhouse Gas Emissions, which both include emissions in excess of established state, federal, and/or local standards.

Given that environmental impacts identified in this PEIR are significant and unavoidable for Air Quality and Greenhouse Gas Emissions, the Proposed Project's contribution to Air Quality and Greenhouse Gas Emissions is cumulatively considerable. Therefore, impacts are considered significant and unavoidable.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measures** listed in **Table ES-1** shall apply to the applicable Coalition members and shall be implemented by the lead agency responsible for each applicable project component.

#### Significance Determination after Mitigation

Significant and unavoidable.

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### **Impact MFS-3: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

As discussed in *Chapter 3, Environmental Analysis* and *Section 5.2, Cumulative Impacts*, implementation of the Proposed Project could potentially result in environmental impacts; however, for all resources topics except Air Quality and Greenhouse Gas Emissions, impacts would be reduced to less-than-significant levels with implementation of proposed mitigation measures that are listed in **Table ES-1**.

Given the short-term (construction) and long-term (operational) nature of significant and unavoidable impacts related to Air Quality and Greenhouse Gas Emissions, the Proposed Project could potentially cause substantial adverse effects on human beings related to air quality violations. These impacts are considered significant and unavoidable.

#### Significance Determination before Mitigation

Potentially significant.

#### Mitigation Measures

**Mitigation Measures** listed in **Table ES-1** shall apply to the applicable Coalition members and shall be implemented by the lead agency responsible for each applicable project component.

#### Significance Determination after Mitigation

Significant and unavoidable.

## **5.4 Significant Unavoidable Adverse Environmental Impacts**

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the Proposed Project on various aspects of the environment are discussed in detail in Chapter 3 of this PEIR. As described in Chapter 3 *Environmental Analysis* and Chapter 5 *Other Environmental Considerations*, all potentially significant impacts associated with the Proposed Project can be mitigated to less than significant levels except for those associated with Air Quality and Greenhouse Gas Emissions,

along with Cumulatively Considerable Effects and Impacts to Human Beings as they relate to the air quality and GHG emissions impacts. As such, the Proposed Project would result in significant, unavoidable adverse environmental impacts.

## **5.5 Irreversible Environmental Changes**

Irreversible long-term environmental changes associated with construction of the Proposed Project would include the consumption of building materials and energy to construct the Proposed Project. Operation of the Proposed Project would result in a negligible increase in local and regional vehicular traffic, and the resultant increase in air pollutants and noise emissions generated by this traffic and operation of the Proposed Project. Design features have been incorporated into the development proposal and mitigation measures are proposed in this PEIR that would minimize the effects of the irreversible environmental changes associated with the development of the Proposed Project to the maximum degree feasible.

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Not Applicable

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# **Regional Recycled Water Project Public Draft Appendices**

**Prepared by:**



In Association with:  
PCR Services Corporation

**April, 2015**

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## **Appendix A - Notice of Preparation and Scoping Materials**

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## NOTICE OF PREPARATION AND SCOPING MEETING

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### North San Diego Water Reuse Coalition Regional Recycled Water Project

**TO:** Agencies, Organizations, and Interested Parties

**DATE:** August 11, 2014

**SUBJECT:** Notice of Preparation of a Draft Programmatic Environmental Impact Report and Notice of Scoping Meeting

Olivenhain Municipal Water District (MWD) will be the lead agency under the California Environmental Quality Act (CEQA) in the preparation of a Programmatic Environmental Impact Report (PEIR) for the North San Diego Water Reuse Coalition's (NSDWRC or Coalition) Regional Recycled Water Project (Proposed Project). Olivenhain MWD will prepare the PEIR on behalf of the Coalition, listed below:

1. Carlsbad Municipal Water District (Carlsbad MWD)
2. City of Escondido
3. City of Oceanside
4. Leucadia Wastewater District (Leucadia WWD)
5. Olivenhain Municipal Water District (Olivenhain MWD)
6. Rincon del Diablo Municipal Water District (Rincon del Diablo MWD)
7. San Elijo Joint Powers Authority (San Elijo JPA)
8. Santa Fe Irrigation District (Santa Fe ID)
9. Vallecitos Water District (Vallecitos WD)
10. Vista Irrigation District (Vista ID)

This PEIR will be a joint document intended to comply with both CEQA and NEPA (see California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, Section 15222 and Code of Federal Regulations (CFR), Title 40, Sections 1502.25, 1506.2, and 1506.4 (authority for combining federal and state environmental documents)).

This PEIR will address the Proposed Project at a programmatic level; the Proposed Project will consist of construction and operation of the pipelines, pumping stations, water treatment plants, and other facilities necessary to produce and deliver 18,728 AFY of recycled and potable reuse water by 2025 and an additional 16,662 AFY of recycled and potable reuse water by 2035. Olivenhain MWD is requesting identification of environmental issues and information that you or your organization believes should be considered in the PEIR.

**PUBLIC REVIEW PERIOD:** August 11, 2014 through September 9, 2014

## Appendix A: Notice of Preparation and Scoping Materials

**RESPONSES AND COMMENTS:** Please indicate a contact person for your agency or organization and send your responses and comments by September 9, 2014 to:

Ms. Kimberly Thorner  
Olivenhain Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024

Phone: (760) 753-6466  
E-mail: [kthorner@olivenhain.com](mailto:kthorner@olivenhain.com)

**SCOPING MEETING:** Olivenhain MWD will hold one community meeting to receive comments on the scope and content of the NSDWRC's Regional Recycled Water Project PEIR. You are welcome to attend and present environmental information that you believe should be considered in the PEIR. The scoping meeting is scheduled as follows:

*Date: Monday, August 25, 2014*  
*Time: 6:00 p.m.*  
*Place: Olivenhain Municipal Water District*  
*1966 Olivenhain Road*  
*Encinitas, CA 92024*

**AGENCIES:** Olivenhain MWD requests your agency's views on the scope and content of the environmental information relevant to your agency's statutory responsibilities in connection with the proposed project, in accordance with CEQA and NEPA. Your agency will need to use the PEIR prepared by Olivenhain MWD when considering any permits that your agency must issue, or other approvals for the project.

**PROJECT LOCATION:** The NSDWRC's Regional Recycled Water Project is located within northern San Diego County, California and includes the collective service areas of the ten north San Diego County agencies that constitute the Coalition as shown in **Figure 1**. The western boundary of the project area is defined by the Pacific Ocean. The northern boundary of the project area is roughly defined by the boundary with Camp Pendleton and Rainbow Municipal Water District. The eastern boundary of the project is roughly the border with Valley Center Municipal Water District, the City of Poway, and the City of San Diego. To the south, the project area is roughly bounded by the City of San Diego.

**PROJECT DESCRIPTION:** The NSDWRC's Regional Recycled Water Project consists of development of regional recycled water and potable reuse water infrastructure that includes interagency connections to increase the capacity and connectivity of the storage and distribution systems of the Coalition. The Proposed Project includes replacing potable water uses with recycled water components, converting facilities to recycled water service, connecting discrete recycled water systems to one another, increasing recycled water storage capacity, and distributing recycled water to effectively meet recycled water demands. Estimated existing recycled water demands associated with the Proposed Project for the Coalition are 10,110 AFY. Future additional recycled (non-potable) water demands associated with the Proposed Project are anticipated to total 11,888 AFY in 2025 and increase by 10,142 AFY in 2035 for a total of 31,040 AFY in the long-term. Future recycled

## Appendix A: Notice of Preparation and Scoping Materials

water supplies associated with the Proposed Project would serve demands associated with irrigation in housing developments, commercial properties such as business parks, and golf courses. A portion of the recycled water demand would serve agricultural customers, mainly those who would be connected to the Easterly Main Extension through the City of Escondido and the Rincon del Diablo Municipal Water District project components.

The Proposed Project would also involve using recycled water for potable reuse, where recycled water is purified via advanced water treatment and mixed back into the water supply system after it is filtered through an environmental buffer such as a groundwater basin or surface reservoir. After the water has been through an environmental buffer, it is then treated at a water treatment facility and added to the potable supply, in the same manner as untreated imported supplies or untreated groundwater. It is anticipated that potable reuse will provide up to 7,940 AFY of water by 2025 and an additional 6,520 AFY of water by 2035 for a total maximum of 14,460 AFY by 2035. Five groundwater basins and two surface reservoir sites have been identified for future potential potable reuse: Mission Basin, San Marcos Basin, San Elijo Valley Basin, San Dieguito Basin, Escondido Valley Basin, San Dieguito Reservoir, and Lake Dixon. These sites are shown in **Figure 2**; while **Figure 2** shows the potable reuse sites (groundwater basins and surface reservoirs), the figure does not show the proposed pipelines or facilities potentially associated with potable reuse as the precise location of those alignments and facilities are not known at this time.

In total, future additional average demands for recycled water and potable reuse water associated with the Proposed Project are anticipated to increase by 18,728 AFY by 2025 to a total of 28,838 AFY, and by another 16,662 AFY by 2035 for a total of 45,500 AFY. The Proposed Project includes detailed information about the short-term (2025) project components, while the long-term (2035) project components are not included in detail as part of the Proposed Project. The short-term (2025) project components associated with the Proposed Project and shown in **Figure 2** have been categorized into groups, which are referenced below in **Table 1**. The groups show the treatment plant that would provide recycled water or potable reuse water (from advanced water treatment [AWT] facilities) as well as the Coalition Member with which the demands are associated.

In order to meet the short-term recycled water and potable reuse demands associated with the Proposed Project, six existing treatment plants (also referred to as water reclamation facilities [WRF] or wastewater treatment plants [WWTP]) will need to be upgraded and three additional treatment plants will need to be constructed. Additional treatment plant upgrades will be required in order to meet the long-term recycled water demands associated with the Proposed Project. Further, in the long-term, any of the treatment plants in the region may be upgraded to include AWT components to supply water for potable reuse.

At various locations along the construction route(s), staging areas would be required to store pipe, construction equipment, and other construction-related material. Staging areas would be established along the route where space is available, such as vacant lots, roadway turnouts, and parking lots. Typical construction activities during construction of the non-potable water system would include site preparation, earthwork, pipe installation, structural improvements (foundations and footings), paving, electrical/ instrumentation installation, startup, and testing work.

## Appendix A: Notice of Preparation and Scoping Materials

**Table 1: Existing and Future Average Recycled Water and Potable Reuse Demands for the Proposed Project**

Coalition Member	Group	Treatment Plant	Existing Demands	Average Demand Increase (AFY)		Total Demand (AFY)
				By 2025	By 2035	
Carlsbad MWD	A	Carlsbad WRF/Gafner WRF	2,150	1,752	1,398	5,300
	B	Meadowlark WRF	2,000	0	187	2,187
		<i>Subtotal</i>	<i>4,150</i>	<i>1,752</i>	<i>1,585</i>	<i>7,487</i>
City of Escondido	C	HARRF	771	4,670	3,035	8,476
	D	Escondido AWTF (Potable Reuse)	0	2,200	0	2,200
		<i>Subtotal</i>	<i>771</i>	<i>6,870</i>	<i>3,035</i>	<i>10,676</i>
City of Oceanside	E	Carlsbad WRF	0	277	0	277
	F	El Corazon WRF	0	560	1,130	1,690
	G	San Luis Rey WWTP/SRTTP	300	1,640	0	1,940
	G	San Luis Rey WWTP – AWT (Potable Reuse)	0	2,240	3,360	5,600
		<i>Subtotal</i>	<i>300</i>	<i>4,717</i>	<i>4,490</i>	<i>9,507</i>
Olivenhain MWD	N/A	Meadowlark WRF*	1,000	0	0	1,000
	H	San Elijo WRF/Gafner WRF	100	300	0	400
	H	San Elijo WRF – AWT (Potable Reuse)	0	1,100	1,030	2,130
		<i>Subtotal</i>	<i>1,100</i>	<i>1,400</i>	<i>1,030</i>	<i>3,530</i>
Rincon del Diablo MWD	I	HARRF	3,279	500	0	3,779
	I	HARRF – AWT (Potable Reuse)	0	200	0	200
	J	Harmony Grove WRF	0	220	0	220
		<i>Subtotal</i>	<i>3,279</i>	<i>920</i>	<i>0</i>	<i>4,199</i>
Santa Fe ID	K**	San Elijo WRF/Gafner WRF	510	40-729	0	550-1,239
	K**	San Elijo WRF – AWT (Potable Reuse)	0	0-1,100	1,030	1,030-2,130
		<i>Subtotal</i>	<i>510</i>	<i>729-1,140</i>	<i>1,030</i>	<i>2,269-2680</i>
Vallecitos Water District	L	Carlsbad WRF	0	0	454	454
	M	HARRF	0	574	922	1,496
	N	Meadowlark WRF	0	0	416	416
	N	Meadowlark WRF – AWT (Potable Reuse)	0	1,100	1,100	2,200
		<i>Subtotal</i>	<i>0</i>	<i>1,674</i>	<i>2,892</i>	<i>4,566</i>
Vista Irrigation District	O	Carlsbad WRF	0	255	1,880	2,135
	P	El Corazon WRF	0	0	720	720
		<i>Subtotal</i>	<i>0</i>	<i>255</i>	<i>2,600</i>	<i>2,855</i>
<b>Total Additional Demand for Proposed Project**</b>			<b>10,110</b>	<b>18,728</b>	<b>16,662</b>	<b>45,500</b>
<b>Total Cumulative Demand for Proposed Project**</b>			<b>--</b>	<b>28,838</b>	<b>45,500</b>	



## Appendix A: Notice of Preparation and Scoping Materials

Coalition Member	Group	Treatment Plant	Existing Demands	Average Demand Increase (AFY)		Total Demand (AFY)
				By 2025	By 2035	
<p>* These connections are not included within the groupings, because while they have existing recycled water demands, which are included in the total recycled water flows for the Coalition, there are no future recycled water demands or associated recycled water facilities for these entities for purposes of the Proposed Project.</p> <p>** Santa Fe ID will implement either 1,100 AFY of potable reuse at the San Dieguito Reservoir or 689 AFY of recycled water to meet demands in the eastern service area for Group K. Both projects will not take place in the short-term, so total demands for Group K and total demands associated with the Proposed Project are shown as ranges assuming only one of the Group K projects will move forward.</p>						

**POTENTIAL ENVIRONMENTAL EFFECTS:** A PEIR will be prepared to evaluate the Proposed Project's potential environmental impacts and analyze project alternatives. The topic areas anticipated to be discussed in the PEIR are listed and checkmarked in the following table and described further below. This PEIR will be a joint document intended to comply with both CEQA and NEPA; accordingly, topic areas specific to NEPA, such as Environmental Justice, will also be evaluated with respect to the Proposed Project.

X	Aesthetics		Agricultural Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources	X	Geology and Soils
X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials	X	Hydrology and Water Quality
X	Land Use and Planning		Mineral Resources	X	Noise
	Population and Housing	X	Public Services	X	Recreation
X	Transportation and Traffic	X	Utilities and Service Systems		Environmental Justice
X	Mandatory Findings of Significance				

**Aesthetics** – The Proposed Project will be analyzed to determine if it would have an adverse impact on scenic vistas, degrade the existing visual character or quality of the site and its surroundings, or create any new sources of light or glare. It is anticipated that new non-potable water facilities and potable reuse facilities would generally integrate with the existing surroundings; however, in some instances their installation would potentially alter the visual character of the site and the need for mitigation such as visual screening or other measures will be considered.

**Agricultural Resources** – Although such impacts are not anticipated, the Proposed Project will be analyzed to determine if it would impact farmland, conflict with zoning for agricultural use, forest or timberland, or Williamson Act contracts, or result in the loss of forest land.

**Air Quality** – The Proposed Project will be analyzed as compared to applicable air quality plans and its potential to violate air standards or contribute to existing violations, increase criteria pollutants, expose sensitive receptors, and generate odors. Potential air quality impacts from the proposed project would primarily relate to construction-related emissions and odors.

**Biological Resources** – The Proposed Project will be analyzed for its potential effects on sensitive or special status species, riparian habitat or natural communities identified by the

## Appendix A: Notice of Preparation and Scoping Materials

California Department of Fish and Wildlife or U.S. Fish and Wildlife, wetlands, or migration of species; and local policies and conservation plans protecting biological resources will be reviewed to determine if conflicts are present. If necessary, the need for mitigation measures to reduce impacts to protected species will be considered, such as focused monitoring surveys, restrictions on construction schedules during nesting seasons, and a tree inventory and protection measures.

**Cultural Resources** – The Proposed Project will be analyzed to determine if it would have any substantial, adverse changes in the significance of historic or archaeological resources; directly or indirectly destroy a unique cultural resources feature; or disturb any human remains. If necessary, the need for mitigation measures will be considered, such as compliance with standards for rehabilitation, focused assessments, and monitoring and construction restrictions.

**Geology and Soils** – The Proposed Project will be analyzed to determine if it would expose people or structures to substantial adverse effects through seismic movement, shaking, landslides, or liquefaction; result in substantial erosion, be located on an unstable or expansive soil, or have soils incapable of infiltration if required for wastewater disposal.

**Greenhouse Gas Emissions** – The Proposed Project will be analyzed to determine if it would result in an increase in greenhouse gas emissions compared to existing conditions or conflict with plans or policies adopted for the purpose of reducing greenhouse gas emissions.

**Hazards and Hazardous Materials** – The Proposed Project will be analyzed to determine impacts to the public or environment (including nearby schools) from the transport, use or encounter of hazardous substances; analysis of special safety hazards near airports or airstrip; review of potential interference with emergency response plans; and review of exposure to wildfires.

**Hydrology and Water Quality** – The Proposed Project will be analyzed to determine if it would result in impacts to water quality, waste discharge requirements, water supplies, drainage patterns, and increased exposure to flood hazards and inundation.

**Land Use and Planning** – The Proposed Project will be analyzed to determine if it would result in land use or planning impacts such as the physical division of an established community, or conflicting with applicable land use or conservation plans.

**Mineral Resources** – Although such impacts are not anticipated, the Proposed Project will be analyzed to determine if it would result in the loss of mineral resources.

**Noise** – The Proposed Project will be analyzed to determine if it would result in exposure of persons to excessive noise or ground vibrations, either temporary or overall increases in ambient noise levels. Potential noise and vibration impacts are anticipated due to construction activities and the need for mitigation including noise control measures and preconstruction noticing will be considered.

## Appendix A: Notice of Preparation and Scoping Materials

**Population and Housing** – Although such impacts are not anticipated, the Proposed Project will be analyzed to determine if it would result in population growth inducement or displace housing or people.

**Public Services** – The Proposed Project will be analyzed to determine if it would result in impacts to government facilities or otherwise impact public services such as fire or police protection, schools, parks, or other public facilities.

**Recreation** – The Proposed Project will be analyzed to determine if it would increase the use of existing neighborhood or regional park facilities that would accelerate deterioration of the facility, or require construction of a facility that would adversely impact the environment. The Proposed Project is not anticipated to increase the demand for or require construction or expansion of recreational facilities; however, use of facilities may be temporarily disrupted due to construction activities.

**Transportation/Traffic** – The Proposed Project will be analyzed to determine if it would cause an increase in traffic (temporary or long-term), result in a change in air traffic patterns, increase hazards due to a design feature, result in inadequate emergency access or parking capacity, or conflict with plans or policies supporting alternative transportation. Temporary impacts to transportation/traffic are anticipated due to construction activities and a contractor-led traffic management plan will be included as mitigation if necessary.

**Utilities and Service Systems** – The Proposed Project will be analyzed to determine if it would exceed regulatory wastewater treatment requirements; require new or expanded wastewater or stormwater facilities; have sufficient water supply entitlements, sufficient treatment capacity, and disposal facilities; and comply with solid waste regulations.

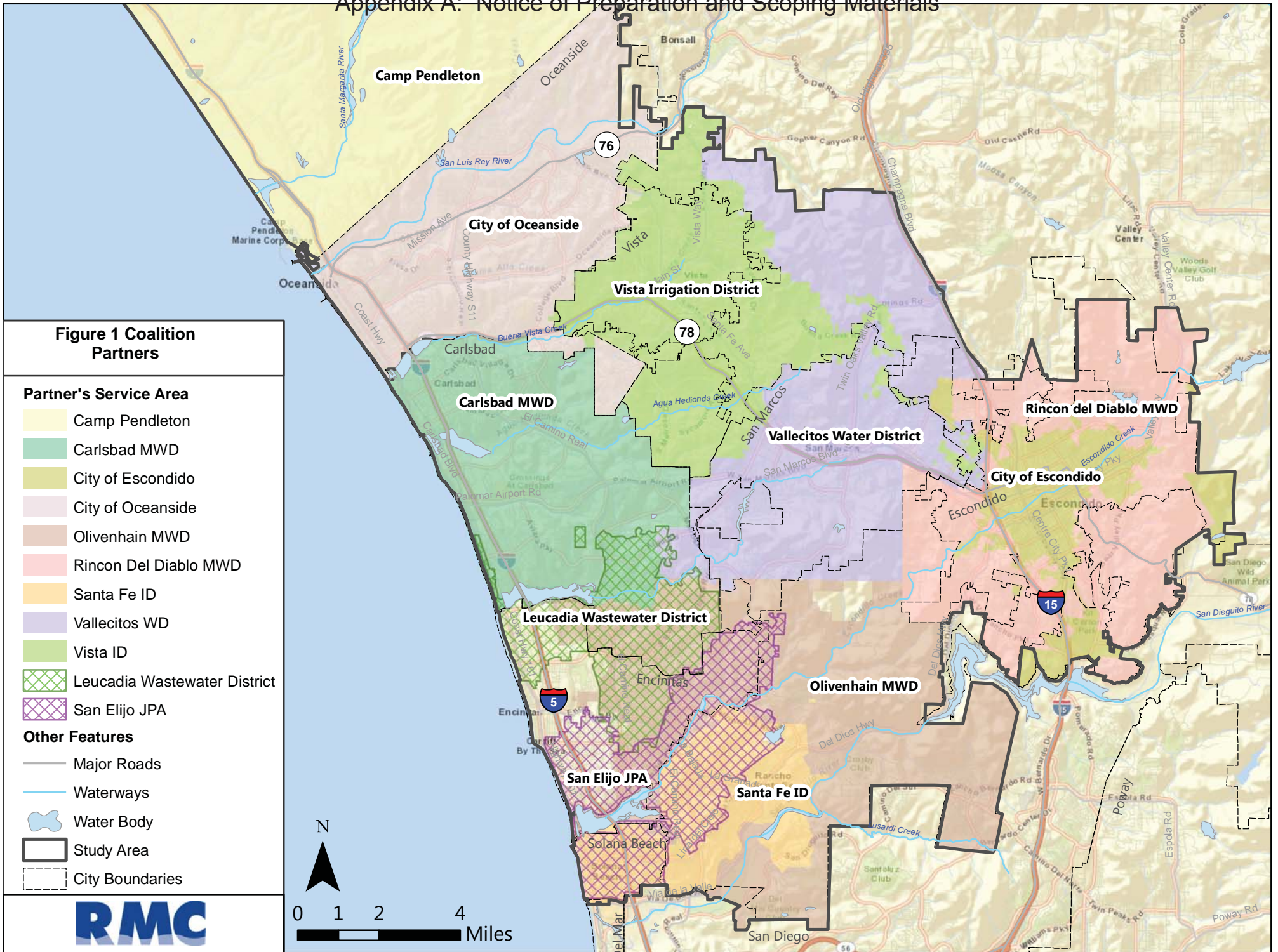
**Environmental Justice** – Although such impacts are not anticipated, the Proposed Project will be analyzed to determine if it would disproportionately impact minority or low-income populations.

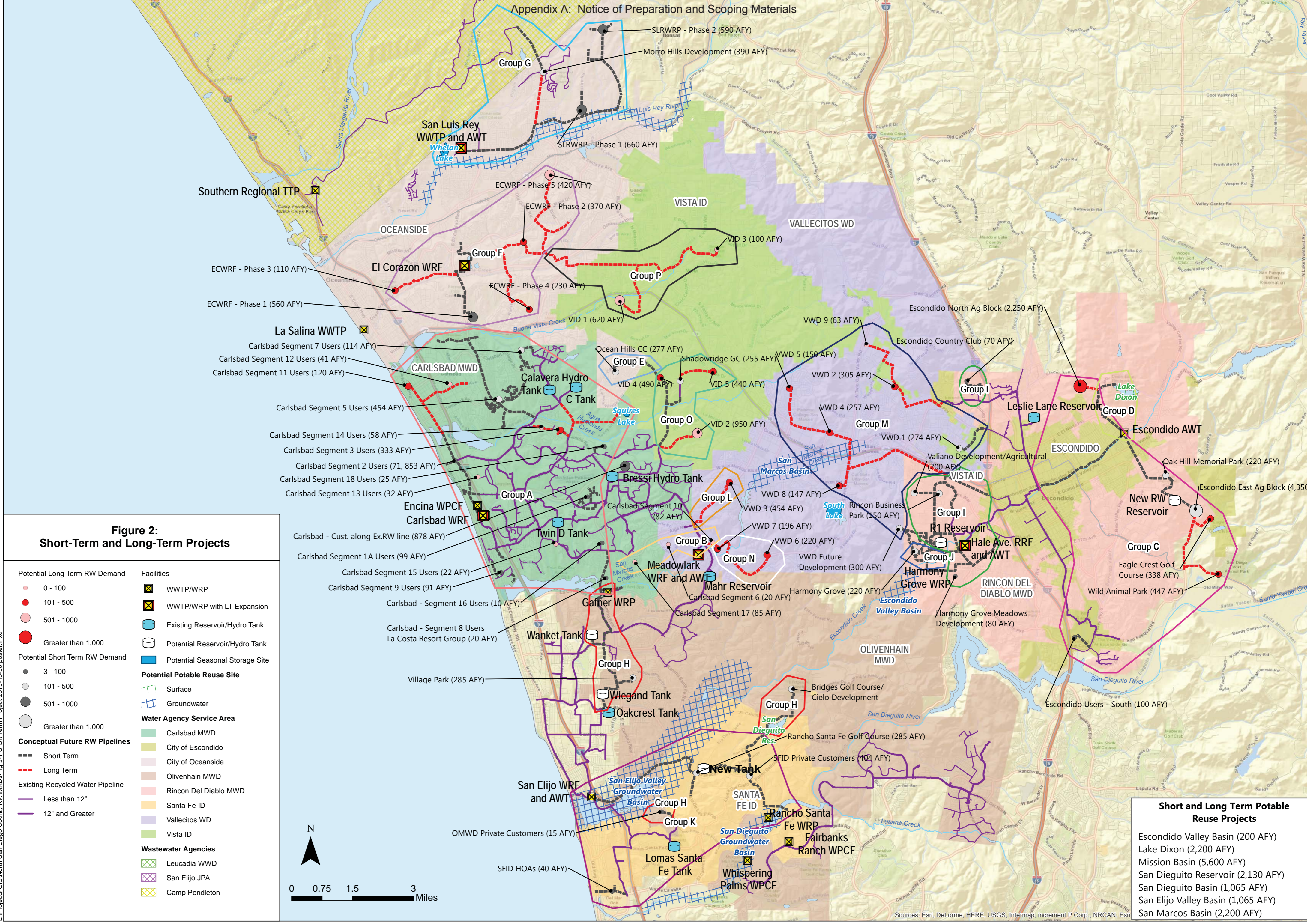
**Mandatory Findings of Significance** – The Proposed Project will be analyzed in the appropriate sections, above, to determine if it would degrade the quality of the environment including species reduction or adverse effects on human beings, or have impacts that are cumulatively considerable in combination with other projects (current or future). The need to implement mitigation measures to address such impacts will be considered as part of the analysis.

**DOCUMENT AVAILABILITY:** The Notice of Preparation can be viewed on Olivenhain MWD's website at: <https://www.olivenhain.com/about-us/projects-and-facilities>

This NOP is also available for review during regular business hours at Olivenhain MWD's offices located at 1966 Olivenhain Road, Encinitas, CA 92024. If you require additional information please contact Kimberly Thorner at (760) 753-6466.

# Appendix A: Notice of Preparation and Scoping Materials

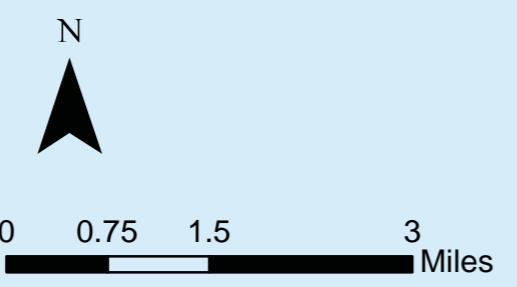




**Figure 2:  
Short-Term and Long-Term Projects**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Potential Long Term RW Demand</b></p> <ul style="list-style-type: none"> <li>● 0 - 100</li> <li>● 101 - 500</li> <li>● 501 - 1000</li> <li>● Greater than 1,000</li> </ul> <p><b>Potential Short Term RW Demand</b></p> <ul style="list-style-type: none"> <li>● 3 - 100</li> <li>● 101 - 500</li> <li>● 501 - 1000</li> <li>● Greater than 1,000</li> </ul> <p><b>Conceptual Future RW Pipelines</b></p> <ul style="list-style-type: none"> <li>--- Short Term</li> <li>--- Long Term</li> </ul> <p><b>Existing Recycled Water Pipeline</b></p> <ul style="list-style-type: none"> <li>— Less than 12"</li> <li>— 12" and Greater</li> </ul> | <p><b>Facilities</b></p> <ul style="list-style-type: none"> <li>☒ WWTWP/WRP</li> <li>☒ WWTWP/WRP with LT Expansion</li> <li>⊕ Existing Reservoir/Hydro Tank</li> <li>⊕ Potential Reservoir/Hydro Tank</li> <li>⊕ Potential Seasonal Storage Site</li> </ul> <p><b>Potential Potable Reuse Site</b></p> <ul style="list-style-type: none"> <li>⊕ Surface</li> <li>⊕ Groundwater</li> </ul> <p><b>Water Agency Service Area</b></p> <ul style="list-style-type: none"> <li>■ Carlsbad MWD</li> <li>■ City of Escondido</li> <li>■ City of Oceanside</li> <li>■ Olivenhain MWD</li> <li>■ Rincon Del Diablo MWD</li> <li>■ Santa Fe ID</li> <li>■ Vallecitos WD</li> <li>■ Vista ID</li> </ul> <p><b>Wastewater Agencies</b></p> <ul style="list-style-type: none"> <li>▨ Leucadia WWD</li> <li>▨ San Elijo JPA</li> <li>▨ Camp Pendleton</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- Short and Long Term Potable Reuse Projects**
- Escondido Valley Basin (200 AFY)
  - Lake Dixon (2,200 AFY)
  - Mission Basin (5,600 AFY)
  - San Dieguito Reservoir (2,130 AFY)
  - San Dieguito Basin (1,065 AFY)
  - San Elijo Valley Basin (1,065 AFY)
  - San Marcos Basin (2,200 AFY)



Sources: Esri, DeLorme, HERE, USGS, Intermap, increment P Corp., NRCAN, Esri

L:\Projects\GIS\North San Diego County\RW\MXDs\Fig 5-1 Short Term Project 2013-10-30 poster.mxd



**Notice of Preparation  
of a Draft  
Programmatic  
Environmental Impact  
Report and Notice of  
Scoping Meeting for  
the North San Diego  
Water Reuse Coalition  
Regional Recycled  
Water Project**

Olivenhain Municipal Water District (MWD) will be the lead agency under the California Environmental Quality Act (CEQA) in the preparation of a Programmatic Environmental Impact Report (PEIR) for the North San Diego Water Reuse Coalition's Regional Recycled Water Project (Proposed Project). Olivenhain MWD will prepare the PEIR on behalf of the Coalition, composed of Carlsbad Municipal Water District, City of Escondido, City of Oceanside, Leucadia Wastewater District, Olivenhain Municipal Water District, Rincon del Diablo Municipal Water District, San Elijo Joint Powers Authority, Santa Fe Irrigation District, Vallecitos Water District, Vista Irrigation District.

The Proposed Project will be located in northern San Diego County, and will consist of construction and operation of pipelines, pumping stations, water treatment plants, and other facilities to produce and deliver recycled and potable recycled water. It includes replacing potable water with recycled water, converting facilities to recycled water service, connecting discrete recycled water systems, increasing recycled water production and storage capacity, and dis-

Appendix A: Notice of Preparation and Scoping Materials



water to meet demands. The Proposed Project would also implement potable reuse, where recycled water is purified via advanced water treatment and mixed back into the water supply system.

This Notice of Preparation (NOP) for the Proposed Project is available for public comment from August 11, 2014 to September 9, 2014.

Please provide contact information (name, address, email) when commenting on the NOP. Send comments to Ms. Kimberly A. Thorne, Olivenhain Municipal Water District, 1966 Olivenhain Road, Encinitas, CA 92024; Phone: (760) 753-6466, E-mail: kthorne@olivenhain.com

Olivenhain MWD will hold a scoping meeting on August 25, 2014 at 6:00 p.m. at Olivenhain Municipal Water District, 1966 Olivenhain Road, Encinitas, CA 92024. This scoping meeting provides an opportunity to offer input into the scope and content of the PEIR.

The NOP and additional details on the project can be accessed online at: <https://www.olivenhain.com/about-us/projects-and-facilities>

<u>Product</u>	<u>Zone</u>	<u>Placement</u>	<u>Position</u>	<u>Start Date</u>	<u>End Date</u>	<u>Insertions</u>
UTSanDiego Mobile	Digital	Legal Notices	General Legals	08/11/2014	08/18/2014	2
UTSanDiego Online	Digital	Legal Notices	General Legals	08/11/2014	08/18/2014	2
UTSanDiego Print	Metro	Legal Notices	General Legals	08/11/2014	08/18/2014	2

## Appendix A: Notice of Preparation and Scoping Materials



<u>Ad Number</u>	<u>Ad Type</u>	<u>Pick Up</u>	<u>Production Method</u>
0010860561-01	CLS NC Legal		AdBooker

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<u>Ad Size</u>	<u>Columns/Inches</u>	<u>Color</u>
3.22 x 4.24	2x4.24	

### WYSIWYG Content

**Notice of Preparation of a Draft  
Programmatic Environmental Impact Report and Notice of  
Scoping Meeting for the North San Diego Water Reuse  
Coalition Regional Recycled Water Project**

Olivenhain Municipal Water District (MWD) will be the lead agency under the California Environmental Quality Act (CEQA) in the preparation of a Programmatic Environmental Impact Report (PEIR) for the North San Diego Water Reuse Coalition's Regional Recycled Water Project (Proposed Project). Olivenhain MWD will prepare the PEIR on behalf of the Coalition, composed of Carlsbad Municipal Water District, City of Escondido, City of Oceanside, Leucadia Wastewater District, Olivenhain Municipal Water District, Rincon del Diablo Municipal Water District, San Elijo Joint Powers Authority, Santa Fe Irrigation District, Vallecitos Water District, Vista Irrigation District.

The Proposed Project will be located in northern San Diego County, and will consist of construction and operation of pipelines, pumping stations, water treatment plants, and other facilities to produce and deliver recycled and potable reuse water. It includes replacing potable water with recycled water, converting facilities to recycled water service, connecting discrete recycled water systems, increasing recycled water production and storage capacity, and distributing recycled water to meet demands. The Proposed Project would also implement potable reuse, where recycled water is purified via advanced water treatment and mixed back into the water supply system.

This Notice of Preparation (NOP) for the Proposed Project is available for public comment from **August 11, 2014 to September 9, 2014**.

Please provide contact information (name, address, email) when commenting on the NOP. Send comments to Ms. Kimberly A. Thorner, Olivenhain Municipal Water District, 1966 Olivenhain Road, Encinitas, CA 92024; Phone: (760) 753-6466, E-mail: [kthorner@olivenhain.com](mailto:kthorner@olivenhain.com)

Olivenhain MWD will hold a scoping meeting on **August 25, 2014 at 6:00 p.m.** at Olivenhain Municipal Water District, 1966 Olivenhain Road, Encinitas, CA 92024. This scoping meeting provides an opportunity to offer input into the scope and content of the PEIR. The NOP and additional details on the project can be accessed online at:  
<https://www.olivenhain.com/about-us/projects-and-facilities>

<u>Product</u>	<u>Zone</u>	<u>Placement</u>	<u>Position</u>	<u>Start Date</u>	<u>End Date</u>	<u>Insertions</u>
UTSanDiego Mobile	Digital	NC Legals	NCT Legals	08/11/2014	08/18/2014	2
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UTSanDiego Print	NC	NC Legals	NCT Legals	08/11/2014	08/18/2014	2
UTSanDiego Print	NI	NC Legals	NCT Legals	08/11/2014	08/18/2014	2





State of California – Natural Resources Agency  
 DEPARTMENT OF FISH AND WILDLIFE  
 South Coast Region  
 3883 Ruffin Road  
 San Diego, CA 92123  
 (858) 467-4201  
 www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor  
 CHARLTON H. BONHAM, Director



September 10, 2014

Ms. Kimberly Thorner  
 Olivenhain Municipal Water District  
 1966 Olivenhain Road  
 Encinitas, CA 92024  
 kthorner@olivenhain.com

**Subject: Comments on the Notice of Preparation of a Draft Programmatic Environmental Impact Report for the North San Diego Water Reuse Coalition’s Regional Recycled Water Project**

Dear Ms. Thorner:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Preparation (NOP) for the North San Diego Water Reuse Coalition’s (NSDWRC) Regional Recycled Water Project Draft Programmatic Environmental Impact Report (DPEIR). The following statements and comments have been prepared pursuant to the Department’s authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act, [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning (NCCP) program.

The Project would replace potable water uses with recycled water components by converting facilities to recycled water service, connecting discrete recycled water systems to one another and increasing recycled water storage capacity. Future additional recycled (non-potable) water demands associated with the Project are anticipated to total 11,888 acre feet per year (AFY) in 2025 and increase to 31,040 AFY in the long-term. Future recycled water supplies associated with the Project would serve demands associated with irrigation in housing developments, commercial properties, business parks, and golf courses. A portion of the recycled water demand would serve agricultural customers through the Easterly Main Extension and the Rincon Del Diablo Municipal Water District components.

The Project would also involve processing recycled water for potable use. Recycled water would be filtered through an environmental buffer such as a groundwater basin or surface reservoir and then purified via advanced water treatment and mixed back into the water supply system in the same manner as untreated imported supplies or untreated groundwater. The project would provide up to 7,940 AFY of potable reuse water by 2025 to a maximum of 14,460 AFY by 2035. Five groundwater basins and two surface reservoir sites would be identified for potential potable reuse: Mission Basin, San Marcos Basin, San Elijo Valley Basin, San Dieguito Basin, Escondido Valley Basin, San Dieguito Reservoir, and Lake Dixon.

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorne  
Olivenhain Municipal Water District  
September 10, 2014  
Page 2 of 7

Total proposed average demands for recycled water and potable reuse water associated with the Project are 28,838 AFY by 2025 and 45,500 AFY by 2035.

The short-term (2025) project components associated with the Project would be categorized into groups by treatment plant that would provide recycled water or potable reuse water (from advanced water treatment [AWT] facilities) as well as by the Coalition Member with which the demands are associated. In order to meet the short-term recycled water and potable reuse demands associated with the Project, six existing treatment plants (also referred to as water reclamation facilities [WRF] or wastewater treatment plants [WWTP]) would require upgrading and three additional treatment plants would need to be constructed. In the long-term, any of the treatment plants in the region would potentially be upgraded to include AWT components to supply water for potable reuse.

Along project construction alignments, staging areas would be required to store construction equipment and related materials. Staging areas would be established where space is available, such as vacant lots, roadway turnouts, and parking lots. Typical construction activities for the non-potable water system would include site preparation, earthwork, pipe installation, structural improvements (foundations and footings), paving, electrical instrumentation installation and testing.

The Department offers the following comments and recommendations to assist the NSDWRC in avoiding or minimizing potential project impacts on biological resources.

### Specific Comments

The Project description states that the precise location of alignments for proposed potable reuse pipelines or facilities are not known at this time. The Department recommends that these locations be specified in the DPEIR in order to completely analyze the impacts to biological resources potentially located along these alignments.

### General Comments

1. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations. Mitigation measures to compensate for impacts to mature riparian corridors must be included in the DPEIR and must compensate for the loss of function and value of a wildlife corridor.

- a) The project area supports aquatic, riparian, and wetland habitats; therefore, a jurisdictional delineation of the creeks and their associated riparian habitats should be included in the DPEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service wetland definition adopted by the Department.<sup>1</sup> Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers.
  - b) The Department also has regulatory authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to the Department pursuant to section 1600 *et seq.* of the Fish and Game Code. Based on this notification and other information, the Department determines whether a Lake and Streambed Alteration Agreement (LSA) with the applicant is required prior to conducting the proposed activities. The Department's issuance of a LSA for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize additional requirements by the Department pursuant to section 1600 *et seq.* and/or under CEQA, the document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.<sup>2</sup>
2. The Department considers adverse impacts to a species protected by the California Endangered Species Act (CESA), for the purposes of CEQA, to be significant without mitigation. As to CESA, take of any endangered, threatened, or candidate species that results from the project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, the Department recommends that the project proponent seek appropriate take authorization under CESA prior to implementing the project. Appropriate authorization from the Department may include an incidental take permit (ITP) or a consistency determination in certain circumstances, among other options (Fish and Game Code §§ 2080.1, 2081, subds. (b),(c)). Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of an ITP unless the project CEQA document addresses all project impacts to CESA-listed species and specifies a mitigation monitoring and

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<sup>1</sup> Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

<sup>2</sup> A notification package for a LSA may be obtained by accessing the Department's web site at [www.wildlife.ca.gov/habcon/1600](http://www.wildlife.ca.gov/habcon/1600).

reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

3. To enable the Department to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish and wildlife, we recommend the following information be included in the DPEIR.
  - a) A complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.
  - b) A range of feasible alternatives to ensure that alternatives to the proposed project are fully considered and evaluated; the alternatives should avoid or otherwise minimize impacts to sensitive biological resources particularly wetlands. Specific alternative locations should be evaluated in areas with lower resource sensitivity where appropriate.

#### Biological Resources within the Project's Area of Potential Effect

4. To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats, the DPEIR should include the following information.
  - a) Per CEQA Guidelines, section 15125(c), information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis placed on resources that are rare or unique to the region.
  - b) A thorough, recent floristic-based assessment of special status plants and natural communities, following the Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see <http://www.dfg.ca.gov/habcon/plant/>). The Department recommends that floristic, alliance- and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity. The Manual of California Vegetation, second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2008). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.
  - c) A current inventory of the biological resources associated with each habitat type on site and within the area of potential effect. The Department's California Natural Diversity Data Base in Sacramento should be contacted at [www.wildlife.ca.gov/biogeodata/](http://www.wildlife.ca.gov/biogeodata/) to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.
  - d) An inventory of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, § 15380). This should include

sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.

#### Analyses of the Potential Project-Related Impacts on the Biological Resources

5. To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DPEIR.
  - a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage should also be included. The latter subject should address: project-related changes on drainage patterns on, and downstream of, the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site. The discussions should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary, and the potential resulting impacts on the habitat, if any, supported by the groundwater. Mitigation measures proposed to alleviate such impacts should be included.
  - b) Discussions regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with any NCCP, such as the Carlsbad Subarea Plan or the draft plans for Oceanside and North San Diego County). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DPEIR.
  - c) The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.
  - d) A cumulative effects analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

#### Mitigation for the Project-related Biological Impacts

6. The DPEIR should include measures to fully avoid and otherwise protect Rare Natural Communities from project-related impacts. The Department considers these communities as threatened habitats having both regional and local significance.
7. The DPEIR should include mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance

- and reduction of project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore would not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.
8. For proposed preservation and/or restoration, the DPEIR should include measures to perpetually protect the targeted habitat values from direct and indirect negative impacts. The objective should be to offset each individual project-induced qualitative and quantitative loss of wildlife habitat values. Issues that should be addressed include restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.
  9. The Department recommends that measures be taken to avoid project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed project activities (including, but not limited to, staging and disturbances to native and nonnative vegetation, structures, and substrates) should occur outside of the avian breeding season which generally runs from February 1- September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, the Department recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.
  10. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.
  11. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity.

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorne  
Olivenhain Municipal Water District  
September 10, 2014  
Page 7 of 7

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Eric Hollenbeck at (858-467-2720) or [Eric.Hollenbeck@wildlife.ca.gov](mailto:Eric.Hollenbeck@wildlife.ca.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read "Gail K. Sevrens". The signature is written in a cursive, flowing style.

Gail K. Sevrens  
Environmental Program Manager  
South Coast Region

ec: Janet Stuckrath (U.S. Fish and Wildlife Service)  
Scott Morgan (State Clearinghouse)

# Appendix A: Notice of Preparation and Scoping Materials

Mr. Kimpton  
Division of Environmental Health  
September 10, 2014  
Page 1 of 2

We appreciate the opportunity to comment on the proposed HUP. Questions regarding the HUP and other information on these issues should be directed to Eric Hollander at (855-461-3125) or [eric.hollander@ehp.ca.gov](mailto:eric.hollander@ehp.ca.gov).

Sincerely,



Eric Hollander  
Environmental Program Manager  
South Coast Region

Eric Hollander, U.S. Fish and Wildlife Service  
2000 Michigan Street, Washington, DC



# Appendix A: Notice of Preparation and Scoping Materials



## County of San Diego

**MARK WARDLAW**  
DIRECTOR  
PHONE (858) 694-2962  
FAX (858) 694-2555

PLANNING & DEVELOPMENT SERVICES  
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123  
[www.sdcounty.ca.gov/pds](http://www.sdcounty.ca.gov/pds)

**DARREN GRETLER**  
ASSISTANT DIRECTOR  
PHONE (858) 694-2962  
FAX (858) 694-2555

September 9, 2014

Ms. Kimberly Thorner  
Olivenhain Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024

Via email to: [kthorner@olivenhain.com](mailto:kthorner@olivenhain.com)

### **COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT AND NOTICE OF SCOPING MEETING**

Dear Ms. Thorner,

The County of San Diego has received and reviewed the Notice of Preparation of a Draft Programmatic Environmental Impact Report (PEIR) for the proposed construction and operation of pipelines, pumping stations, water treatment plants and other facilities necessary to produce and deliver 18,728 AFY of recycled and potable reuse water by 2025 and an additional 16,662 AFY of recycled water and potable reuse water by 2035, dated August 11, 2014, and appreciates this opportunity to comment. In response to the document, the County has comments that identify potentially significant environmental issues that may have an effect on the unincorporated lands of San Diego County, and that will need to be explored in the environmental document.

Planning & Development Services (PDS) and Department of Public Works (DPW) staff has completed its review and has the following comments regarding the content of the above documents:

1. The County of San Diego, Land Use and Environment Group has developed Guidelines for Determining Significance that are used as guidance for determining the significance of environmental impacts in the unincorporated portions of San Diego County. The Guidelines also provide mitigation options for addressing potentially significant impacts. Project impacts that could have potentially significant adverse effects to the unincorporated County or County facilities should evaluate and mitigate environmental impacts using the guidance described in these guidelines, available online at: <http://www.sdcounty.ca.gov/dplu/procguid.html#guide>.

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner

September 9, 2014

Page 2 of 3

2. The Draft PEIR should consider the impact recycled water may have on the salinity of urban runoff, surface waters, and reservoirs as a result of potential over-irrigation by recycled water users. Impacts to groundwater basins and reservoirs due to the storage of recycled water for potable reuse should be considered if total dissolved solids (TDS) are anticipated to exceed the applicable San Diego Basin Plan Water Quality Standard for TDS.
3. The Traffic Impact Analysis (TIA) should reference and use the County's Transportation and Traffic, Traffic Guidelines and Report Format & Content Requirements (Second Modification, August 24, 2011) for traffic analysis of direct and/or cumulative traffic impacts on roadway segments and intersections within the County's jurisdiction, including construction impacts. In particular, the scope of the assessment should include a full direct and cumulative traffic assessment of those roads and intersections that will receive 25 or more peak hour trips. If the proposed project's traffic results in a significant traffic impact (temporary or long-term) to County facilities, mitigation for the traffic impact must be proposed.

*Link to the County's Traffic Guidelines:*

[http://www.sdcounty.ca.gov/dplu/docs/Traffic\\_Guidelines.pdf](http://www.sdcounty.ca.gov/dplu/docs/Traffic_Guidelines.pdf)

*Link to the County's Report Format & Content Requirements:*

[http://www.sdcounty.ca.gov/pds/docs/Traffic\\_Report\\_Format.pdf](http://www.sdcounty.ca.gov/pds/docs/Traffic_Report_Format.pdf)

4. The proposed project impacts public and private roads in the County of San Diego. Please coordinate with the County on the following requirements:
  - A grading permit is required if earthwork exceeds 200 cubic yards.
  - Excavation and encroachment permits are required for any work within public road right-of-way.
  - Traffic control plans will be required for any proposed work in the public road right-of-way.
  - Full sets of construction plans must be submitted to the County for review and approval for all works within the public road right-of-way.
  - Repaving the entire travel lane shall be required over the trenched area in segments of the County maintained road.
  - Ensure compliance with State Construction and San Diego Regional Municipal Separate Storm Sewer Systems (MS4) permit.
  - Grading plans will be required for any grading in the unincorporated area if the earthwork exceeds 200 cubic yards.

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner

September 9, 2014

Page 3 of 3

- The contractor shall coordinate the work across private driveways with the individual property owners.

The County of San Diego appreciates the opportunity to continue to participate in the environmental review process for this project. We look forward to receiving future environmental documents related to this project or providing additional assistance at your request. If you have any questions regarding these comments, please contact Sheri McPherson at (858) 694-3064 or via email at [sheri.mcpherson@sdcounty.ca.gov](mailto:sheri.mcpherson@sdcounty.ca.gov).

Sincerely,



TODD SNYDER, Chief  
Advanced Planning Division  
Planning & Development Services

e-mail cc:

Sachiko Kohatsu, Policy Advisor, District 3  
Chris Livoni, Policy Advisor, District 5  
Conor McGee, CAO Staff Officer, LUEG  
Megan Jones, Group Program Manager, LUEG  
Richard Chin, Associate Transportation Specialist, Department of Public Works  
Rene Vidales, Program Coordinator, Department of Public Works  
Jeff Kashak, Land Use Environmental Planner, Department of Public Works  
Sheri McPherson, Land Use Environmental Planner, Planning & Development Services

## Appendix A: Notice of Preparation and Scoping Materials

## ADDITIONAL INFORMATION

If your project has the potential to affect biological resources or historic properties, the consultation process can be lengthy. Please contact the State Water Board staff early in your planning process to discuss what additional information may be needed for your specific project.

Please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at (916) 341-5855 or [Ahmad.Kashkoli@waterboards.ca.gov](mailto:Ahmad.Kashkoli@waterboards.ca.gov) for more information related to the CWSRF Program environmental review process and requirements.



We've got the green...  
to keep California's water clean.  
CLEAN WATER STATE REVOLVING FUND

### National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires an analysis of the effects on "historic properties." The Section 106 process is designed to accommodate historic preservation concerns for federal actions with the potential to affect historic properties. Early consultation with appropriate government agencies, Indian tribes, and members of the public, will ensure that their views and concerns are addressed during the planning phase. Historic properties (i.e., buildings, structures, objects, and archaeological sites 50 years or older) are properties that are included in the National Register of Historic Places or meet the criteria for the National Register.

#### Required Documents:

- ✓ A draft State Historic Preservation Officer consultation request letter; and
- ✓ A cultural resources report on historic properties conducted according to the Secretary of the Interior's Standards, including:
  - A clearly defined Area of Potential Effect (APE), specifying the length, width, and depth of excavation, with a map clearly illustrating the project APE;
  - A records search, less than one year old, extending to a half-mile beyond the project APE;
  - Written description of field methods;
  - Identification and evaluation of historic properties within the project's APE; and
  - Documentation of consultation with the Native American Heritage Commission and local Native American tribes.

CLEAN WATER STATE REVOLVING FUND

# Environmental Review Requirements

State Water Resources Control Board  
Division of Financial Assistance

# ENVIRONMENTAL REVIEW REQUIREMENTS

The Clean Water State Revolving Fund (CWSRF) Program is partially funded by the United States Environmental Protection Agency (EPA), and is subject to federal environmental regulations as well as the California Environmental Quality Act (CEQA).

Applicants seeking CWSRF financing must comply with both CEQA and the federal cross-cutting regulations. The

**"Environmental Package"** provides the forms and instructions needed to complete the environmental review requirements

of CWSRF financing. The forms and instructions are available at [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/srf\\_forms.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml).

## Lead Agency/Applicant

The applicant will generally act as the "Lead Agency" for environmental review. It will prepare, circulate, and consider the environmental documents prior to approving the project. It also provides the State Water Board with copies

of the CEQA documents, and a completed "Environmental Evaluation Form for Environmental Review and Federal Coordination" ([http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/docs/forms/application\\_environmental\\_package.pdf](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf)) with supporting documents as part of the "Environmental Package."

## Responsible Agency/State Water Board

The State Water Board acts on behalf of EPA to review and consider the environmental documents before approving financing. The State Water Board may require additional studies or documentation to make its own CEQA findings, as well as circulate CEQA documents and other environmental reports to relevant federal agencies for consultation before making a determination about the project financing.

The Applicant must address all relevant federal agencies' comments before project financing is approved.

# FEDERAL CROSS-CUTTING REGULATIONS

The CWSRF Program requires consultation with relevant federal agencies on the following federal environmental regulations, if applicable to the project:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice
- Farmland Protection Policy Act
- Floodplain Management
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act
- Protection of Wetlands
- Safe Drinking Water Act
- Sole Source Aquifer Protection
- Wild and Scenic Rivers Act

The following is a brief overview of requirements for some of the key regulations.

## Clean Air Act (CAA)

The CAA general conformity analysis only applies to projects in areas not meeting the National Ambient Air Quality Standards or subject to a maintenance plan.

If project emissions are below the federal "de minimis" levels then:

- A general conformity analysis is not required.

If project emissions are above the federal "de minimis" levels then:

- A general conformity determination for the project must be made. A general conformity determination can be made if facilities are sized to meet the needs of current population projections used in an approved State Implementation Plan for air quality.

- Using population projections, applicants must explain how the proposed capacity increase was calculated. An air quality modeling analysis is necessary of all projects for the following criteria pollutants, regardless of attainment status:

- Carbon monoxide
- Lead
- Oxides of nitrogen
- Ozone
- Particulate matter (PM2.5 and PM10)
- Sulfur dioxide

## Endangered Species Act (ESA)

The ESA requires an analysis of the effects on federally listed species. The State Water Board will determine the project's potential effects on federally listed species, and will initiate informal/formal consultation with the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service, as necessary under Section 7 of the ESA.

## Required Documents:

- ✓ A species list, less than one year old, from the USFWS and the California Department of Fish and Wildlife's Natural Diversity Database;
- ✓ A biological survey conducted during the appropriate time of year;
- ✓ Maps or documents (biological reports or biological assessments, if necessary); and
- ✓ An assessment of the direct or indirect impacts to any federally listed species and/or critical habitat. If no effects are expected, explain why and provide the supporting evidence.



# Appendix A: Notice of Preparation and Scoping Materials

STATE OF CALIFORNIA

Edmond G. Brown, Jr., Governor

## NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., ROOM 100  
West SACRAMENTO, CA 95691  
(916) 373-3710  
Fax (916) 373-5471



August 13, 2014



Kimberly A. Thorner  
Olivenhain Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024

RE: SCH# 2014081028 North San Diego Water Reuse Coalition Regional Recycled Water Project, San Diego County.

Dear Ms. Thorner:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5-minute quadrangle name, township, range, and section required**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) Guidelines §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered cultural items that are not burial associated, which are addressed in Public Resources Code (PRC) §5097.98, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, PRC §5097.98, and CEQA Guidelines §15064.5(e), address the process to be followed in the event of an accidental discovery of any human remains and associated grave goods in a location other than a dedicated cemetery.

Sincerely,

A handwritten signature in blue ink that reads "Gayle Totton".

Gayle Totton  
Associate Government Program Analyst

CC: State Clearinghouse

# Appendix A: Notice of Preparation and Scoping Materials

## Native American Contacts San Diego County, California August 13, 2014

Kumeyaay Cultural Historic Committee  
Ron Christman  
56 Viejas Grade Road            Diegueno/Kumeyaay  
Alpine            , CA 92001  
(619) 445-0385

Rincon Band of Mission Indians  
Vincent Whipple, Tribal Historic Preservation Officer  
1 West Tribal Road            Luiseno  
Valley Center, CA 92082  
vwipple@rincontribe.org  
(760) 297-2635  
(760) 297-2639 Fax

Pala Band of Mission Indians  
Historic Preservation Office/Shasta Gaughen  
35008 Pala Temecula Road, PMB 50    Luiseno  
Pala            , CA 92059    Cupeno  
sgaughen@palatribe.com  
(760) 891-3515  
(760) 742-3189 Fax

Soboba Band of Mission Indians  
Rosemary Morillo, Chairperson; Attn: Carrie Garcia  
P.O. Box 487            Luiseno  
San Jacinto    , CA 92581  
carrieg@soboba-nsn.gov  
(951) 654-2765  
(951) 654-4198 Fax

Pauma & Yuima Reservation  
Randall Majel, Chairperson  
P.O. Box 369            Luiseno  
Pauma Valley CA 92061  
(760) 742-1289  
(760) 742-3422 Fax

Kumeyaay Cultural Repatriation Committee  
Steve Banegas, Spokesperson  
1095 Barona Road            Diegueno/Kumeyaay  
Lakeside            , CA 92040  
sbenegas50@gmail.com  
(619) 742-5587  
(619) 443-0681 Fax

Pechanga Band of Mission Indians  
Paul Macarro, Cultural Resources Manager  
P.O. Box 1477            Luiseno  
Temecula            , CA 92593  
pmacarro@pechanga-nsn.gov  
(951) 770-8100  
(951) 506-9491 Fax

Juaneno Band of Mission Indians Acjachemen Nation  
Teresa Romero, Chairwoman  
31411-A La Matanza Street    Juaneno  
San Juan            , CA 92675  
(949) 488-3484  
(949) 488-3294 Fax  
(530) 354-5876 Cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed North San Diego Water Reuse Coalition Regional Recycled Water Project; located near the cities of Encinitas, Carlsbad, Escondido, Oceanside, Vista, San Marcos, and Solano Beach; San Diego County, California.



# Appendix A: Notice of Preparation and Scoping Materials

## Native American Contacts San Diego County, California August 13, 2014

Pauma Valley Band of Luiseño Indians  
Bennae Calac  
P.O. Box 369 Luiseno  
Pauma Valley CA 92061  
bennaecalac@aol.com  
(760) 617-2872  
(760) 742-3422 Fax

San Luis Rey Band of Mission Indians  
Tribal Council  
1889 Sunset Drive Luiseno  
Vista , CA 92081  
cjmojado@slrmissionindians.org  
(760) 724-8505  
(760) 724-2172 Fax

Pauma & Yuima  
ATTN: EPA  
P.O. Box 369 Luiseno  
Pauma Valley CA 92061  
kymberli\_peters@yahoo.com  
(760) 742-1289  
(760) 742-3422 Fax

San Luis Rey Band of Mission Indians  
Cultural Department  
1889 Sunset Drive Luiseno  
Vista , CA 92081 Cupeno  
cjmojado@slrmissionindians.org  
(760) 724-8505  
(760) 724-2172 Fax

Rincon Band of Mission Indians  
Bo Mazzetti, Chairperson  
1 West Tribal Road Luiseno  
Valley Center, CA 92082  
bomazzetti@aol.com  
(760) 749-1051  
(760) 749-8901 Fax

Kupa Cultural Center (Pala Band)  
Shasta Gaughen, Assistant Director  
35008 Pala-Temecula Rd., PMB 50 Luiseno  
Pala , CA 92059  
cupa@palatribe.com  
(760) 891-3590  
(760) 742-4543 Fax

Juaneno Band of Mission Indians  
Adolph 'Bud' Sepulveda, Vice Chairperson  
P.O. Box 25828 Juaneno  
Santa Ana , CA 92799  
bssepul@yahoo.net  
(714) 838-3270  
(714) 914-1812 Cell

Pechanga Band of Mission Indians  
Mark Macarro, Chairperson  
P.O. Box 1477 Luiseno  
Temecula , CA 92593  
mgoodhart@pechanga-nsn.gov  
(951) 770-6100  
(951) 695-1778 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed North San Diego Water Reuse Coalition Regional Recycled Water Project; located near the cities of Encinitas, Carlsbad, Escondido, Oceanside, Vista, San Marcos, and Solano Beach; San Diego County, California.

# Appendix A: Notice of Preparation and Scoping Materials

## Native American Contacts San Diego County, California August 13, 2014

La Jolla Band of Mission Indians  
Lavonne Peck, Chairwoman  
22000 Highway 76 Luiseno  
Pauma Valley CA 92061  
rob.roy@lajolla-nsn.gov  
(760) 742-3771  
(760) 742-1704 Fax

Inter-Tribal Cultural Resource Protection Council  
Frank Brown, Coordinator  
240 Brown Road Diegueno/Kumeyaay  
Alpine, CA 91901  
frbrown@viejas-nsn.gov  
(619) 884-6437

Iipay Nation of Santa Ysabel  
Clint Linton, Director of Cultural Resources  
P.O. Box 507 Diegueno/Kumeyaay  
Santa Ysabel, CA 92070  
cjlinton73@aol.com  
(760) 803-5694

Kumeyaay Cultural Repatriation Committee  
Bernice Paipa, Vice Spokesperson  
P.O. 937 Diegueno/Kumeyaay  
Boulevard, CA 91905  
bernicepaipa@gmail.com

Pauma & Yuima Reservation  
Charles Devers, Cultural Committee  
P.O. Box 369 Luiseno  
Pauma Valley CA 92061  
(760) 742-1289  
(760) 742-3422 Fax

Iipay Nation of Santa Ysabel  
Virgil Perez, Chairperson  
P.O. Box 130 Diegueno/Kumeyaay  
Santa Ysabel, CA 92070  
(760) 765-0845  
(760) 765-0320

Kumeyaay Diegueno Land Conservancy  
Mr. Kim Bactad, Executive Director  
2 Kwaaypaay Court Diegueno/Kumeyaay  
El Cajon, CA 91919  
kimbactad@gmail.com  
(619) 659-1008 Office  
(619) 445-0238 Fax

Pala Band of Mission Indians  
Robert H. Smith, Chairperson  
35008 Pala-Temecula Rd., PMB 50 Luiseno  
Pala, CA 92059 Cupeno  
(760) 891-3500  
(760) 742-3189 Fax

This list is current only as of the date of this document.

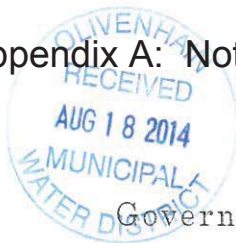
Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed North San Diego Water Reuse Coalition Regional Recycled Water Project; located near the cities of Encinitas, Carlsbad, Escondido, Oceanside, Vista, San Marcos, and Solano Beach; San Diego County, California.

# Appendix A: Notice of Preparation and Scoping Materials



Edmund G. Brown Jr.  
Governor



STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse and Planning Unit



Ken Alex  
Director

## Notice of Preparation

August 11, 2014

To: Reviewing Agencies

Re: North San Diego Water Reuse Coalition Regional Recycled Water Project  
SCH# 2014081028

Attached for your review and comment is the Notice of Preparation (NOP) for the North San Diego Water Reuse Coalition Regional Recycled Water Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

**Kimberly A. Thorner**  
**Olivenhain Municipal Water District**  
**1966 Olivenhain Road**  
**Encinitas, CA 92024**

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

A handwritten signature in black ink that reads "Scott Morgan".

Scott Morgan  
Director, State Clearinghouse

Attachments  
cc: Lead Agency

**Appendix A: Notice of Preparation and Scoping Materials  
Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2014081028  
**Project Title** North San Diego Water Reuse Coalition Regional Recycled Water Project  
**Lead Agency** Olivenhain Municipal Water District

**Type** **NOP** Notice of Preparation  
**Description** Project would expand and optimize recycled water production and distribution system within and between ten public water and wastewater agencies in northern San Diego County to increase efficiency of recycled water use and match supplies with demands. It would also include potable reuse. The project would construct pipelines, pumping stations, water treatment plants, and other facilities to produce and deliver recycled for potable and non-potable purposes. Cities in Project Area include: Encinitas, Carlsbad, Escondido, Oceanside, Vista, San Marcos and Solano Beach. There are 157 public schools within Project Area.

**Lead Agency Contact**

**Name** Kimberly A. Thorner  
**Agency** Olivenhain Municipal Water District  
**Phone** 760 753 6466 **Fax**  
**email**  
**Address** 1966 Olivenhain Road  
**City** Encinitas **State** CA **Zip** 92024

**Project Location**

**County** San Diego  
**City**  
**Region**  
**Cross Streets**  
**Lat / Long**  
**Parcel No.**  
**Township** **Range** **Section** **Base**

**Proximity to:**

**Highways** Hwy 76, Hwy 78  
**Airports** McClellan-Palomar; Oceanside  
**Railways** Coaster; Amtrak  
**Waterways** Santa Margarita River, San Luis Rey River, Escondido  
**Schools**  
**Land Use** Industrial, Commercial, Residential, Open Space, Agricultural, Transportation

**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Solid Waste; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

**Reviewing Agencies** Resources Agency; California Coastal Commission; Office of Historic Preservation; Department of Parks and Recreation; Resources, Recycling and Recovery; Department of Water Resources; Department of Fish and Wildlife, Region 5; Native American Heritage Commission; Public Utilities Commission; Caltrans, Division of Aeronautics; Caltrans, District 11; Air Resources Board; State Water Resources Control Board, Division of Financial Assistance; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 9

**Date Received** 08/11/2014 **Start of Review** 08/11/2014 **End of Review** 09/09/2014

# Appendix A: Notice of Preparation and Scoping Materials

Print Form

Appendix C

## Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613  
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # **2014081028**

**Project Title:** North San Diego Water Reuse Coalition Regional Recycled Water Project

Lead Agency: Olivenhain Municipal Water District

Contact Person: Kimberly A. Thorner

Mailing Address: 1966 Olivenhain Road

Phone: 760-753-6466

City: Encinitas

Zip: 92024

County: San Diego

**Project Location:** County: San Diego

City/Nearest Community: see Proj. Desc.

Cross Streets: See project map, attached

Zip Code: \_\_\_\_\_

Longitude/Latitude (degrees, minutes and seconds): \_\_\_\_\_ " N / \_\_\_\_\_ " W Total Acres: \_\_\_\_\_

Assessor's Parcel No.: \_\_\_\_\_ Section: \_\_\_\_\_ Twp.: \_\_\_\_\_ Range: \_\_\_\_\_ Base: \_\_\_\_\_

Within 2 Miles: State Hwy #: Hwy 76, Hwy 78

Waterways: Santa Margarita River, San Luis Rey River, Escondido

Airports: McClellan-Palomar; Oceanside

Railways: Coaster; Amtrak CA

Schools: \_\_\_\_\_

### Document Type:

CEQA:  NOP

Draft EIR

NEPA:  NOI

Other:  Joint Document

Early Cons

Supplement/Subsequent EIR

EA

Final Document

Neg Dec

(Prior SCH No.) \_\_\_\_\_

Draft EIS

Other: \_\_\_\_\_

Mit Neg Dec

Other: \_\_\_\_\_

FONSI

### Local Action Type:

General Plan Update

Specific Plan

Rezone

Annexation

General Plan Amendment

Master Plan

Prezone

Redevelopment

General Plan Element

Planned Unit Development

Use Permit

Coastal Permit

Community Plan

Site Plan

Land Division (Subdivision, etc.)

Other: funding

### Development Type:

Residential: Units \_\_\_\_\_ Acres \_\_\_\_\_

\_\_\_\_\_

Transportation: Type \_\_\_\_\_

Office: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_

\_\_\_\_\_

Mining: Mineral \_\_\_\_\_

Commercial: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_

\_\_\_\_\_

Power: Type \_\_\_\_\_ MWD \_\_\_\_\_

Industrial: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_

\_\_\_\_\_

Waste Treatment: Type \_\_\_\_\_ MGD \_\_\_\_\_

Educational: \_\_\_\_\_

Hazardous Waste: Type \_\_\_\_\_

Recreational: \_\_\_\_\_

Other: Recycled Water

Water Facilities: Type \_\_\_\_\_ MGD \_\_\_\_\_

### Project Issues Discussed in Document:

Aesthetic/Visual

Fiscal

Recreation/Parks

Vegetation

Agricultural Land

Flood Plain/Flooding

Schools/Universities

Water Quality

Air Quality

Forest Land/Fire Hazard

Septic Systems

Water Supply/Groundwater

Archeological/Historical

Geologic/Seismic

Sewer Capacity

Wetland/Riparian

Biological Resources

Minerals

Soil Erosion/Compaction/Grading

Growth Inducement

Coastal Zone

Noise

Solid Waste

Land Use

Drainage/Absorption

Population/Housing Balance

Toxic/Hazardous

Cumulative Effects

Economic/Jobs

Public Services/Facilities

Traffic/Circulation

Other: \_\_\_\_\_

### Present Land Use/Zoning/General Plan Designation:

Industrial, Commercial, Residential, Open Space, Agricultural, Transportation

### Project Description: (please use a separate page if necessary)

Project would expand and optimize recycled water production and distribution systems within and between ten public water and wastewater agencies in northern San Diego County to increase efficiency of recycled water use and match supplies with demands. It would also include potable reuse. The project would construct pipelines, pumping stations, water treatment plants, and other facilities to produce and deliver recycled for potable and non-potable purposes. Cities in Project Area include: Encinitas, Carlsbad, Escondido, Oceanside, Vista, San Marcos and Solana Beach. There are 157 public schools within Project Area.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Appendix A: Notice of Preparation and Scoping Materials

<input type="checkbox"/> <u>Resources Agency</u> Nadell Gayou	<input type="checkbox"/> <u>Fish &amp; Wildlife Region 1E</u> Laurie Harnsberger	<input type="checkbox"/> <u>Native American Heritage Comm.</u> Debbie Treadway	<input type="checkbox"/> <u>Caltrans, District 8</u> Dan Kopulsky	<input type="checkbox"/> <u>Regional Water Quality Control Board (RWQCB)</u>
<input type="checkbox"/> <u>Dept. of Boating &amp; Waterways</u> Nicole Wong	<input type="checkbox"/> <u>Fish &amp; Wildlife Region 2</u> Jeff Drongesen	<input checked="" type="checkbox"/> <u>Public Utilities Commission</u> Leo Wong	<input type="checkbox"/> <u>Caltrans, District 9</u> Gayle Rosander	<input type="checkbox"/> <u>RWQCB 1</u> Cathleen Hudson North Coast Region (1)
<input checked="" type="checkbox"/> <u>California Coastal Commission</u> Elizabeth A. Fuchs	<input type="checkbox"/> <u>Fish &amp; Wildlife Region 3</u> Charles Armor	<input type="checkbox"/> <u>Santa Monica Bay Restoration</u> Guangyu Wang	<input checked="" type="checkbox"/> <u>Caltrans, District 10</u> Tom Dumas	<input type="checkbox"/> <u>RWQCB 2</u> Environmental Document Coordinator San Francisco Bay Region (2)
<input type="checkbox"/> <u>Colorado River Board</u> Tanya Trujillo	<input checked="" type="checkbox"/> <u>Fish &amp; Wildlife Region 4</u> Julie Vance	<input type="checkbox"/> <u>State Lands Commission</u> Jennifer Deleong	<input type="checkbox"/> <u>Caltrans, District 11</u> Jacob Armstrong	<input type="checkbox"/> <u>RWQCB 3</u> Central Coast Region (3)
<input type="checkbox"/> <u>Dept. of Conservation</u> Elizabeth Carpenter	<input type="checkbox"/> <u>Fish &amp; Wildlife Region 5</u> Leslie Newton-Reed Habitat Conservation Program	<input type="checkbox"/> <u>Tahoe Regional Planning Agency (TRPA)</u> Cherry Jacques	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 4</u> Teresa Rodgers Los Angeles Region (4)
<input type="checkbox"/> <u>California Energy Commission</u> Eric Knight	<input type="checkbox"/> <u>Fish &amp; Wildlife Region 6</u> Tiffany Ellis Habitat Conservation Program	<input type="checkbox"/> <u>Business, Trans &amp; Housing</u>	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 5S</u> Central Valley Region (5)
<input type="checkbox"/> <u>Cal Fire</u> Dan Foster	<input type="checkbox"/> <u>Fish &amp; Wildlife Region 6 I/M</u> Heldi Sickler Inyo/Mono, Habitat Conservation Program	<input checked="" type="checkbox"/> <u>Caltrans - Division of Aeronautics</u> Philip Crimmins	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 5F</u> Central Valley Region (5) Fresno Branch Office
<input type="checkbox"/> <u>Central Valley Flood Protection Board</u> James Herota	<input type="checkbox"/> <u>Dept. of Fish &amp; Wildlife M</u> George Isaac Marine Region	<input type="checkbox"/> <u>Caltrans - Planning</u> Terri Pencovic	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 5R</u> Central Valley Region (5) Redding Branch Office
<input checked="" type="checkbox"/> <u>Office of Historic Preservation</u> Ron Parsons	<input type="checkbox"/> <u>Other Departments</u>	<input type="checkbox"/> <u>California Highway Patrol</u> Suzann Ikeuchi Office of Special Projects	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 6</u> Lahontan Region (6)
<input type="checkbox"/> <u>Dept of Parks &amp; Recreation</u> Environmental Stewardship Section	<input type="checkbox"/> <u>Food &amp; Agriculture</u> Sandra Schubert Dept. of Food and Agriculture	<input type="checkbox"/> <u>Housing &amp; Community Development</u> CEQA Coordinator Housing Policy Division	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 6V</u> Lahontan Region (6) Victorville Branch Office
<input checked="" type="checkbox"/> <u>California Department of Resources, Recycling &amp; Recovery</u> Sue O'Leary	<input type="checkbox"/> <u>Dept. of General Services</u> Public School Construction	<input type="checkbox"/> <u>State Water Resources Control Board</u> Regional Programs Unit Division of Financial Assistance	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 7</u> Colorado River Basin Region (7)
<input type="checkbox"/> <u>S.F. Bay Conservation &amp; Dev't. Comm.</u> Steve McAdam	<input type="checkbox"/> <u>Dept. of General Services</u> Anna Garbeff Environmental Services Section	<input type="checkbox"/> <u>State Water Resources Control Board</u> Jeffery Werth Division of Drinking Water	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>RWQCB 8</u> Santa Ana Region (8)
<input checked="" type="checkbox"/> <u>Dept. of Water Resources Agency</u> Nadell Gayou	<input type="checkbox"/> <u>Delta Stewardship Council</u> Kevan Samsam	<input type="checkbox"/> <u>State Water Resources Control Board</u> Student Intern, 401 Water Quality Certification Unit Division of Water Quality	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input checked="" type="checkbox"/> <u>RWQCB 9</u> San Diego Region (9)
<input type="checkbox"/> <u>Fish and Game</u>	<input type="checkbox"/> <u>Independent Commissions, Boards</u>	<input type="checkbox"/> <u>State Water Resources Control Board</u> Phil Crader Division of Water Rights	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>Other</u>
<input type="checkbox"/> <u>Dept. of Fish &amp; Wildlife</u> Scott Flint Environmental Services Division	<input type="checkbox"/> <u>Delta Protection Commission</u> Michael Machado	<input checked="" type="checkbox"/> <u>Dept. of Toxic Substances Control</u> CEQA Tracking Center	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	
<input type="checkbox"/> <u>Fish &amp; Wildlife Region 1</u> Donald Koch	<input type="checkbox"/> <u>OES (Office of Emergency Services)</u> Dennis Castrillo	<input type="checkbox"/> <u>Department of Pesticide Regulation</u> CEQA Coordinator	<input type="checkbox"/> <u>Caltrans, District 12</u> Maureen El Harake	<input type="checkbox"/> <u>Conservancy</u>

# Appendix A: Notice of Preparation and Scoping Materials



EDMUND G. BROWN JR.  
GOVERNOR



MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## State Water Resources Control Board

AUG 19 2014

Kimberly Thorner  
Olivenhain Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024

Joey

Dear Ms. Thorner:

NOTICE OF PREPARATION (NOP) FOR OLIVENHAIN MUNICIPAL WATER DISTRICT (DISTRICT); NORTH SAN DIEGO WATER REUSE COALITION REGIONAL RECYCLED WATER PROJECT (PROJECT); STATE CLEARINGHOUSE NO. 2014081028

We understand that the District may be pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the preparation of the California Environmental Quality Act (CEQA) for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering the CWSRF Program. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state. The CWSRF Program provides low-interest funding equal to one-half of the most recent State General Obligation Bond Rates with a 20-year term. Applications are accepted and processed continuously. Please refer to the State Water Board's CWSRF website at:

[www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml).

The CWSRF Program is partially funded by the United States Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package please visit:

[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/srf\\_forms.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml). The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF financing commitment for the proposed Project. For further information on the CWSRF Program, please contact Mr. Ahmad Kashkoli, at (916) 341-5855.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)

## Appendix A: Notice of Preparation and Scoping Materials

- 2 -

It is important to note that prior to a CWSRF financing commitment, projects are subject to provisions of the Federal Endangered Species Act (ESA), and must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

Please be advised that the State Water Board will consult with the USFWS, and/or the NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. The District will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106 and the State Water Board must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. The District must retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards ([http://www.nps.gov/history/local-law/arch\\_stnds\\_9.htm](http://www.nps.gov/history/local-law/arch_stnds_9.htm)) to prepare a Section 106 compliance report.

Note that the District will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond the Project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all environmental requirements please visit: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/docs/forms/application\\_environmental\\_package.pdf](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf)):

- A. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.
- B. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.



## Appendix A: Notice of Preparation and Scoping Materials

- 3 -

- C. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE.
- D. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract.
- E. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts.
- F. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area.
- G. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

Following are specific comments on the District's NOP:

1. Please be aware that when looking to the State Water Board for potential financing, a site survey with CNDDDB, CNPS and a USFWS sensitive species search will need to be conducted within a year of applying for financing.
2. In order to comply with CEQA-Plus requirements, and to prevent any adverse changes or destruction to cultural, historic or archaeological resources that may be present in one or more of the Project sites, please refer to Section 106 of the National Historic Preservation Act. If the District decides to request financing from the State Water Board, a cultural resources report will need to be prepared. This includes a ½ mile radius records search around the APE and must include site records, a site survey, consultation with Native American Tribes and Organizations, and clearly defined maps including any historical properties located within the APE.
3. Due to the coastal geography of this Project, it is likely that the District will need to coordinate with the California Coastal Commission to ensure compliance with the Coastal Zone Management Act.

Following the preparation of the draft CEQA document for the Project, please provide us a copy of the document to review if the District is considering CWSRF financing. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review for the Project.

## Appendix A: Notice of Preparation and Scoping Materials

- 4 -

Thank you for the providing us a copy of your NOP, and the consideration of the CWSRF for the financing of the District's Project. If you have any questions or concerns, please feel free to contact me by email at [Elysar.Naja@waterboards.ca.gov](mailto:Elysar.Naja@waterboards.ca.gov), or contact Ahmad Kashkoli at (916) 341-5855, or by email at [Ahmad.Kashkoli@waterboards.ca.gov](mailto:Ahmad.Kashkoli@waterboards.ca.gov).

Sincerely,

A handwritten signature in blue ink that reads "Ahmad Kashkoli". The signature is written in a cursive style.

Ahmad Kashkoli  
Senior Environmental Scientist

Enclosures (3)

cc: State Clearinghouse  
(Re: SCH# 2014081028)  
P.O. Box 3044  
Sacramento, CA 95812-3044

CLEAN WATER STATE REVOLVING FUND

# California Environmental Quality Act Requirements

State Water Resources Control Board  
Division of Financial Assistance

The State Water Resources Control Board (State Water Board), Division of Financial Assistance, administers the Clean Water State Revolving Fund (CWSRF) Program. The CWSRF Program is partially funded by grants from the United States Environmental Protection Agency. All applicants seeking CWSRF financing must comply with the California Environmental Quality Act (CEQA), and provide sufficient information so that the State Water Board can document compliance with federal environmental laws. The "Environmental Package" provides the forms and instructions needed to complete the environmental review requirements for CWSRF Program financing. It is available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/srf/srf\\_forms.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml)



We've got the green...  
to keep California's water clean.  
CLEAN WATER STATE REVOLVING FUND

**Contact Information:** For more information related to the CWSRF Program environmental review process and requirements, please contact your State Water Board Project Manager or Mr. Ahmad Kashkoli at 916-341-5855 or [Ahmad.Kashkoli@waterboards.ca.gov](mailto:Ahmad.Kashkoli@waterboards.ca.gov)

## LEAD AGENCY

The applicant is usually the "Lead Agency" and must prepare and circulate an environmental document before approving a project. Only a public agency, such as a local, regional or state government, may be the "Lead Agency" under CEQA. If a project will be completed by a non-governmental organization, "Lead Agency" responsibility goes to the first public agency providing discretionary approval for the project.

## RESPONSIBLE AGENCY

The State Water Board is generally a "Responsible Agency" under CEQA. As a "Responsible Agency," the State Water Board must make findings based on information provided by the "Lead Agency" before financing a project.

## ENVIRONMENTAL REVIEW

The State Water Board's environmental review of the project's compliance with both CEQA and federal cross-cutting regulations must be completed before a project can be financed by the CWSRF Program.

## DOCUMENT REVIEW

Applicants are encouraged to consult with State Water Board staff early during preparation of CEQA document if considering CWSRF financing. Applicants shall also send their environmental documents to the State Water Board, Environmental Review Unit during the CEQA public review period. This way, any environmental concerns can be addressed early in the process.

## REQUIRED DOCUMENTS

The Environmental Review Unit requires the documents listed below to make findings and complete its environmental review. Once the State Water Board receives all the required documents and makes its own findings, the environmental review for the project will be complete.

- ✓ Draft and Final Environmental Documents: Environmental Impact Report, Negative Declaration, and Mitigated Negative Declaration as appropriate to the project
- ✓ Resolution adopting/certifying the environmental document, making CEQA findings, and approving the project
- ✓ All comments received during the public review period and the "Lead Agency's" responses to those comments
- ✓ Adopted Mitigation Monitoring and Reporting Plan, if applicable
- ✓ Date-stamped copy of the Notice of Determination or Notice of Exemption filed with the County Clerk(s) and the Governor's Office of Planning and Research
- ✓ CWSRF Evaluation Form for Environmental Review and Federal Coordination with supporting documents



STATE WATER RESOURCES CONTROL BOARD  
REGIONAL WATER QUALITY CONTROL BOARDS

[waterboards.ca.gov](http://waterboards.ca.gov)

## Appendix A: Notice of Preparation and Scoping Materials

CLEAN WATER STATE REVOLVING FUND

# Basic Criteria for Cultural Resources Report Preparation

State Water Resources Control Board  
Division of Financial Assistance

For Section 106 Consultation with the State Historic Preservation Officer (SHPO) under the National Historic Preservation Act

## CULTURAL RESOURCES REPORT

The Cultural Resources Report must be prepared by a qualified researcher that meets the Secretary of the Interior's Professional Qualifications Standards. Please see the Professional Qualifications Standards at the following website at: [http://www.cr.nps.gov/local-law/arch\\_stnds\\_9.htm](http://www.cr.nps.gov/local-law/arch_stnds_9.htm)

The Cultural Resources Report should include one of the four "findings" listed in Section 106. These include:

### ***"No historic properties affected"***

(no properties are within the area of potential effect (APE; including below the ground).

### ***"No effect to historic properties"***

(properties may be near the APE, but the project will not have any adverse effects).

### ***"No adverse effect to historic properties"***

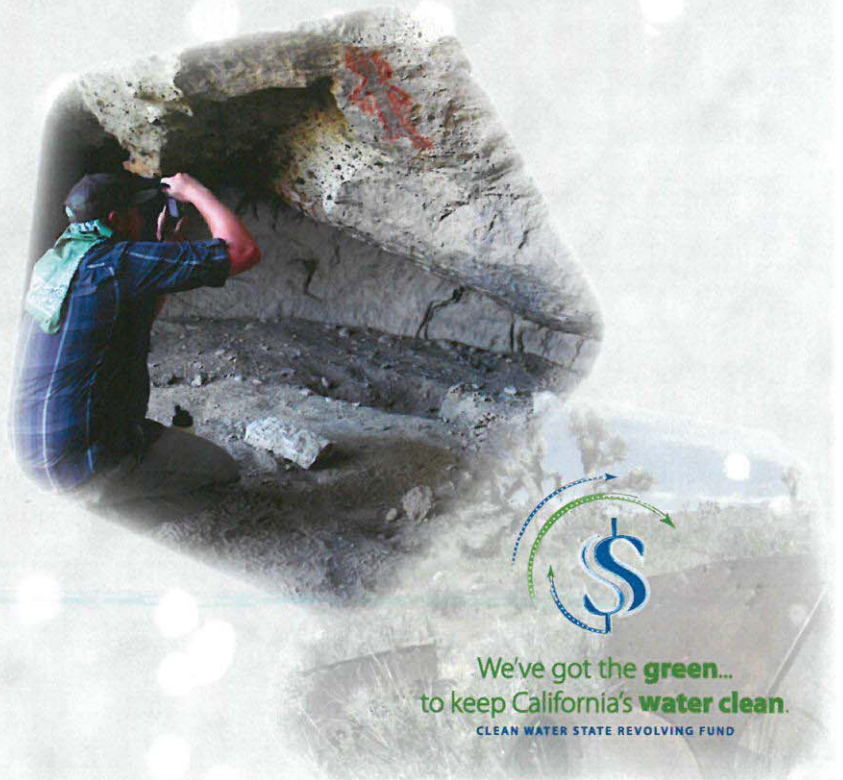
(the project may affect "historic properties", but the effects will not be adverse).

### ***"Adverse effect to historic properties"***

Note: Consultation with the SHPO will be required if a "no adverse effect to historic properties" or an "adverse effect to historic properties" determination is made, to develop and evaluate alternatives or modifications to the proposed project that could avoid, minimize or mitigate adverse effects on "historic properties."

## RECORDS SEARCH

- A records search (less than one year old) extending to a half-mile beyond the project APE from a geographically appropriate Information Center is required. The records search should include maps that show all recorded sites and surveys in relation to the APE for the proposed project, and copies of the confidential site records included as an appendix to the Cultural Resources Report.
- The APE is three-dimensional (depth, length and width) and all areas (e.g., new construction, easements, staging areas, and access roads) directly affected by the proposed project.



### NATIVE AMERICAN and INTERESTED PARTY CONSULTATION

- Native American and interested party consultation should be initiated at the planning phase of the proposed project to gather information to assist with the preparation of an adequate Cultural Resources Report.
- The Native American Heritage Commission (NAHC) must be contacted to obtain documentation of a search of the Sacred Lands Files for or near the project APE.
- All local Native American tribal organizations or individuals identified by the NAHC must be contacted by certified mail, and the letter should include a map and a description of the proposed project.
- Follow-up contact should be made by telephone and a phone log maintained to document the contacts and responses.
- Letters of inquiry seeking historical information on the project area and local vicinity should be sent to local historical societies, preservation organizations, or individual members of the public with a demonstrated interest in the proposed project.

**Copies of all documents mentioned above (project description, map, phone log and letters sent to the NAHC and Native American tribal organizations or individuals and interested parties) must be included in the Cultural Resources Report.**

**Contact Information:** For more information related to the CWSRF Program Cultural Resources and Requirements, please contact Mr. Ahmad Kashkoli at 916-341-5855 or [Ahmad.Kashkoli@waterboards.ca.gov](mailto:Ahmad.Kashkoli@waterboards.ca.gov)

### PRECAUTIONS

A finding of **“no known resources”** without supporting evidence is unacceptable. The Cultural Resources Report must identify resources within the APE or demonstrate with sufficient evidence that none are present.

**“The area is sensitive for buried archaeological resources,”** followed by a statement that **“monitoring is recommended.”** Monitoring is not an acceptable option without good-faith effort to demonstrate that no known resource is present.

If **“the area is already disturbed by previous construction”** documentation is still required to demonstrate that the proposed project will not affect “historic properties.” An existing road can be protecting a buried archaeological deposit or may itself be a “historic property.” Additionally, previous construction may have impacted an archaeological site that has not been previously documented.

### SHPO CONSULTATION LETTER

Submit a draft consultation letter prepared by the qualified researcher with the Cultural Resources Report to the State Water Resources Control Board. A draft consultation letter template is available for download on the State Water Board webpage at: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/cwsrf\\_requirements.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/cwsrf_requirements.shtml)

# Appendix A: Notice of Preparation and Scoping Materials



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services  
Carlsbad Fish and Wildlife Office  
2177 Salk Avenue, Suite 250  
Carlsbad, California 92008



In Reply Refer To:  
FWS-SD-14B0380-14CPA0402

SEP 11 2014

Ms. Kimberly Thorner  
Olivenhain Municipal Water District  
1966 Olivenhain Road  
Encinitas, California 92024

**Subject:** Comments on the Notice of Preparation of a Programmatic Environmental Impact Report for the North San Diego Water Reuse Coalition Regional Recycled Water Project, San Diego County, California (SCH #2014081028)

Dear Ms. Thorner:

The U. S. Fish and Wildlife Service (Service) received a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the North San Diego Water Reuse Coalition Regional Recycled Water Project, dated August 11, 2014. These comments have been prepared under the authority, and in accordance with the provisions, of the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) mandating Department of Interior concerns for environmental values. Our comments are based on the information provided in the NOP, our knowledge of sensitive and declining vegetation communities in the region, and our participation in the Multiple Habitat Conservation Program (MHCP) and the North County Multiple Species Conservation Program (NC-MSCP).

The primary concern and mandate of the Service is the protection of fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Act, including habitat conservation plans (HCP) developed under section 10(a)(1) of the Act.

Olivenhain Municipal Water District will be the lead agency under the California Environmental Quality Act (CEQA) in the preparation of a Programmatic Environmental Impact Report (PEIR) for the North Swan Diego Water Reuse Coalition (Coalition) Regional Recycled Water Project. The Coalition members are listed below:

1. Carlsbad Municipal Water District (Carlsbad MWD)
2. City of Escondido
3. City of Oceanside
4. Leucadia Wastewater District (Leucadia (WWD))

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner (FWS-SD-14B0380-14CPA0402)

2

5. Olivenhain Municipal Water District (Olivenhain MWD)
6. Rincon del Diablo Municipal Water District (Rincon del Diablo MWD)
7. San Elijo Joint Powers Authority (San Elijo JPA)
8. Santa Fe Irrigation District (Santa Fe ID)
9. Vallecitos Water District (Vallecitos WD)
10. Vista Irrigation District (Vista ID)

The project is located within northern San Diego County within the MHCP planning area and partially within the NC-MSCP planning area, and includes the collective service areas of the ten north San Diego County agencies that constitute the Coalition. The western boundary of the project area is defined by the Pacific Ocean. The northern boundary of the project area is roughly defined by the boundary with Camp Pendleton and Rainbow Municipal Water District. The eastern boundary is roughly the border with Valley Center Municipal Water District, the City of Poway, and the City of San Diego, while the southern boundary is roughly the boundary with the City of San Diego.

The project consists of development of regional recycled water and potable reuse water infrastructure that includes interagency connections to increase the capacity and connectivity of the storage and distribution systems of the Coalition. The project includes replacing potable water uses with recycled water components, converting facilities to recycled water service, connecting discrete recycled water systems to one another, increasing recycled water storage capacity, and distributing recycled water to effectively meet recycled water demands.

In order to meet the short-term recycled water and potable reuse demands associated with the proposed project, six existing treatment plants will need to be upgraded and three additional treatment plants will need to be constructed. Additional treatment plant upgrades will be required to meet the long-term recycled water demands.

At various locations along the construction route(s), staging areas will be required to store pipe, construction equipment, and other construction-related material. Staging areas will be established along the route where space is available, such as vacant lots, roadway turnouts, and parking lots. Typical construction activities will include site preparation, earthwork, pipe installation, structural improvements (foundations and footings), paving, electrical/instrumentation installation, startup, and testing work.

We offer the comments and recommendations in the enclosure to assist in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources, and to ensure that the project is consistent with ongoing regional habitat conservation planning efforts and would not preclude the preserve assembly or achieving biological goals anticipated under the MHCP and NC-MSCP.

We appreciate the opportunity to comment on the NOP. We look forward to further coordination between the City and Wildlife Agencies to discuss and resolve the issues associated with this



## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner (FWS-SD-14B0380-14CPA0402)

3

project, including those raised in this letter. If you have questions regarding our comment on this project, please contact Fish and Wildlife Biologist Janet Stuckrath of the Service at 760-431-9440 extension 270, or by email at Janet\_Stuckrath@fws.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Karen A. Goebel', with a long horizontal flourish extending to the right.

Karen A. Goebel  
Assistant Field Supervisor  
U.S. Fish and Wildlife Service

cc:

State Clearinghouse (by electronic mail only)  
Eric Hollenbeck, CDFW

Enclosure

## Appendix A: Notice of Preparation and Scoping Materials

### ENCLOSURE

#### **U.S. Fish and Wildlife Service (Service) Comments and Recommendations on the NOP of a PEIR for the North San Diego Water Reuse Coalition Regional Recycled Water Project**

To enable the Service to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish, wildlife, and other biological resources, we recommend the following information be included in the PEIR.

1. The proposed project occurs within two different subregional conservation planning areas. The MHCP planning area was a collective effort of the incorporated cities of northern San Diego County, namely San Marcos, Carlsbad, Oceanside, Vista, Escondido, Encinitas, and Solana Beach. The unincorporated portion is within the NC-MSCP planning effort being undertaken by the County of San Diego. The proposed project encompasses core blocks of live-in habitat for the coastal California gnatcatcher and other sensitive species covered by the MHCP and the NC-MSCP that connect designated preserve areas in the cities MHCP Focused Planning Areas (FPA) to high value habitat within the Pre-Approved Mitigation Area (PAMA) and conserved lands within the NC-MSCP. Because the Coalition includes several jurisdictions participating in the MHCP and NC-MSCP, the project should be consistent with these regional planning efforts. Therefore, the DEIR should include an analysis of project consistency with the MHCP and NC-MSCP.
2. A complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.
3. A complete list and assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying State or federally listed rare, threatened, endangered, or proposed candidate species, California Species-of-Special Concern and/or State Protected or Fully Protected species, and any locally unique species and sensitive habitats. Specifically, the PEIR should include:
  - a. A thorough assessment of Rare Natural Communities on site and within the area of impact. We recommend following the California Department of Fish and Game's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities.
  - b. A current inventory of the biological resources associated with each habitat type on site and within the area of impact.
  - c. An inventory of rare, threatened, and endangered species on site and within the area of impact.
  - d. Discussions regarding seasonal variations in use by sensitive species of the project site as well as the area of impact on those species, using acceptable species-specific survey

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner (FWS-SD-14B0380-14CPA0402)

Enclosure, Page 2

procedures as determined through consultation with the Wildlife Agencies. Focused species-specific surveys, conducted in conformance with established protocols at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required.

4. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources. All facets of the project should be included in this assessment. Specifically, the PEIR should provide:
  - a. Specific acreage and descriptions of the types of wetlands, coastal sage scrub, and other sensitive habitats that will or may be affected by the proposed project or project alternatives. Maps and tables should be used to summarize such information.
  - b. Discussions regarding the regional setting, pursuant to the CEQA Guidelines, Section 15125(a), with special emphasis on resources that are rare or unique to the region that would be affected by the project. This discussion is critical to an assessment of environmental impacts.
  - c. Detailed discussions, including both qualitative and quantitative analyses, of the potentially affected listed and sensitive species (fish, wildlife, plants), and their habitats on the proposed project site, area of impact, and alternative sites, including information pertaining to their local status and distribution. The anticipated or real impacts of the project on these species and habitats should be fully addressed.
  - d. Discussions regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed NCCP reserve lands. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated and provided. A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address: project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site.
  - e. Discussions regarding possible conflicts resulting from wildlife-human interactions at the interface between the development project and natural habitats. The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions.

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner (FWS-SD-14B0380-14CPA0402)

Enclosure, Page 3

- f. An analysis of cumulative effects, as described under CEQA Guidelines, Section 15130. General and specific plans, and past, present, and anticipated future projects, should be analyzed concerning their impacts on similar plant communities and wildlife habitats.
  - g. If applicable, an analysis of the effect that the project may have on completion and implementation of regional and/or subregional conservation programs. We recommend that the Lead Agency ensure that the development of this and other proposed projects do not preclude long-term preserve planning options and that projects conform to other requirements of the NCCP program. Jurisdictions participating in the NCCP program should assess specific projects for consistency with the NCCP Conservation Guidelines. Additionally, the jurisdictions should quantify and qualify: 1) the amount of coastal sage scrub within their boundaries; 2) the acreage of coastal sage scrub habitat removed by individual projects; and 3) any acreage set aside for mitigation. This information should be kept in an updated ledger system.
  - h. Any impacts to federally listed species that are not covered under an existing HCP for the MHCP or NC-MSCP will need to be addressed through separate consultation or preparation of a HCP, pursuant to section 7 or 10 of the Act, respectively.
5. Mitigation measures for unavoidable adverse project-related impacts on sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance, and where avoidance is infeasible, reduction of project impacts. For unavoidable impacts, off-site mitigation through acquisition and preservation in perpetuity of the affected habitats should be addressed. We generally do not support the use of relocation, salvage, and/or transplantation as mitigation for impacts on rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

This discussion should include measures to perpetually protect the targeted habitat values where preservation and/or restoration are proposed. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: a) the location of the mitigation site; b) the plant species to be used; c) a schematic depicting the mitigation area; d) time of year that planting will occur; e) a description of the irrigation methodology; f) measures to control exotic vegetation on site; g) success criteria; h) a detailed monitoring program; i) contingency measures should the success criteria not be met; and j) identification of the entity(ies) that will guarantee achieving the success criteria and provide for conservation of the mitigation site in perpetuity.

## Appendix A: Notice of Preparation and Scoping Materials

Ms. Kimberly Thorner (FWS-SD-14B0380-14CPA0402)

Enclosure, Page 4

Mitigation measures to alleviate indirect project impacts on biological resources must be included, including measures to minimize changes in the hydrologic regimes on site, and means to convey runoff without damaging biological resources, including the morphology of on-site and downstream habitats.

6. As discussed previously, descriptions and analyses of a range of alternatives to ensure that alternatives to the proposed project are fully considered and evaluated. The analyses must include alternatives that avoid or otherwise reduce impacts to sensitive biological resources. Specific alternative locations should be evaluated in areas of lower resource sensitivity where appropriate.

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## **Appendix B - Proposed Project Supply and Demand Tables**

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Group	Recycled Water Retailer Wastewater Treatment Plant	Existing		Planning Year 2025		Planning Year 2035		Total (Ex+ST+LT)	
		Average Demand (AFY)	Max Month Demand (MGD)	Average Demand (AFY)	Max Month Demand (MGD)	Average Demand (AFY)	Max Month Demand (MGD)	Average Demand (AFY)	Max Month Demand
	<b>Camp Pendleton</b>	385	0.7	0	0.0	0	0.0	385	0.7
N/A	So. Regional TTP	385	1	0	0.0	0	0.0	385	0.7
	<b>Carlsbad MWD</b>	4,150	6.0	1,752	2.7	1,585	2.4	7,487	11.0
A	Carlsbad WRF/Gafner WRF	1,900	3	1,752	2.7	1,398	2.1	5,050	7.8
A	Gafner WRF	250	0	0	0.0	0	0.0	250	0.4
B	Meadowlark WRF	2,000	2	0	0.0	187	0.2	2,187	2.7
	<b>City of Escondido</b>	771	1.4	6,870	10.3	3,035	5.4	10,676	17.1
D	Escondido AWT		0	2,200	2.0	0	0.0	2,200	2.0
C	Hale Avenue RRF	771	1	4,670	8.3	3,035	5.4	8,476	15.1
	<b>City of Oceanside</b>	300	0.5	4,717	6.1	4,490	5.0	9,507	11.7
N/A	El Corazon WRF		0	0	0.0	0	0.0	0	0.0
G	San Luis Rey WWTP	300	1	837	1.4	1,130	2.0	2,267	4.0
G	San Luis Rey WWTP - AWT		0	2,240	2.0	3,360	3.0	5,600	5.0
G	San Luis Rey WWTP/So. Regional TTP		0	1,640	2.7	0	0.0	1,640	2.7
	<b>City of San Diego (Del Mar)</b>	100	0	0	0.0	0	0.0	100	0.2
N/A	San Elijo WRF/Gafner WRF	100	0	0	0.0	0	0.0	100	0.2
	<b>Olivenhain MWD</b>	1,100	1.4	1,400	1.5	1,030	0.9	3,530	3.9
N/A	Meadowlark WRF	1,000	1	0	0.0	0	0.0	1,000	1.2
H	San Elijo WRF - AWT		0	1,100	1.0	1,030	0.9	2,130	1.9
H	San Elijo WRF/Gafner WRF	100	0	300	0.5	0	0.0	400	0.7
	<b>Rincon Del Diablo MWD</b>	3,279	3.5	920	1.3	0	0.0	4,199	4.8
I	Hale Avenue RRF	3,279	4	500	0.9	0	0.0	3,779	4.4
I	Hale Avenue RRF - AWT		0	200	0.2	0	0.0	200	0.2
J	Harmony Grove WRF		0	220	0.2	0	0.0	220	0.2
	<b>San Dieguito WD</b>	700	1.2	80	0.1	0	0.0	780	1.3
E	San Elijo WRF/Gafner WRF	700	1	80	0.1	0	0.0	780	1.3
	<b>Santa Fe ID</b>	510	0.9	1,140	1.1	1,030	0.9	2,680	2.9
K	San Elijo WRF - AWT		0	1,100	1.0	1,030	0.9	2,130	1.9
K	San Elijo WRF/Gafner WRF	510	1	40	0.1	0	0.0	550	1.0
	<b>Vallecitos WD</b>		0.0	1,674	2.0	2,892	3.7	4,566	5.7
L	Carlsbad WRF		0	0	0.0	454	0.6	454	0.6
M	Hale Avenue RRF		0	574	1.0	922	1.6	1,496	2.7
N	Meadowlark WRF		0	0	0.0	416	0.5	416	0.5
N	Meadowlark WRF - AWT		0	1,100	1.0	1,100	1.0	2,200	2.0
	<b>Vista ID</b>		0.0	255	0.4	2,600	4.1	2,855	4.5
O	San Luis Rey WWTP/Carlsbad WRF		0	255	0.4	2,600	4.1	2,855	4.5
	<b>Grand Total with CP and Del Mar Ex.Dnd</b>	11,295	15.9	18,808	25.4	16,662	22.5	46,765	63.8
	<b>Grand Total without CP &amp; Del Mar Ex. Dnd (Pr</b>	10,810		18,808		16,662			

1. Agriculture demands served by City of Escondido and Rincon Del Diablo MWD is grouped as one demand and is defined under City of Escondido/Hale Avenue RRF (not under Rincon Del Diablo MWD/Hale Avenue RRF).

2. All flows from San Elijo WRF/Gafner WRF are NPR. The flows are allocated as follow:

- Ex: 100% by San Elijo WRF

- ST: 40% by San Elijo WRF; 60% by Gafner WRF

- LT: 100% by Gafner WRF

Info from 4/7/14 Meeting

3. In the ST, So. Regional TTP will supply 25% and San Luis Rey WWTP will supply 75% of the NPR demands. In the LT, San Luis Rey WWTP will serve 100% of the NPR demands.

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## **Appendix C - General Conformity Report and Air Quality Analysis**

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# Technical Memorandum

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**Subject:** General Conformity Air Quality Analysis  
**Prepared for:** North San Diego Water Reuse Coalition  
**Prepared by:** Enrique Lopezcalva and Simon Kobayashi  
**Date:** April 3, 2015  
**Reference:** Regional Recycled Water Project

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## A. Overview of the General Conformity Rule

The United States (U.S.) Congress adopted general conformity requirements as part of the Clean Air Act (CAA) Amendments in 1990 and the U.S. Environmental Protection Agency (USEPA) implemented those requirements in 1993 (Sec. 176 of the CAA (42 U.S.C. § 7506) and 40 CFR Part 93, Subpart B). The general conformity requirements are formally referred to as the General Conformity Rule, which requires that all federal actions “conform” with the State Implementation Plan (SIP) as approved or promulgated by USEPA. The purpose of the General Conformity Rule is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain the National Ambient Air Quality Standards (NAAQS). Before a federal action is taken, the action must be evaluated for conformity with the SIP. All “reasonably foreseeable” emissions predicted to result from the action are taken into consideration; reasonably foreseeable emissions include direct and indirect emissions, and must be evaluated for their location and quantity. If it is found that the action would create emissions above de minimis threshold levels specified in USEPA regulations (40 CFR § 93.153(b)), or if the action is considered “regionally significant” because its emissions exceed 10% of an area’s total emissions, the action cannot proceed unless mitigation measures are specified that would bring the project into conformance.

General conformity applies in both federal nonattainment and federal air quality maintenance areas, including the Study Area for the North San Diego Water Reuse Coalitions’ (NSDWRC or Coalition) Regional Recycled Water Project (Proposed Project). Within these federally designated areas, the General Conformity Rule applies to any “federal action” not specifically exempted by the CAA or USEPA regulations, i.e., any non-exempt activity by a federal governmental department, agency or instrumentality, or any activity that such an entity supports in any way, provides financial assistance for, or licenses, permits, or approves. This definition is broad enough to capture local agency approvals involving the receipt of federal funding, which may be pursued for the Project from the United States Army Corps of Engineers, and potentially other federal sources.

## Methods Used for Determining Conformity

An action cannot be in compliance with the General Conformity Rule unless the total direct and indirect emissions from the action for criteria pollutants are in compliance with all relevant requirements contained in the applicable SIP. The USEPA provides several methods to determine if an action conforms to a SIP including a statewide emission budget, emission offsets, and/or air quality modeling. This Technical Memorandum uses a modeling approach to determine if the Proposed Project would cause or contribute to new air quality violations, or increase the frequency or severity of existing violations.

In addition to the use of modeling, USEPA has identified other methods of determining conformance with a SIP. One of these methods includes actions involving regional water and/or wastewater projects, as long as the projects are sized to meet only the needs of population projections that are in the applicable SIP.

All SIPs are based on local build-out projections from general planning documents; for the Study Area, the relevant SIP includes projections from local General Plans of applicable jurisdictions (cities and the County of San Diego). Based on this factor, in conjunction with the low number of vehicle trips generated by the Proposed Project (e.g. less than 70 per day) over its long-term operational life, this assessment focuses on construction-related air quality effects that could result from the Proposed Project.

## B. Project Description

The Study Area is located in San Diego County, California, along the Pacific Ocean. The Study Area includes the service area of the ten Coalition members, including: Carlsbad Municipal Water District (MWD), City of Escondido, City of Oceanside, Olivenhain MWD, Leucadia Wastewater District, San Elijo Joint Powers Authority, Rincon del Diablo MWD, Santa Fe Irrigation District, Vallecitos Water District, and Vista Irrigation District; as well as a small portion of land that extends north of the City of Oceanside. Non-Coalition agencies are also located within the Study Area and may underlie Coalition service areas, including the U.S Marine Corps, Camp Pendleton, San Dieguito Water District, City of Del Mar, City of Vista/Buena Sanitation District, City of Encinitas, Encina Wastewater Authority, Rancho Santa Fe Community Service District (CSD), Fairbanks Ranch CSD, and Whispering Palms CSD.

Existing facilities in place to treat and convey recycled water to Coalition members within the Study Area have a capacity of 25.3 million gallons per day (MGD) and averages 10.0 MGD. The Proposed Project includes increasing the capacity of existing treatment plants, constructing and operating advanced treatment plants, and constructing and operating recycled water pipelines, pump stations, storage tanks, pressure reducing facilities, and all other facilities necessary to maximize delivery of recycled water within the Study Area, and to fulfill 18,880 acre-feet per year (AFY) of additional demands by 2025. The Proposed Project includes both recycled water and potable reuse water, the latter of which would pass through an environmental buffer, likely a surface reservoir or groundwater basin, before undergoing treatment in a water treatment facility. Sites identified as environmental buffers include Mission Basin, San Marcos Basin, San Elijo Valley Basin, San Dieguito Basin, Escondido Valley Basin, San Dieguito Reservoir, and Lake Dixon.

Each of the components of the Proposed Project, including recycled water supplies, storage and conveyance facilities, and operational considerations, are detailed under the following headings. This TM evaluated the Proposed Project at the program-level, complying with the California Environmental Quality Act (CEQA) and addressing National Environmental Policy Act (NEPA) components that would allow applicable federal agencies to make NEPA-related findings.

For the purposes of this TM, recycled water supplies would be utilized as non-potable water for irrigation and industrial use within the Study Area, with some water undergoing advanced treatment for potable reuse. The Proposed Project would connect customers to recycled water through 11 planned groups of local distribution pipelines and laterals, storage tanks, and additional pumping capacity. The planned improvements provide inter-connections between the 10 Coalition members recycled water systems and maximize use of available recycled water supplies beyond that which could be achieved via individual agency systems.

The Proposed Project's 11 distribution and storage components are stated below; operational schedules of the individual components are also provided:

1. Group A – Operational by 2016
2. Group C – Operational by 2020-21
3. Group D – Operational by 2021
4. Group E – Operational by 2016
5. Group G – Operational by 2020-2021
6. Group H – Operational by 2015
7. Group I – Operational by 2014-2020
8. Group J – Operational by 2013-2016
9. Group K – Operational by 2022-2024
10. Group M – Operational by 2021
11. Group O – Operational by 2015-2017

**Treatment Plant Construction and Expansion**

The Proposed Project includes the expansion of six existing treatment facilities and the construction of two new treatment facilities at Escondido – Advanced Water Treatment Facility (AWTF) and Harmony Grove Water Reclamation Facility (WRF). The added treatment capacities are listed in Table 1.

**Table 1: Proposed Project Treatment Plant Added Capacity**

Receiving Agency	Treatment Plant	Existing (MGD)	By 2025 (MGD)
Carlsbad MWD	Carlsbad WRF	4	8
Leucadia WWD	Gafner WRF	1	2.5
City of Escondido	Hale Avenue Resource Recovery Facility (HARRF)	26	41
	Escondido AWTF	-	2
	San Luis Rey Wastewater Treatment Plant (WWTP)	14.2	22
Rincon del Diablo MWD	Harmony Grove WRF	-	0.4
San Elijo JPA	San Elijo WRF	8.3	10.8
Vallecitos WD	Meadowlark WRF – AWTF	10	11
<b>TOTAL</b>		<b>63.5</b>	<b>97.7</b>

**Pipelines**

The Proposed Project proposes construction of approximately 406,400 linear feet (LF) of distribution pipelines to convey recycled water to end users. Proposed recycled water pipelines are listed below in Table 2.

**Table 2: Proposed Project Recycled Water Pipelines**

Agency	Proposed Project Component	Pipe Length (Linear Feet)	Pipe Diameter (inches)
Carlsbad MWD	Group A <sup>1</sup> – Carlsbad	90,800	4-18
City of Escondido	Group C <sup>2</sup> – HARRF	33,900	8-30
	Group D – Escondido AWTF	9,900	12
San Dieguito	Group E – San Elijo WRF/Gafner WRF	21,200	6

Agency	Proposed Project Component	Pipe Length (Linear Feet)	Pipe Diameter (inches)
City of Oceanside	Group G <sup>3</sup> – San Luis Rey WWTP/SRTTP (Recycled Water Only)	92,100	8-20
Olivenhain	Group H – San Elijo WRF/Gafner WRF	29,600	8 or 20
Rincon del Diablo MWD	Group I – HARRF (Recycled Water Only)	43,400	8-16
	Group J – Harmony Grove WRF	15,100	8
Santa Fe ID	Group K <sup>4</sup> – San Elijo WRF/Gafner WRF (Recycled Water Only) <sup>4</sup>	46,600	8-18
Vallecitos WD	Group M – HARRF	11,600	12
Vista ID	Group O – San Luis Rey WWTP/Carlsbad WRF	12,200	12 or 14
<b>TOTALS</b>		<b>406,400</b>	4-30

<sup>1</sup>Group A will include a storage tank for 1.5 MG

<sup>2</sup>Group C will include a storage tank for 1.2 MG

<sup>3</sup>Group G will include two storage tanks each 1.0 MG

<sup>4</sup>Group K will include a storage tank for 1.7 MG

### ***Pump Stations***

The Proposed Project includes the addition of at least 20 new pump stations necessary to convey recycled water to end users, which are listed below in **Table 3**. The air emissions resulting from the construction of these pump stations were estimated using a disturbed area of 0.25 acres for each pump station. This is a conservative approximation for most of the pump stations in the Proposed Project, and is appropriate for the larger pump station sites. The pumps would be electrically driven, and no emergency standby power is currently planned for the sites.



**Table 3: Proposed Project Pump Station Installations**

Agency	Proposed Project Component	Size (HP)	Number
Carlsbad MWD	Group A – Carlsbad	75	1
City of Escondido	Group C – HARRF	250	3
	Group D – Escondido AWTF	120	1
San Dieguito	Group E – San Elijo WRF/Gafner WRF	NA	NA
City of Oceanside	Group G – San Luis Rey WWTP/SRTTP (Recycled Water Only)	240	1
		150	1
		140	2
		120	1
		50	1
Olivenhain	Group H – San Elijo WRF/Gafner WRF	30	1
		80	1
Rincon del Diablo MWD	Group I – HARRF (Recycled Water Only)	130	1
		10	1
Santa Fe ID	Group J – Harmony Grove WRF	NA	NA
		NA	NA
Santa Fe ID	Group K – San Elijo WRF/Gafner WRF (Recycled Water Only)	490	1
		50	1
Vallecitos WD	Group M – HARRF	50	1
		30	1
Vista ID	Group O – San Luis Rey WWTP/Carlsbad WRF	30	1
<b>TOTALS</b>		<b>2,415</b>	<b>20</b>

**Proposed Construction**

Construction of the pipelines would generally be located within publically-owned lands and roadway rights-of-way (ROWs) within County of San Diego, City of Oceanside, City of Carlsbad, City of Encinitas, City of Escondido, City of Vista, City of San Marcos, and City of Solana Beach. Pipeline installation for all portions of the Proposed Project would use standard open-cut trenching techniques or trenchless technology such as jack-and-bore to go under the railroad tracks and other features as applicable.

**Construction Equipment and Staging.** Standard installation of the pipelines would proceed at the rate of approximately 200 feet per day. The disturbed area for each pipeline segment was calculated assuming a total of 40-feet of disturbed land perpendicular to the pipeline. Excavated trench materials would be redistributed over the completed pipeline area and/or transported off-site.

Construction of the advanced treatment plants, treatment facility expansions, storage tanks and chlorine boosting facilities would also require grading, site preparation, and facility installation.

Installation of the facilities for the Proposed Project would require, but is not limited to, the following equipment:

- backhoe
- bulldozer
- dump truck crane
- compactor
- front-end loader
- flat-bed delivery truck
- pavement saw
- compressor/jack hammer
- asphalt
- excavator

When feasible, equipment and vehicle staging would be accommodated either at each construction site (pipeline, storage tank and pump station site), or at a centralized staging area, such as the lot at the proposed tank and pump station site.

**Surface Restoration.** Damage to roadways and non-paved areas would be repaired in accordance with the requirements of jurisdictional agencies, including the impacted cities and/or Caltrans. Where the pipelines are installed in a paved roadway, new asphalt or concrete pavement would be placed to match the surrounding road type. Temporary asphalt material may be installed to allow traffic to use the roadway immediately after construction. Final repaving would be done after pipeline installations and testing are complete. For unpaved surfaces, restoration would generally involve replanting with annual grasses or native vegetation.

### **Construction Schedule**

Construction of the Proposed Project's pipeline infrastructure, pumping, and treatment is estimated to begin in 2014 and conclude in 2024.

## **C. Existing Air Quality Conditions**

The Study Area is located in the County of San Diego, California as well as a small portion of land that extends north of the City of Oceanside. These areas lie within the San Diego Air Basin (SDAB), a 4,260-square-mile area bounded by the Pacific Ocean on the west, Mexico to the South, and the Palomar, Santa Rosa, Vallecito and Jacumba mountains on the north and east. The SDAB includes all of San Diego County. The distinctive climate of the SDAB is determined primarily by its terrain and geographical location and is Mediterranean in climate, with dry summers. Regional meteorology is dominated by a persistent high pressure area, which commonly resides over the eastern Pacific Ocean. Due to the unique topography and meteorology of the Basin, ozone (O<sub>3</sub>) levels are expected to continue to violate federal and State ambient air quality standards in spite of vigorous control measures. High levels of respirable particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) also continue to violate State standards.

The air quality is impacted by local emissions as well as transported emissions, particularly ozone and ozone precursors, from the South Coast Air Basin and the Republic of Mexico (City of San Diego, 2007).

### **Criteria Air Pollutants**

Criteria air pollutants of concern in the Study Area include ozone and particulate matter (PM). As required by the federal CAA, the USEPA has established National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare from these criteria pollutants. USEPA established standards for ozone<sup>1</sup>, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), lead, and particulate matter equal to or less than 10 microns (PM<sub>10</sub>) and less than 2.5 microns (PM<sub>2.5</sub>). PM<sub>10</sub> is also commonly referred to as respirable particulate and PM<sub>2.5</sub> is also known as fine particulate.

### **Local Air Attainment Status**

The USEPA designates all areas of the United States as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. A nonattainment designation generally means that a primary NAAQS has been exceeded more than once per year in a given area. The San Diego Air Basin is presently in "marginal" nonattainment for the eight-hour ozone standard.

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<sup>1</sup> Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>). ROG and NO<sub>x</sub> are known as precursor compounds for ozone.

Generally, concentrations of photochemical smog, or ozone, are highest during the summer months and coincide with the season of maximum solar radiation. Inert pollutant concentrations tend to be the greatest during the winter months and are a product of light wind conditions and surface-based temperature inversions that are more frequent during that time of year. These conditions limit atmospheric dispersion, trapping pollutants close to the ground. However, in the case of PM<sub>10</sub> impacts from fugitive dust sources, maximum dust impacts may occur during high wind events and/or in proximity to man-made ground-disturbing activities, such as vehicular activities on roads and earth moving during construction activities.

The San Diego Air Pollution Control District (SDAPCD) maintains 12 monitoring stations within the SDAB that monitor air quality compliance with ambient standards (SDAPCD 2013). Most of the stations are in the western portion of the county, particularly around the urban centers. Pollutants monitored include nitrogen oxides, carbon monoxide, sulfur dioxide, lead, and most importantly: O<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and a number of toxic compounds.

### **Toxic Air Contaminants**

Toxic Air Contaminants (TACs) are pollutants that are associated with acute, chronic, or carcinogenic effects but for which no ambient air quality standard has been established or, in the case of carcinogens, is appropriate. TAC impacts are evaluated by determining if a particular chemical poses a significant risk to human health and, if so, under what circumstances. The ambient background of TACs is the combined result of many diverse human activities, including gasoline stations, refineries, automobiles, industrial operations, and painting operations. In general, mobile sources contribute more significantly to health risks than stationary sources. Diesel PM is responsible for approximately 70 percent of the total toxic risk to Californians from air pollution.

In addition to diesel PM, emissions from diesel-fueled engines include over 40 other cancer-causing substances. Because diesel PM consists of more than one compound, monitoring is more difficult than for single TACs. However, based on a limited amount of data, the California Air Resources Board (CARB) has estimated the statewide, ambient, “population-weighted,” cancer risk due to essentially all TACs, based on year 2000 emissions, at 758 in 1 million; of this, CARB estimates that 540 in 1 million, or approximately 70 percent, is due to diesel particulate (CARB 2000).

Certain serpentine formations contain asbestos fibers, which are considered a TAC when released into the atmosphere. Based on available geologic mapping, there is currently no documented evidence of serpentine rock in the Study Area (California Geological Survey 2000). Based on this circumstance, the potential for encountering asbestos-containing geologic formations is considered unlikely.

### **Federal Policies and Regulations**

As previously indicated, the federal CAA requires the USEPA to identify criteria pollutants and establish NAAQS to protect public health and welfare. National standards have been established for ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, lead (Pb), PM<sub>10</sub>, and PM<sub>2.5</sub>. USEPA is responsible for implementing the myriad of programs established under the federal CAA, such as establishing and reviewing the NAAQS and judging the adequacy of SIPs, but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

### **Emission Standards for Nonroad Diesel Engines**

The USEPA has established a series of cleaner emission standards for new off-road diesel engines culminating in the Tier 4 Final Rule of June 2004. The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased

in from 2001 to 2006 and the Tier 3 standards were phased in from 2006 to 2008. The Tier 4 standards complement the latest 2007 on-road heavy-duty engine standards by requiring 90 percent reduction in PM and NO<sub>x</sub> when compared against current emission levels. To meet these standards, engine manufacturers will produce new engines with advanced emissions control technologies similar to those already expected for on road heavy-duty diesel vehicles. Phasing in of Tier 4 standards started with smaller engines in 2008 until all but the very largest diesel engines meet NO<sub>x</sub> and PM standards in 2015.

### ***Emission Standards for On-Road Trucks***

To reduce emissions from on-road, heavy-duty diesel trucks, USEPA established a series of cleaner emission standards for new engines starting in 1988. The final and cleanest Tier 4 standards apply to engines manufactured in year 2007.

## **Local Regulations**

Through the attainment planning process, the SDAPCD has developed SDAPCD Rules and Regulations to regulate sources of air pollution in the SDAB. The most pertinent SDAPCD rules to the Proposed Project are listed below. The emission sources associated with the Proposed Project are considered mobile sources. Therefore, they are not subject to the SDAPCD rules that apply to stationary sources, such as Regulation X (Standards of Performance for New Stationary Sources), Rule 1200 (Toxic Air Contaminants - New Source Review), or Rule 62 (Sulfur Content of Liquid Fuels).

### ***SDAPCD Rule 51 – Nuisance***

Rule 51 prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

### ***SDAPCD Rule 55 – Fugitive Dust***

The purpose of Rule 55 is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. The rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area to be visible beyond the emission source's property line for a cumulative 3 minutes in any 60 minutes. During project construction, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include site watering as necessary to maintain sufficient soil moisture content.

## **D. Impact Assessment**

### **Methodology**

As indicated in Section A of this memorandum, this analysis of the General Conformity Rule uses a modeling approach to determine if the Proposed Project would cause or contribute to new air quality violations, or increase the frequency or severity of existing violations. As part of this evaluation, emphasis is placed on the criteria air pollutants regulated by USEPA. In addition to criteria air pollutants, this analysis also addresses potential cumulative air quality impacts, potential sources of odor, impacts to sensitive receptors, and sources of greenhouse gases (GHGs) that would result from the Proposed Project.

This analysis involves the calculation of emission estimates using models recommended by the SDAPCD and compares the model estimates to the General Conformity's thresholds for NO<sub>x</sub>, ROG, CO, and PM<sub>10</sub>. The CalEEMod Model, Version 2013.2, was used to quantify construction and operational emissions

associated with proposed storage tank and pump station facilities. Construction emissions from pipeline installation activities were estimated using the Road Construction Emissions Model, Version 7.1.5.1. Construction emissions for the treatment facilities were estimated using an analysis of published emissions from similar projects.

Given that the SDAB is either in federal attainment or unclassified with respect to PM10, PM2.5, CO, SO<sub>2</sub>, NO<sub>2</sub>, sulfates, lead, and hydrogen sulfide, and the Proposed Project improvements would generate minimal to no emissions of these pollutants, these pollutants require no further evaluation.

### Threshold Exceedances

The County of San Diego has air quality screening-level thresholds (County of San Diego, 2007), which were published as updates to the CEQA Air Quality Handbook. The thresholds for criteria pollutants are presented in **Table 4**.

**Table 4: SDAPCD Air Quality Screening-Level Thresholds**

Pollutant	Emissions Rate <sup>1</sup>
Volatile Organic Carbon (VOC)	75 lbs/day <sup>2</sup>
Nitrogen Oxides (NO <sub>x</sub> )	250 lbs/day
Carbon Monoxide (CO)	550 lbs/day
Particulate Matter <10 micron (PM10)	100 lbs/day
Particulate Matter <2.5 micron (PM2.5)	55 lbs/day <sup>3</sup>

<sup>1</sup> Source: County of San Diego' Guidelines for Determining Significance, Air Quality (2007). These standards are based on SDAPCD's Rule 20.3 for NO<sub>x</sub>, PM10, CO, SO<sub>x</sub>, and Lead. Rule 20.3 does not include standards for VOC or PM2.5

<sup>2</sup> VOC standards from the County of San Diego' Guidelines for Determining Significance, Air Quality (2007), which used the threshold from the South Coast Air Quality Management District for the Coachella Valley as a proxy, because VOC standards are not specified by the SDAPCD

<sup>3</sup> PM2.5 standards are not included in the SDAPCD's Rule 20.3. This standard included in County of San Diego' Guidelines for Determining Significance, Air Quality (2007), and is based on the U.S. EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005.

Proposed Project-related air quality impacts fall into two categories: 1) short-term impacts during construction and 2) long-term impacts during project operation. During project construction, construction activities would affect local particulate concentrations primarily because of fugitive dust emissions. Proposed Project construction would also result in increased ROG and NO<sub>x</sub> emissions from construction equipment. During the Project operations phase, project-related motor vehicle trips would also increase emissions of ozone precursors and particulates.

**Table 5** provides a summary of the maximum daily air emissions generated for the Proposed Project components and evaluation of compliance with San Diego County's air quality significance thresholds, which are based on SDAPCD Rule 20.3. These maximum emissions take into consideration the Proposed Project construction schedule.

**Table 5: Maximum Daily Air Emissions Generated for Proposed Project**

Pollutant	Construction lbs/day			Significant Construction Emissions <sup>3</sup>	Operation lbs/day	Significant Operation Emissions <sup>3</sup>
	2 Treatment Plants <sup>1</sup>	Pipeline and Pump Station <sup>2</sup>	Total			
Volatile Organic Carbon (VOC)	66	20	86	Yes	0.3	No
Nitrogen Oxides (NOx)	168	193	361	Yes	0.5	No
Carbon Monoxide (CO)	82	139	221	No	4.46	No
Particulate Matter <10 micron (PM10)	112	23	135	Yes	0.0	No
Particulate Matter <2.5 micron (PM2.5)	20	15	35	No	0.0	No

1. The treatment plants emissions were calculated from the average of a set of existing treatment plants.
2. Pipeline emissions were calculated using the Roadway Construction Emissions Model (SMAQMD 2013).
3. Thresholds from County of San Diego’s Guidelines for Determining Significance, Air Quality (County of San Diego 2007), which include SDAPCD Rule 20.3 thresholds for NOx, PM10, and CO. Rule 20.3 did not include thresholds for VOC and PM2.5. A proxy was used for VOCs (South Coast Air Management District – Coachella Valley APCD), and PM2.5 thresholds based on USEPA rule (Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards” published September 8, 2005)

Based on maximum daily emissions for the Proposed Project, the air quality significance thresholds for emissions will be exceeded during construction only.

**Construction Emissions.** The implementation of Project-related construction activities would occur in two distinct phases: phase one involves site preparation, trenching, earthmoving, and stockpiling activities, while the second phase involves installing equipment, facility construction, pipeline, concrete, and above ground improvements. Earthmoving activities include cut and fill operations, trenching, soil compaction, and grading. General construction activities that would occur throughout project implementation include installation of pipelines, roadway surfaces, pump structures, structural foundation, treatment facilities, and storage facilities. The emissions generated from these common construction activities include:

- Dust (including PM<sub>10</sub> and PM<sub>2.5</sub>) primarily from fugitive sources such as soil disturbance and vehicle travel over unpaved surfaces;
- Combustion emissions of criteria air pollutants (including ROG, NO<sub>x</sub>, PM<sub>10</sub>) primarily from operation of heavy equipment construction machinery (primarily diesel operated), portable auxiliary equipment and construction worker automobile trips (primarily gasoline operated); and,
- Evaporative emissions (ROG) from asphalt paving and architectural coating applications.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity and the weather. However, construction-related fugitive dust emissions would not exceed established thresholds.

Construction activities would also result in the emission of pollutants of concern, including ROG, NO<sub>x</sub>, and PM<sub>10</sub>, from construction equipment exhaust and construction worker automobile trips. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operating schedules, and the number of construction workers. Construction-related ROG, NO<sub>x</sub> and PM<sub>10</sub> emissions would exceed established thresholds.

Construction emissions for pipeline installation were estimated using the Sacramento Metropolitan Air Quality Management District’s Roadway Construction Model (SMAQMD 2013). Vehicle trips would be dispersed along the roadway network based on the location of construction activities. Estimated annual construction-related fugitive dust emissions, as well as exhaust emissions from construction equipment and worker trips are shown in **Table 6**. A summary of the model outputs is provided as part of **Appendix C**.

As shown in **Table 6**, General Conformity significance thresholds would not be exceeded for the Proposed Project.

**Table 6: Proposed Project Estimated Pollutant Emissions based on Worst-Case Day Assumptions**

Pollutant	Carbon Monoxide (CO) (Tons/Yr)	Nitrogen Oxides (NO <sub>x</sub> ) (Tons/Yr)	Reactive Organic Gases (ROG) (Tons/Yr)	Particulate (PM <sub>10</sub> ) (Tons/Yr)
Federal General Conformity Rule Threshold <sup>1</sup>	100	100	100	100
Construction Emissions <sup>2</sup>	40	66	16	25
<i>Significant Emissions<sup>1</sup></i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Operational Emissions <sup>3</sup>	0.8	6.5	0.1	0.0
<i>Significant Emissions<sup>1</sup></i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

1. Thresholds applied by Federal General Conformity Rule.

2. Calculations for construction were completed using Roadway Construction Emissions Model (Version 7.1.5.1, 2013) and CalEEMod model (Version 2013.2) and are included in Appendix C of the PEIR for the Proposed Project. The emissions listed above are for a worst-case day [maximum (lbs/day) x 365 days / 2000 lbs/ton = tons/year].

3. Calculations for operations were completed using CalEEMod (Version 2013.2) and are included in Appendix C of the PEIR for the Proposed Project. The emissions listed above are for a worst-case day.

**Project Operations.** The main operational components of the project include new and modified pumping facilities, tertiary and advanced treatment facilities, and maintenance-related vehicle trips. The CalEEMod Model, Version 2013.2, was used to quantify operational area and mobile source emissions associated with proposed storage and pump station facilities. A summary of the CalEEMod outputs are included in **Appendix C** of the PEIR for the Proposed Project.

Following installation, the Proposed Project improvements would require maintenance activities that would generally be comparable to existing conditions. Pump operation would be driven by electricity and would not generate local emissions directly, but would result in emissions at a power plant within or outside of the SDAB. Power plant emissions, if located in California, are subject to the rules and regulations of the air district in which they are located and have been subject to their own regulatory review. Emissions from power generation to supply pumps would occur anywhere in the western U.S. power grid and emissions from motors to service the pumps would be regional. Energy would be supplied by permitted power sources, such as sources permitted by the California Energy Commission’s Application for Certification (CEQA equivalent) process.

Traffic generation during the long-term operation of the project improvements would average less than 70 one-way passenger vehicle trips per day; comparable to existing conditions given its occurrence across more than 10 disparate sites. Operational emissions were estimated for the pump station or storage tanks facilities using the CalEEMod 2013 Model. As provided in **Table 6** above, the CalEEMod outputs indicate that operational emissions for these facilities would be minor and would not exceed General Conformity thresholds. Based on the discussion presented above, operational air quality emissions associated with Proposed Project implementation would likely be less than significant from a federal de minimis threshold perspective.

### ***Cumulatively Considerable Net Increase of Criteria Pollutants***

The Proposed Project is located within the SDAB, which does not meet state PM<sub>10</sub> standards, the state PM<sub>2.5</sub> standard, and the state 1-hour, state 8-hour and the national 8-hour ozone standards. The SDAPCD is active in establishing and enforcing air pollution control rules and regulations in order to attain all state and federal ambient air quality standards and to minimize public exposure to airborne toxins and nuisance odors. As identified earlier, air emissions would be generated during construction of the Proposed Project. These construction-related emissions would exceed significance thresholds established by the SDAPCD in Rule 20.3.

Upon completion of construction activities, emission sources resulting from project operations would be associated with treatment plant operation, regular maintenance, and inspection work, similar to existing conditions. Given the limited number of trips that would be required, **Table 6** shows that these operational emissions would be expected to be below SDAPCD guidelines and do not require further quantification. As such it is reasonable to conclude that the Proposed Project would not result in a cumulatively considerable net increase of criteria air pollutants as a result of operations for purposes of Federal Conformity reporting, and the impact would be less than significant.

### ***Expose Sensitive Receptors to Substantial Pollutant Concentrations***

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions source, or duration of exposure to air pollutants. Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses are more susceptible to respiratory distress and other air quality-related health problems.

Within the Study Area, sensitive receptors have not yet been identified, due to the early stage of planning. Construction of the Proposed Project would not emit hazardous air pollutants in significant quantity other than from large, heavy-duty, diesel-powered equipment exhaust. The California Office of Environmental Health Hazard Assessment (OEHHA) currently describes the health risk from diesel exhaust entirely in terms of the amount of particulate, or PM<sub>10</sub>, that is emitted. Currently, the health risk associated with diesel exhaust PM<sub>10</sub> or diesel particulate matter is characterized as a carcinogenic and chronic effect; whereas no short-term acute effect is currently recognized. Construction of the Proposed Project improvements would be limited in duration and, therefore, no long-term chronic impact would be expected. In addition, these emissions would be distributed throughout San Diego County.

There is currently no documented evidence of serpentine rock in the Study Area, which could contain asbestos fibers, which are considered a TAC when released into the atmosphere (California Geological Survey 2000). Based on this circumstance, the potential for encountering asbestos-containing geologic formations during excavation is considered unlikely and no additional air contaminants would be released.



Based on the above discussion, the generation of significant emissions of TACs during construction activities is unlikely. However, based on the potential for close proximity of construction to sensitive receptors, the impact of construction-related dust and PM<sub>10</sub> could potentially affect those sensitive receptors. NSDWRC partners are committed to implementing dust control measures per its standard construction specifications to reduce release of fugitive dust and associated impacts to sensitive receptors. With implementation of the standard construction specifications, the impact would be reduced to a less than significant level.

Over the longer term, operational emissions associated with the proposed pumps would operate by electricity. The pumping facilities would operate year-round (24-hours a day, seven days a week). Any backup generator(s) are anticipated for this Proposed Project, and therefore would not contribute emissions.

### ***Creation of Objectionable Odors***

Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. Odors rarely directly affect health, but they can be very unpleasant and lead to distress and concern over possible health effects among the public, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Sources of odors within the Study Area include local industrial processes and agricultural areas.

The Proposed Project improvements do involve the operation and expansion of wastewater treatment facilities and may involve the placement of sensitive receptors in close proximity to one of these odor-generating uses. The facilities are not related to an increase in wastewater treated, but in quality, resulting in minimal increases of odorous emission. Unlike traditional sewer collection facilities, recycled water undergoes substantial treatment prior to delivery. For this reason, the distribution of recycled water would not result in the introduction of a new source of odor. Further, pumping operations would be within fully enclosed structures and due to their pumping of recycled water as opposed to un-treated wastewater, they would not result in the generation of objectionable odors. Given the potential for the treatment facilities to create an odor impact, subsequent project-level planning should account for such impacts through MM 1 and control technologies should be utilized as needed through MM 2

### ***Directly or Indirectly Increase Generation of Greenhouse Gas Emissions***

Some gases in the atmosphere affect the Earth's heat balance by absorbing infrared radiation. These layers of gas in the atmosphere can prevent the escape of heat much the same as glass in a greenhouse. Thus, climate change is often referred to as the "greenhouse effect". The gases most responsible for climate change are CO<sub>2</sub> and methane. Other greenhouse gases (GHG) include, but are not limited to, nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride, hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons. It is becoming more widely accepted that continued increases in GHG will contribute to climate change, although there is uncertainty concerning the magnitude and timing of the trend.

Energy-related CO<sub>2</sub> emissions, resulting from petroleum and natural gas, represent 82% of total U.S. human-made GHG emissions. Methane, a GHG that comes from landfills, coal mines, oil and gas operations, and agriculture, represents 9% of total emissions. Emitted from burning fossil fuels and through the use of certain fertilizers and industrial processes, N<sub>2</sub>O totals about 5% of U.S. emissions. These gases collectively contribute to a project's total CO<sub>2</sub> equivalent per year (MTCO<sub>2</sub>e/yr).

Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006, and Executive Order S-3-05, signed in June 2005, focus on reducing GHG emissions in California. The impacts of global climate

change described in AB32 include changing sea levels, changes in snow pack and availability of potable water, changes in storm flows and flood inundation zones, and other impacts. The list of impacts included in AB32 is considered substantial evidence of the potential environmental impacts that could result as a consequence of continued GHG outputs.

At minimum, the Proposed Project improvements will be required to comply with Title 24 energy efficiency standards, to the extent applicable; however, the extent to which these standards would help in achieving the goals outlined above is unknown. In response to this uncertainty and to provide clarification to lead agencies for assessing GHG impacts, CARB has developed statewide interim thresholds of significance for common project types that, collectively, are responsible for substantial GHG emissions. In applying these interim thresholds, CARB developed a preliminary threshold of 7,000 MTCO<sub>2</sub>e/yr for industrial projects. However, this applies to only operations and not construction. CARB is not establishing thresholds for construction projects, but rather is proposing mandatory performance standards.

Quantification of GHG for the Proposed Project was based on the CO<sub>2</sub> outputs generated during operations using the CALEEMOD 2013 Model combined with new electrical loads required for the operation of the proposed pumping facilities. At the highest level of operation and beyond, GHG emissions generated by the collective Proposed Project operations are conservatively estimated at 17,588 MTCO<sub>2</sub>e/yr for the construction and 8,199 MTCO<sub>2</sub>e/yr for the operation. These assumptions lead to emission estimates greater than the CARB threshold and, therefore, operational-related GHG emissions are considered significant and Mitigation Measures will be taken (MM 1).

## Mitigation Measures

**Mitigation Measure 1 Implementation of Practicable Air Pollution Control Measures.** During design of all project components, the lead agency for each component shall complete an air quality assessment that determines project-level air emissions and identifies measures that could be incorporated into project design (operation) and construction to minimize emissions to the extent practicable. Potential mitigation measures could include control measures for PM<sub>10</sub> (e.g., imposing speed limits on unpaved roads, covering haul trucks, limiting daily grading), control measures for NO<sub>x</sub> (e.g., grading or fuel use restrictions, using newer equipment), control measures for VOCs (e.g., use of VOC-free coatings, using VOC ERCs), or other control measures as appropriate. All project components shall implement air quality control measures to the extent practicable, even where such components do not individually violate air quality standards, due to the cumulative impact on air quality from the Proposed Project.

**Mitigation Measure 2 Incorporate Odor Control into Facility Design.** Consideration of objectionable odors shall be incorporated into the design of treatment facilities and treatment facility expansions. Appropriate odor control measures shall be implemented for those treatment facilities located in close proximity to sensitive receptors, and residential and commercial areas, and that are found to be likely to produce objectionable odors during project-level CEQA review. Examples of odor control measures could include installation of odor-controlled ventilation systems and air filters, enclosing certain facilities within structures, use of closed systems, implementation of BMPs, or others, as appropriate and applicable.

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# **Appendix C:**

## **Air Quality and GHGs Supporting Tables**

**Prepared by:**



In Association with:  
PCR Services Corporation

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# **CONSTRUCTION:** **Pipelines**

### Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group A				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	4.7	20.3	38.9	4.7	1.9	2.8	2.3	1.7	0.6	3,882.0
Grading/Excavation	6.2	28.9	59.4	5.7	2.9	2.8	3.2	2.6	0.6	6,849.8
Drainage/Utilities/Sub-Grade	5.4	24.4	44.4	5.3	2.5	2.8	2.9	2.3	0.6	4,687.5
Paving	2.7	15.2	16.6	1.0	1.0	-	0.9	0.9	-	2,370.2
Maximum (pounds/day)	6.2	28.9	59.4	5.7	2.9	2.8	3.2	2.6	0.6	6,849.8
Total (tons/construction project)	1.3	6.2	11.7	1.2	0.6	0.6	0.7	0.5	0.1	1,323.8

Notes: Project Start Year -> 2016  
 Project Length (months) -> 23  
 Total Project Area (acres) -> 83  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 120

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group A				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	2.1	9.2	17.7	2.1	0.9	1.3	1.0	0.8	0.3	1,764.5
Grading/Excavation	2.8	13.1	27.0	2.6	1.3	1.3	1.4	1.2	0.3	3,113.5
Drainage/Utilities/Sub-Grade	2.5	11.1	20.2	2.4	1.1	1.3	1.3	1.0	0.3	2,130.7
Paving	1.2	6.9	7.5	0.5	0.5	-	0.4	0.4	-	1,077.4
Maximum (kilograms/day)	2.8	13.1	27.0	2.6	1.3	1.3	1.4	1.2	0.3	3,113.5
Total (megagrams/construction project)	1.2	5.7	10.7	1.1	0.6	0.5	0.6	0.5	0.1	1,200.7

Notes: Project Start Year -> 2016  
 Project Length (months) -> 23  
 Total Project Area (hectares) -> 34  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 92

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.



## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group C				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	
Grubbing/Land Clearing	3.2	19.1	27.9	4.1	1.3	2.8	1.7	1.1	0.6	3,871.5
Grading/Excavation	4.3	28.1	42.1	4.7	1.9	2.8	2.3	1.7	0.6	7,563.5
Drainage/Utilities/Sub-Grade	3.9	23.6	33.3	4.6	1.8	2.8	2.2	1.6	0.6	4,672.5
Paving	1.9	14.4	12.7	0.7	0.7	-	0.6	0.6	-	2,368.4
Maximum (pounds/day)	4.3	28.1	42.1	4.7	1.9	2.8	2.3	1.7	0.6	7,563.5
Total (tons/construction project)	0.4	2.4	3.3	0.4	0.2	0.2	0.2	0.1	0.0	549.2

Notes: Project Start Year -> 2020  
 Project Length (months) -> 9  
 Total Project Area (acres) -> 31  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 201

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group C				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	
Grubbing/Land Clearing	1.5	8.7	12.7	1.8	0.6	1.3	0.8	0.5	0.3	1,759.8
Grading/Excavation	2.0	12.8	19.1	2.1	0.9	1.3	1.0	0.8	0.3	3,437.9
Drainage/Utilities/Sub-Grade	1.8	10.7	15.1	2.1	0.8	1.3	1.0	0.7	0.3	2,123.9
Paving	0.9	6.5	5.8	0.3	0.3	-	0.3	0.3	-	1,076.6
Maximum (kilograms/day)	2.0	12.8	19.1	2.1	0.9	1.3	1.0	0.8	0.3	3,437.9
Total (megagrams/construction project)	0.3	2.1	3.0	0.4	0.1	0.2	0.2	0.1	0.0	498.2

Notes: Project Start Year -> 2020  
 Project Length (months) -> 9  
 Total Project Area (hectares) -> 13  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 153

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group D				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.2	19.1	27.9	4.1	1.3	2.8	1.7	1.1	0.6	3,871.5
Grading/Excavation	4.2	27.6	38.6	4.6	1.8	2.8	2.2	1.6	0.6	6,390.4
Drainage/Utilities/Sub-Grade	3.9	23.6	33.3	4.6	1.8	2.8	2.2	1.6	0.6	4,672.5
Paving	1.9	14.4	12.7	0.7	0.7	-	0.6	0.6	-	2,368.4
Maximum (pounds/day)	4.2	27.6	38.6	4.6	1.8	2.8	2.2	1.6	0.6	6,390.4
Total (tons/construction project)	0.1	0.8	1.1	0.1	0.1	0.1	0.1	0.0	0.0	165.7

Notes: Project Start Year -> 2020  
 Project Length (months) -> 3  
 Total Project Area (acres) -> 8  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 87

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group D				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.5	8.7	12.7	1.8	0.6	1.3	0.8	0.5	0.3	1,759.8
Grading/Excavation	1.9	12.5	17.5	2.1	0.8	1.3	1.0	0.7	0.3	2,904.7
Drainage/Utilities/Sub-Grade	1.8	10.7	15.1	2.1	0.8	1.3	1.0	0.7	0.3	2,123.9
Paving	0.9	6.5	5.8	0.3	0.3	-	0.3	0.3	-	1,076.6
Maximum (kilograms/day)	1.9	12.5	17.5	2.1	0.8	1.3	1.0	0.7	0.3	2,904.7
Total (megagrams/construction project)	0.1	0.7	1.0	0.1	0.0	0.1	0.1	0.0	0.0	150.3

Notes: Project Start Year -> 2020  
 Project Length (months) -> 3  
 Total Project Area (hectares) -> 3  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 66

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group E				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	4.7	20.3	38.9	4.7	1.9	2.8	2.3	1.7	0.6	3,882.0
Grading/Excavation	6.2	28.7	56.3	5.6	2.8	2.8	3.1	2.6	0.6	6,158.2
Drainage/Utilities/Sub-Grade	5.8	24.8	47.3	5.5	2.7	2.8	3.1	2.5	0.6	4,692.5
Paving	3.1	15.6	17.9	1.1	1.1	-	1.0	1.0	-	2,369.8
Maximum (pounds/day)	6.2	28.7	56.3	5.6	2.8	2.8	3.1	2.6	0.6	6,158.2
Total (tons/construction project)	0.3	1.4	2.7	0.3	0.1	0.1	0.2	0.1	0.0	287.0

Notes: Project Start Year -> 2016  
 Project Length (months) -> 5  
 Total Project Area (acres) -> 20  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 58

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group E				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	2.1	9.2	17.7	2.1	0.9	1.3	1.0	0.8	0.3	1,764.5
Grading/Excavation	2.8	13.0	25.6	2.6	1.3	1.3	1.4	1.2	0.3	2,799.2
Drainage/Utilities/Sub-Grade	2.7	11.3	21.5	2.5	1.2	1.3	1.4	1.1	0.3	2,132.9
Paving	1.4	7.1	8.1	0.5	0.5	-	0.5	0.5	-	1,077.2
Maximum (kilograms/day)	2.8	13.0	25.6	2.6	1.3	1.3	1.4	1.2	0.3	2,799.2
Total (megagrams/construction project)	0.3	1.3	2.4	0.3	0.1	0.1	0.1	0.1	0.0	260.3

Notes: Project Start Year -> 2016  
 Project Length (months) -> 5  
 Total Project Area (hectares) -> 8  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 44

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group G				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	
Grubbing/Land Clearing	3.2	19.1	27.9	4.1	1.3	2.8	1.7	1.1	0.6	3,871.5
Grading/Excavation	4.2	27.8	39.8	4.6	1.8	2.8	2.2	1.6	0.6	6,892.3
Drainage/Utilities/Sub-Grade	3.6	23.4	30.3	4.4	1.6	2.8	2.0	1.4	0.6	4,674.0
Paving	1.7	14.2	11.9	0.6	0.6	-	0.5	0.5	-	2,368.1
Maximum (pounds/day)	4.2	27.8	39.8	4.6	1.8	2.8	2.2	1.6	0.6	6,892.3
Total (tons/construction project)	0.9	6.0	8.0	1.0	0.4	0.6	0.5	0.3	0.1	1,327.3

Notes: Project Start Year -> 2020  
 Project Length (months) -> 23  
 Total Project Area (acres) -> 85  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 136

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group G				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	
Grubbing/Land Clearing	1.5	8.7	12.7	1.8	0.6	1.3	0.8	0.5	0.3	1,759.8
Grading/Excavation	1.9	12.6	18.1	2.1	0.8	1.3	1.0	0.7	0.3	3,132.9
Drainage/Utilities/Sub-Grade	1.6	10.6	13.8	2.0	0.7	1.3	0.9	0.6	0.3	2,124.5
Paving	0.8	6.5	5.4	0.3	0.3	-	0.2	0.2	-	1,076.4
Maximum (kilograms/day)	1.9	12.6	18.1	2.1	0.8	1.3	1.0	0.7	0.3	3,132.9
Total (megagrams/construction project)	0.8	5.4	7.2	0.9	0.3	0.5	0.4	0.3	0.1	1,203.9

Notes: Project Start Year -> 2020  
 Project Length (months) -> 23  
 Total Project Area (hectares) -> 34  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 104

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group H				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	5.1	20.7	40.8	4.8	2.0	2.8	2.4	1.8	0.6	3,885.2
Grading/Excavation	6.8	29.8	64.5	6.0	3.2	2.8	3.4	2.8	0.6	7,038.6
Drainage/Utilities/Sub-Grade	6.3	25.3	49.7	5.7	2.9	2.8	3.2	2.7	0.6	4,696.8
Paving	3.4	16.0	19.6	1.3	1.3	-	1.2	1.2	-	2,369.4
Maximum (pounds/day)	6.8	29.8	64.5	6.0	3.2	2.8	3.4	2.8	0.6	7,038.6
Total (tons/construction project)	0.5	2.2	4.5	0.4	0.2	0.2	0.3	0.2	0.0	468.2

Notes: Project Start Year -> 2015  
 Project Length (months) -> 8  
 Total Project Area (acres) -> 27  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 136

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group H				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	2.3	9.4	18.6	2.2	0.9	1.3	1.1	0.8	0.3	1,766.0
Grading/Excavation	3.1	13.6	29.3	2.7	1.4	1.3	1.6	1.3	0.3	3,199.4
Drainage/Utilities/Sub-Grade	2.8	11.5	22.6	2.6	1.3	1.3	1.5	1.2	0.3	2,134.9
Paving	1.5	7.3	8.9	0.6	0.6	-	0.5	0.5	-	1,077.0
Maximum (kilograms/day)	3.1	13.6	29.3	2.7	1.4	1.3	1.6	1.3	0.3	3,199.4
Total (megagrams/construction project)	0.5	2.0	4.1	0.4	0.2	0.2	0.2	0.2	0.0	424.7

Notes: Project Start Year -> 2015  
 Project Length (months) -> 8  
 Total Project Area (hectares) -> 11  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 104

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group I				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.9	19.6	32.5	4.3	1.5	2.8	2.0	1.4	0.6	3,879.4
Grading/Excavation	5.0	28.1	47.6	5.1	2.3	2.8	2.6	2.0	0.6	6,642.7
Drainage/Utilities/Sub-Grade	4.7	24.1	39.0	5.0	2.2	2.8	2.5	2.0	0.6	4,682.7
Paving	2.4	14.9	14.8	0.9	0.9	-	0.8	0.8	-	2,370.5
Maximum (pounds/day)	5.0	28.1	47.6	5.1	2.3	2.8	2.6	2.0	0.6	6,642.7
Total (tons/construction project)	0.5	2.9	4.7	0.5	0.2	0.3	0.3	0.2	0.1	621.6

Notes: Project Start Year -> 2018  
 Project Length (months) -> 11  
 Total Project Area (acres) -> 40  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 106

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group I				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.8	8.9	14.8	2.0	0.7	1.3	0.9	0.6	0.3	1,763.4
Grading/Excavation	2.3	12.8	21.6	2.3	1.0	1.3	1.2	0.9	0.3	3,019.4
Drainage/Utilities/Sub-Grade	2.1	10.9	17.7	2.3	1.0	1.3	1.2	0.9	0.3	2,128.5
Paving	1.1	6.8	6.7	0.4	0.4	-	0.4	0.4	-	1,077.5
Maximum (kilograms/day)	2.3	12.8	21.6	2.3	1.0	1.3	1.2	0.9	0.3	3,019.4
Total (megagrams/construction project)	0.5	2.6	4.2	0.5	0.2	0.3	0.2	0.2	0.1	563.8

Notes: Project Start Year -> 2018  
 Project Length (months) -> 11  
 Total Project Area (hectares) -> 16  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 81

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group J				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)
Grubbing/Land Clearing	5.3	21.2	41.8	4.9	2.1	2.8	2.5	1.9	0.6	3,887.6
Grading/Excavation	7.0	29.9	62.3	6.0	3.2	2.8	3.5	2.9	0.6	6,306.2
Drainage/Utilities/Sub-Grade	6.6	25.7	50.9	5.8	3.0	2.8	3.3	2.7	0.6	4,699.6
Paving	3.7	16.5	20.3	1.3	1.3	-	1.2	1.2	-	2,369.1
Maximum (pounds/day)	7.0	29.9	62.3	6.0	3.2	2.8	3.5	2.9	0.6	6,306.2
Total (tons/construction project)	0.3	1.1	2.2	0.2	0.1	0.1	0.1	0.1	0.0	219.6

Notes: Project Start Year -> 2014  
 Project Length (months) -> 4  
 Total Project Area (acres) -> 14  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 69

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group J				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)
Grubbing/Land Clearing	2.4	9.6	19.0	2.2	1.0	1.3	1.1	0.9	0.3	1,767.1
Grading/Excavation	3.2	13.6	28.3	2.7	1.5	1.3	1.6	1.3	0.3	2,866.5
Drainage/Utilities/Sub-Grade	3.0	11.7	23.1	2.6	1.4	1.3	1.5	1.2	0.3	2,136.2
Paving	1.7	7.5	9.2	0.6	0.6	-	0.6	0.6	-	1,076.9
Maximum (kilograms/day)	3.2	13.6	28.3	2.7	1.5	1.3	1.6	1.3	0.3	2,866.5
Total (megagrams/construction project)	0.2	1.0	2.0	0.2	0.1	0.1	0.1	0.1	0.0	199.2

Notes: Project Start Year -> 2014  
 Project Length (months) -> 4  
 Total Project Area (hectares) -> 6  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 53

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group K				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	2.8	18.8	23.0	3.8	1.0	2.8	1.5	0.9	0.6	3,873.1
Grading/Excavation	3.5	27.5	29.3	4.2	1.4	2.8	1.8	1.2	0.6	6,730.4
Drainage/Utilities/Sub-Grade	3.2	23.3	26.8	4.1	1.3	2.8	1.8	1.2	0.6	4,677.0
Paving	1.6	14.1	10.9	0.5	0.5	-	0.5	0.5	-	2,368.3
Maximum (pounds/day)	3.5	27.5	29.3	4.2	1.4	2.8	1.8	1.2	0.6	6,730.4
Total (tons/construction project)	0.4	3.1	3.3	0.5	0.2	0.3	0.2	0.1	0.1	683.0

Notes: Project Start Year -> 2022  
 Project Length (months) -> 12  
 Total Project Area (acres) -> 43  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 120

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group K				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.3	8.5	10.5	1.7	0.5	1.3	0.7	0.4	0.3	1,760.5
Grading/Excavation	1.6	12.5	13.3	1.9	0.6	1.3	0.8	0.6	0.3	3,059.3
Drainage/Utilities/Sub-Grade	1.5	10.6	12.2	1.9	0.6	1.3	0.8	0.5	0.3	2,125.9
Paving	0.7	6.4	5.0	0.2	0.2	-	0.2	0.2	-	1,076.5
Maximum (kilograms/day)	1.6	12.5	13.3	1.9	0.6	1.3	0.8	0.6	0.3	3,059.3
Total (megagrams/construction project)	0.4	2.8	3.0	0.4	0.1	0.3	0.2	0.1	0.1	619.5

Notes: Project Start Year -> 2022  
 Project Length (months) -> 12  
 Total Project Area (hectares) -> 17  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 92

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.



## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group M				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.2	19.1	27.9	4.1	1.3	2.8	1.7	1.1	0.6	3,871.5
Grading/Excavation	4.2	27.6	38.6	4.6	1.8	2.8	2.2	1.6	0.6	6,390.4
Drainage/Utilities/Sub-Grade	3.9	23.6	33.3	4.6	1.8	2.8	2.2	1.6	0.6	4,672.5
Paving	1.9	14.4	12.7	0.7	0.7	-	0.6	0.6	-	2,368.4
Maximum (pounds/day)	4.2	27.6	38.6	4.6	1.8	2.8	2.2	1.6	0.6	6,390.4
Total (tons/construction project)	0.1	0.8	1.1	0.1	0.1	0.1	0.1	0.0	0.0	165.7

Notes: Project Start Year -> 2020  
 Project Length (months) -> 3  
 Total Project Area (acres) -> 11  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 87

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group M				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.5	8.7	12.7	1.8	0.6	1.3	0.8	0.5	0.3	1,759.8
Grading/Excavation	1.9	12.5	17.5	2.1	0.8	1.3	1.0	0.7	0.3	2,904.7
Drainage/Utilities/Sub-Grade	1.8	10.7	15.1	2.1	0.8	1.3	1.0	0.7	0.3	2,123.9
Paving	0.9	6.5	5.8	0.3	0.3	-	0.3	0.3	-	1,076.6
Maximum (kilograms/day)	1.9	12.5	17.5	2.1	0.8	1.3	1.0	0.7	0.3	2,904.7
Total (megagrams/construction project)	0.1	0.7	1.0	0.1	0.0	0.1	0.1	0.0	0.0	150.3

Notes: Project Start Year -> 2020  
 Project Length (months) -> 3  
 Total Project Area (hectares) -> 4  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 66

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

## Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> North San Diego County RW: Group O				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (lbs/day)
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	5.1	20.7	40.8	4.8	2.0	2.8	2.4	1.8	0.6	3,885.2
Grading/Excavation	6.8	29.6	62.3	5.9	3.1	2.8	3.4	2.8	0.6	6,641.5
Drainage/Utilities/Sub-Grade	6.3	25.3	49.7	5.7	2.9	2.8	3.2	2.7	0.6	4,696.8
Paving	3.4	16.0	19.6	1.3	1.3	-	1.2	1.2	-	2,369.4
Maximum (pounds/day)	6.8	29.6	62.3	5.9	3.1	2.8	3.4	2.8	0.6	6,641.5
Total (tons/construction project)	0.3	1.1	2.2	0.2	0.1	0.1	0.1	0.1	0.0	226.2

Notes: Project Start Year -> 2015  
 Project Length (months) -> 4  
 Total Project Area (acres) -> 11  
 Maximum Area Disturbed/Day (acres) -> 0  
 Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 100

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> North San Diego County RW: Group O				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	CO2 (kgs/day)
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	2.3	9.4	18.6	2.2	0.9	1.3	1.1	0.8	0.3	1,766.0
Grading/Excavation	3.1	13.4	28.3	2.7	1.4	1.3	1.5	1.3	0.3	3,018.9
Drainage/Utilities/Sub-Grade	2.8	11.5	22.6	2.6	1.3	1.3	1.5	1.2	0.3	2,134.9
Paving	1.5	7.3	8.9	0.6	0.6	-	0.5	0.5	-	1,077.0
Maximum (kilograms/day)	3.1	13.4	28.3	2.7	1.4	1.3	1.5	1.3	0.3	3,018.9
Total (megagrams/construction project)	0.2	1.0	2.0	0.2	0.1	0.1	0.1	0.1	0.0	205.2

Notes: Project Start Year -> 2015  
 Project Length (months) -> 4  
 Total Project Area (hectares) -> 5  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 77

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

# **CONSTRUCTION:**

## **Pump Stations**

**North San Diego Coalition Pump Stations**  
 San Diego County APCD Air District, Annual

**2.1 Overall Construction**

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0850	0.8091	0.5423	80000e-004	0.0167	0.0538	0.0705	7.5200e-003	0.0499	0.0576	0.0000	73.6018	73.6018	0.0177	0.0000	73.9735
<b>Total</b>	<b>0.0850</b>	<b>0.8091</b>	<b>0.5423</b>	<b>80000e-004</b>	<b>0.0167</b>	<b>0.0538</b>	<b>0.0705</b>	<b>7.5200e-003</b>	<b>0.0499</b>	<b>0.0576</b>	<b>0.0000</b>	<b>73.6018</b>	<b>73.6018</b>	<b>0.0177</b>	<b>0.0000</b>	<b>73.9735</b>

**North San Diego Coalition Pump Stations**  
**San Diego County APCD Air District, Winter**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	1.4591	13.9230	10.4402	0.0168	0.9343	0.9430	1.7581	0.4612	0.8676	1.2469	0.0000	1,653,639 0	1,653,639 0	0.3581	0.0000	1,661,158 0
<b>Total</b>	<b>1.4591</b>	<b>13.9230</b>	<b>10.4402</b>	<b>0.0168</b>	<b>0.9343</b>	<b>0.9430</b>	<b>1.7581</b>	<b>0.4612</b>	<b>0.8676</b>	<b>1.2469</b>	<b>0.0000</b>	<b>1,653,639 0</b>	<b>1,653,639 0</b>	<b>0.3581</b>	<b>0.0000</b>	<b>1,661,158 0</b>



# **CONSTRUCTION: Treatment Plants**

Plant Name	Location (City, State)	Size	Change in Size	Type of Treatment	Upgrade or New  Level Upgraded/Capacity Increased From	Maximum Daily Construction Emissions (lbs/day)							Annual Average Construction Emissions (tons/year)							Date	
		(mgd)		Tertiary or Advanced (MF/RO)		VOC	CO	NOx	PM10	PM2.5	SOx	CO2	VOC	CO	NOx	PM10	PM2.5	SOx	CO2		
Ridgemark Wastewater Treatment and Recycled Water Plant <sup>1</sup>	Hollister, California	0.35	0.14	Tertiary	Upgrades at two plants: From Primary 0.21 mgd to Secondary 0.35, Combined Flow to Tertiary 0.35	6.31		54.98	21.75				0.77		6.41	2.8					Mar-09
Morro Bay-Cayucos WWTP <sup>2</sup>	Morro Bay, California	1.5	1.5	Tertiary	Upgrade Secondary Plant, Add Tertiary Facilities	21	11	21	3	1		2301	3.9	2	3.9	0.5	0.2			381	Dec-10
Palmdale WRP <sup>3</sup>	Palmdale, California	22.4	7.4	Tertiary	Secondary 15 mgd to Tertiary, then Expansion (Storage reservoirs + Activated Sludge Facility)	50	49	138	88												Sep-05
Laguna Subregional Water Reclamation Facility <sup>4</sup>	Santa Rosa, California	25.9	4.6	Tertiary	Tertiary 21.3 mgd			59													May-03
Lancaster WRP <sup>5</sup>	Lancaster, California	26	9.85	Tertiary	From Secondary for 16.0 mgd & Tertiary for 0.15 mgd to combined storage/recycled uses	48	56	189	90												May-04
Lancaster WRP <sup>5</sup>	Lancaster, California	26	9.85	Tertiary	From Secondary for 16.0 mgd & Tertiary for 0.15 mgd to no storage/recycled uses	22	28	51	64												May-04
Riverside Regional Water Quality Control Plant <sup>6</sup>	Riverside, California	52.2	12.2	Tertiary	Tertiary 40 mgd: Primary Expansion, MBR Facility Addition, 2 new Digesters	53	63	73	72	18	<1										Jun-10
Average:						33	41	84	56	10											

<sup>1</sup> Draft Environmental Impact Report Ridgemark Wastewater Treatment and Recycled Water Improvements Project State Clearinghouse Number 2008071031 Sunnyslope County Water District March 2009

<sup>2</sup> MORRO BAY – CAYUCOS WASTEWATER TREATMENT PLANT UPGRADE Final Environmental Impact Report City of Morro Bay and Cayucos Sanitary District December 2010

<sup>3</sup> Palmdale WRP 2025 Facilities Plan\_Final EIR\_September 2005

<sup>4</sup> Draft Environmental Impact Report SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT MASTER PLAN January 2013

<sup>5</sup> Lancaster Water Reclamation Plant 2020 Facilities Plan\_Final EIR\_May 2004

<sup>6</sup> Draft Program Environmental Impact Report INTEGRATED MASTER PLAN FOR WASTEWATER COLLECTION AND TREATMENT FACILITIES June 2010



# **CONSTRUCTION: Schedules**

























# **OPERATIONS: CAL Emission Factors**

			GHG emissions			Criteria Pollutants					
			Total output emission rate								
	eGRID subregion		CO2e (lb/MWH)	lbs/MWH		Nox (lbs/M	Nox		SO2 (lbs/MWH)	SO2	
70%	CAMX	WECC CA	613.28		429.296		0.4047	0.28329		0.1708	0.11956
10%	NWPP	WECC Nort	846.97		84.697		1.0176	0.10176		1.0048	0.10048
20%	AZNM	WECC Sout	1182.89		236.578		1.4226	0.28452		0.6101	0.12202
					750.571			0.66957			0.34206

# **OPERATIONS: Pump Stations**

Group	Pump Station	Flow (gpm)	TDH (ft)	HP	kWh/yr	Emissions (MTCO2e/yr)	Emissions (MTNox/yr)	MTSOx/yr
A	A			75	140,875	48	94	48
C	C			250	340,278	116	228	116
	C			250				
	C			250				
	C			250 - Spare (not counting)				
D	PS @ Ex. RW Pipe	1,400	450	120	225,400	77	151	77
E	None	NA	NA	NA	NA	NA	NA	NA
G	Phase 1 & 2 PS @ SLRWRF	2,400	300	240	450,800	153	302	154
	BPS-SLR-Ph2-1	1,400	320	150	281,750	96	189	96
	BPS-SLR-Ph2-2	700	120	30	56,350	19	38	19
	PS @ SLRWRF	1,250	325	140	262,967	90	176	90
	PS @ El Corazon Tank to EC site	1,640	210	120	225,400	77	151	77
	PS @ El Corazon Tank to OH	1,600	140	140	262,967	90	176	90
	Booster PS for Ocean Hills	750	200	50	93,917	32	63	32
H	PS @ Ex. RW line	1,100	210	80	150,267	51	101	51
	BPS for BGC/PR	1,000	380	130	244,183	83	163	84
I	BPS for Rincon Business Park			20	68,056	23	46	23
	BPS for Escondido Country Club			10	68,056	23	46	23
J	None	NA	NA	NA	NA	NA	NA	NA
K	PS @ San Elijo WRF	1,500			90,000	31	60	31
	PS @ Tank	3,800			360,000	123	241	123
M	PS @ Ex. RW line			30	68,056	23	46	23
	PS @ HARRF			50	93,917	32	63	32
O	PS @ Ex. RW line	300	260	30	56,350	19	38	19



New Pump Stations

Assumptions:

1 worker commutes to and from via a passenger car M-F once a week

22 Pump Stations

44 trips per week

10.8 miles per trip Source: CalEEMod Appendix d Table 4.2, Air Basin San Diego for Urban Trip Length Home to Work

475.2 miles per week

24710.4 miles per year for all pump stations

24710.4 miles per yr for the Project

1 lb= 454 g

Emissions for new plant worker trips						
	VOC	CO	NOx	PM10	PM25	CO2
Emissions (g/mile)	1.034	9.4	0.698	0.0044	0.0041	368.4
Emissions (lb/mile)	0.00	0.02	0.00	0.00	0.00	0.81
<b>lbs pollutant emitted per yr for all pump stations</b>	<b>56.28</b>	<b>511.63</b>	<b>37.99</b>	<b>0.24</b>	<b>0.22</b>	<b>20051</b>

9103311 g/yr  
9.1 Mtons/yr



# **OPERATIONS: Treatment Plants**

**GHG, Nox and SO2 Emissions Calculation - Treatment Facilities for North San Diego Water Reuse Coalition Regional Recycled Water Project**

Note: some differences may occur due to rounding

October 31, 2014

<i>Energy &amp; GHG emissions from each source</i>	kWh/MG	MWh/MG	lbs CO2e/MG	MT CO2e/MG
Energy for Recycled Water	2100		2.1	1576.197
Energy for advanced treated water	3227	3.227	2422.08939	1.098642573

kWh to MWh conversion factor	0.001			
lbs to MT conversion factor	0.000453593			
CO2 emissions in CA energy mix (lbs/MWh)	750.57			
AF to MG conversion factor	0.325851429			

CO2 eq for CAMX WECC California - Source: 095 USEPA 2014 eGRID

**Flow and Energy Calculations**

<i>Water produced/delivered by project</i>	2025 (AFY)	Total (AFY)	2025 (MG/yr)	Total (MG/yr)	CHECK
Total water from project	18,808	18,808	6,129	6128.613677	0.78
Recycled Water	10,868	10,868	3,541	3541.35333	0.45
Potable Reuse	7,940	7,940	2,587	2587.260346	0.33

<i>Treatment Facility Capacity Increases</i>	Existing (MGD)	2025 (MGD)	Increase from Existing to 2025 (MGD)
Recycled water (tertiary)	22.7	43.2	20.5
Advanced treated	0	7.2	7.2

<i>Energy Use for Water from Project</i>	2025 (kWh/yr)	2025 (Mwh/yr)
Recycled Water	7,436,842	7,437
Potable Reuse Water	8,349,089	8,349
Total	15,785,931	15,786

**GHG Operational Emissions**

	2025 (MT CO2e/yr)
GHG Emissions from Project (NO OFFSETS)	
Recycled Water	2,532
Potable Reuse Water	2,842
Total	5,374

**Direct GHG Emissions**

Emission Factors	ton/gal	GWP	
CO2 Biogenic		3.899E-07	1
CH4		1.34E-09	25
N2O		8.48E-10	298

Total gal/yr	6,128,613,677
--------------	---------------

Emissions	tons/yr	lb/yr	MT/yr	
CO2 Biogenic	2,389.5	4,779,093	2,168	
CH4	8.2	16,425	7.5	
N2O	5.2	10,394	4.7	
CO2 eq Including Co2 biogenic (Do not report)	3,759			
CO2 eq	1,591	MT/yr		

<b>Mobile sources</b>			
CO2 eq	19.86	MT/yr	
Nox	0.04	MT/yr	82.89 lb/yr

**TOTAL CO2EQ for Treatment Plant Operations** 6,985 MT/yr

**Benchmark - Imported Water**

Imported Water Offsets		
Total water	6,129	MG/yr
Imported Water carbon footprint factor	3.78	MT/MG
Imported water carbon footprint	<b>23,183</b>	MT CO2eq/yr

**NOx and SO2 Operational (Indirect) Emissions**

Criteria pollutants in CA energy mix	Weighting	Nox (lbs/MWh)	weighted (lbs/MWh)
CA	0.7	0.4047	0.28329
NWPP	0.1	1.0176	0.10176
AZNM	0.2	1.4226	0.28452
		<b>Total</b>	<b>0.66957</b>

Of Criteria Pollutants, only Nox, SO2 and GHGs were reported in eGRID

NOx emissions from plant operations	2025 (lbs/yr)	2025 (t/yr)	2025 (lbs/day)
Recycled Water	4,979	2.5	13.6
Potable Reuse	5,590	2.8	15.3
<b>Total</b>	<b>10,570</b>	<b>5.3</b>	<b>29.0</b>

<i>Criteria pollutants in CA energy mix</i>	Weighting	SO2 (lbs/MWh)	weighted (lbs/MWh)	
CA		0.7	0.1708	0.11956
NWPP		0.1	1.0048	0.10048
AZNM		0.2	0.6101	0.12202
		<b>Total</b>		<b>0.34206</b>

Of Criteria Pollutants, only Nox, SO2 and GHGs were reported in eGRID

<i>SO2 emissions from plant operations</i>	2025 (lbs/yr)	2025 (t/yr)	2025 (lbs/day)	
Recycled Water	2,544	1.3	7.0	
Potable Reuse	2,856	1.4	7.8	
<b>Total</b>	<b>5,400</b>	<b>2.7</b>	<b>14.8</b>	

**Table 9.4 Wastewater Treatment Direct Emissions**

Wastewater Treatment Type	CO2 Biogenic, ton/gal	CO2 Non-Biogenic, ton/gal	CH4, ton/gal	N2O, ton/gal
Septic	0	0	2.50362E-07	8.48121E-10
Aerobic	3.899999E-07	0	1.34234E-09	8.48121E-10
Anaerobic Facultative	3.899999E-07	0	4.01921E-07	8.48121E-10
Digester Burn	0	0	0	0
Digester Cogen	0	0	0	0

**Note:**  
Digester combustion emissions are estimated using water intensity emission factors.

New Recycling Plants

Assumptions:

4 workers commute to and from via a passenger car M-F

2 workers commute via passenger car Sat-Sun

48 trips per week  
 10.8 miles per trip Source: CalEEMod Appendix d Table 4.2, Air Basin San Diego for Urban Trip Length Home to Work  
 518.4 miles per week  
 26956.8 miles per year per plant

2 new facilities  
 53913.6 miles per yr for the Project

1 lb= 454 g

Emissions for new plant worker trips						
	VOC	CO	NOx	PM10	PM25	CO2
Emissions (g/mile)	1.034	9.4	0.698	0.0044	0.0041	368.4
Emissions (lb/mile)	0.00	0.02	0.0015	0.00	0.00	0.81
lbs pollutant emitted per yr per new facility	61.40	558.14	41.44	0.26	0.24	21874
<b>Total new emissions from worker trips for Project (lbs/yr)</b>	<b>122.79</b>	<b>1116.27</b>	<b>82.89</b>	<b>0.52</b>	<b>0.49</b>	<b>43748</b>

19861770 g/yr  
 19.9 Mtons/yr





**OPERATIONS:  
Exposure Concentrations**

## Operational Exposure Concentration Calculations

Operational exposure was determined to be important, based on the potential for long-term impacts of air pollution to have detrimental effects on health. For this reason, the emissions source was conservatively and simply modeled as a point source. The highest emission site was used, on the basis that the sites would not have additive effects given their great distance from each other. This resulted in the modeling of an "Average Treatment Facility" which had the highest single site emissions for all pollutants considered.

The plume model used is known as the slender plume approximation with reflection from the ground. A height of 1.8 m above the ground was assumed as the source height, with a distance of 100 m from the point considered the closest point of significance.

$$C(x, y, z) = \frac{q}{4\pi(K_y K_z)^{1/2} x} \exp\left[-\frac{\bar{u}}{4x}\left(\frac{y^2}{K_y} + \frac{z^2}{K_z}\right)\right]$$

$y=0, z=0$  (to maximize C)

$K_y$  and  $K_z$  were calculated assuming a Stability Class F condition, which is the worst-case scenario

They are calculated using the following equations:

$$K_y = e^{(-3.143 + 1.0148 * \ln(x) - 0.007 * (\ln(x))^2)} * \bar{u} / (2x)$$

$$K_z = e^{(-4.49 + 1.4024 * \ln(x) - 0.54 * (\ln(x))^2)} * \bar{u} / (2x)$$

As the following tables indicate, the concentrations do not go above the associated 1-hr or 8-hr standard for the pollutants.

ppm		Emissions Rate				
9 CO		0.070				
		Distance (m)				
Wind Speed (m/s)		100	150	200	250	300
1		1.33	0.78	0.51	0.36	0.27
2		0.66	0.39	0.25	0.18	0.13
3		0.44	0.26	0.17	0.12	0.088
4		0.33	0.20	0.13	0.089	0.066
5		0.27	0.16	0.10	0.071	0.053
6		0.22	0.13	0.084	0.059	0.044
7		0.19	0.11	0.072	0.051	0.038
8		0.17	0.098	0.063	0.044	0.033
9		0.15	0.087	0.056	0.040	0.029
10		0.13	0.078	0.051	0.036	0.027

ppm		Emissions Rate				
0.04 SO <sub>2</sub>		0				
		Distance (m)				
Wind Speed (m/s)		100	150	200	250	300
1		0.000	0.000	0.000	0.000	0.000
2		0.000	0.000	0.000	0.000	0.000
3		0.000	0.000	0.000	0.000	0.000
4		0.000	0.000	0.000	0.000	0.000
5		0.000	0.000	0.000	0.000	0.000
6		0.000	0.000	0.000	0.000	0.000
7		0.000	0.000	0.000	0.000	0.000
8		0.000	0.000	0.000	0.000	0.000
9		0.000	0.000	0.000	0.000	0.000
10		0.000	0.000	0.000	0.000	0.000

ppm (1 hr federal of 100 ppb)

µg/m<sup>3</sup>

ppm		Emissions Rate				
0.1 NO <sub>2</sub>		0.0052				
		Distance (m)				
Wind Speed (m/s)		100	150	200	250	300
1		0.098	0.058	0.038	0.026	0.020
2		0.049	0.029	0.019	0.013	0.010
3		0.033	0.019	0.013	0.009	0.007
4		0.025	0.015	0.009	0.007	0.005
5		0.020	0.012	0.008	0.005	0.004
6		0.016	0.010	0.006	0.004	0.003
7		0.014	0.008	0.005	0.004	0.003
8		0.012	0.007	0.005	0.003	0.002
9		0.011	0.006	0.004	0.003	0.002
10		0.010	0.006	0.004	0.003	0.002

50		Emissions Rate				
PM10		3.5E-05				
		Distance (m)				
Wind Speed (m/s)		100	150	200	250	300
1		0.80	0.47	0.31	0.21	0.16
2		0.40	0.24	0.15	0.11	0.080
3		0.27	0.16	0.10	0.071	0.053
4		0.20	0.12	0.076	0.054	0.040
5		0.16	0.094	0.061	0.043	0.032
6		0.13	0.079	0.051	0.036	0.027
7		0.11	0.067	0.044	0.031	0.023
8		0.10	0.059	0.038	0.027	0.020
9		0.089	0.052	0.034	0.024	0.018
10		0.080	0.047	0.031	0.021	0.016

ppm

- **VOC** Emissions Rate  
0.0077

Wind Speed (m/s)	Distance (m)				
	100	150	200	250	300
1	0.15	0.086	0.056	0.039	0.029
2	0.073	0.043	0.028	0.020	0.015
3	0.049	0.029	0.019	0.013	0.010
4	0.036	0.022	0.014	0.010	0.007
5	0.029	0.017	0.011	0.008	0.006
6	0.024	0.014	0.009	0.007	0.005
7	0.021	0.012	0.008	0.006	0.004
8	0.018	0.011	0.007	0.005	0.004
9	0.016	0.010	0.006	0.004	0.003
10	0.015	0.009	0.006	0.004	0.003

$\mu\text{g}/\text{m}^3$

12 **PM2.5** Emissions Rate  
3.0E-05

Wind Speed (m/s)	Distance (m)				
	100	150	200	250	300
1	0.70	0.41	0.27	0.19	0.14
2	0.35	0.21	0.13	0.094	0.070
3	0.23	0.14	0.089	0.062	0.047
4	0.17	0.10	0.067	0.047	0.035
5	0.14	0.083	0.053	0.037	0.028
6	0.12	0.069	0.044	0.031	0.023
7	0.10	0.059	0.038	0.027	0.020
8	0.087	0.052	0.033	0.023	0.017
9	0.078	0.046	0.030	0.021	0.016
10	0.070	0.041	0.027	0.019	0.014

## **Appendix D - Biological Resources Analysis**

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April 1, 2015



Ms. Crystal Benham  
**RMC WATER AND ENVIRONMENT**  
4225 Executive Square, Suite 750  
San Diego, CA 92037

**Re: RESULTS OF A BIOLOGICAL RESOURCES ASSESSMENT CONDUCTED FOR THE NORTH SAN DIEGO WATER REUSE COALITION (NSDWRC) PROJECT IN NORTH SAN DIEGO COUNTY, CALIFORNIA**

Dear Ms. Benham:

This report presents the findings of a technical biological resources assessment conducted by **PCR Services Corporation (PCR)** for the Program Environmental Impact Report (PEIR) pertaining to the North San Diego Water Reuse Coalition (NSDWRC) project (Proposed Project) located in north San Diego County, California (**Figure 1**, *Regional Overview Map*, attached.).

The Proposed Project assessed for this analysis is comprised of extensive pipeline alignments, storage tanks, reservoirs, various water treatment and other facilities for expanded water use as outlined in the project description (study area).<sup>1</sup> A summary of the project description is provided in section *1.2 Project Description* of this report. While the project description addresses both short- and long-term project components, the Proposed Project includes only the short-term components, which are the basis of this assessment.

## **1.0 STUDY AREA LOCATION**

### **1.1 Overview**

San Diego County is located along the Pacific Ocean in Southern California and the study area is located in the northern portion of the county. The study area's eastern limit is in the foothills of the Peninsular Range. To the south of the study area the landscape of low hills becomes increasingly urbanized as the urban center of San Diego is approached, to the north are low hills of the relatively undeveloped Camp Pendleton Marine Base, and the Pacific Ocean lies to the west.

San Diego County has two habitat conservation planning programs including the Multiple Habitat Conservation Program (MHCP) that applies to participating cities in northwestern San Diego County, and the Multiple Species Conservation Program (MSCP) that applies to all remaining non-

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<sup>1</sup> *Final Administrative Draft Environmental Impact Report, chapter 2 Project Description, North San Diego Water Reuse Coalition Regional Recycled Water Project, April 2014. Provided by RMC Water and Environment, Inc. to PCR via email on April 21, 2014.*



military lands. These programs were developed to provide conservation for multiple species and provide preservation of natural vegetation communities in San Diego County, and are implemented pursuant to subregional plans and subarea plans. The subregional MHCP plan<sup>2</sup> encompasses the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Several cities have proposed city-specific measures to conserve natural biotic communities and sensitive plant and wildlife species in the form of MHCP subarea plans that are based on the subregional plan; the City of Carlsbad has received approval and permit authorization for its subarea plan.<sup>3</sup> The subregional MSCP plan<sup>4</sup> is the basis of several multiple subarea plans, including but not limited to the adopted South County MSCP Plan<sup>5</sup>, the draft North County MSCP Plan which is not yet approved<sup>6</sup>, and the City of San Diego MSCP Subarea Plan.<sup>7</sup> The combination of subregional and subarea plans for these programs serve as a multiple species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act (ESA), as well as a Natural Community Conservation Planning (NCCP) plan under the NCCP Act of 1991 and the California Endangered Species Act (CESA). Participating jurisdictions submit these plans to the wildlife agencies (U.S. Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]) in support of applications for permits and authorizations to incidentally “take” listed threatened or endangered species or other species of concern outside of the preserve system in exchange for conserving the species inside the preserve system. Once USFWS and CDFW approve the plans and authorize “take” the participating jurisdiction may use it to permit public or private projects that comply with the subregional and subarea plans. The conservation and management responsibilities, assurances of implementation, and corresponding authorizations for all parties are contained in an implementing agreement between each take authorization holder and the wildlife agencies.

The habitat conservation planning programs identify specific areas of conservation where avoidance and mitigation of resources is focused. The MHCP identifies these conservation areas as Focused Planning Areas (FPA), including hardline areas (90 to 100 percent conservation) and softline areas (less than 90 percent conservation, while the MSCP identifies them as Pre-Approved Mitigation Areas (PAMA). The South County MSCP also has major and minor amendment areas

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<sup>2</sup> *Final MHCP Plan, Prepared for Multiple Habitat Conservation Program, Administered by Sandag for the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, Prepared by AMEC Earth & Environmental, Inc. March 2003.*

<sup>3</sup> [http://www.sandag.org/uploads/publicationid/publicationid\\_149\\_579.pdf](http://www.sandag.org/uploads/publicationid/publicationid_149_579.pdf)

<sup>4</sup> *Final Multiple Species Conservation Program, MSCP Plan. August 1998.*

<sup>5</sup> *Multiple Species Conservation Program, County of San Diego SubArea Plan, Prepared by the County of San Diego in conjunction with the United States Fish and Wildlife Service and the California Department of Fish and Game. Adopted October 22, 1997.*

<sup>6</sup> *County of San Diego: North County Plan. Available at <http://www.sdcounty.ca.gov/pds/mscp/nc.html>*

<sup>7</sup> *Multiple Species Conservation Program, City of San Diego MSCP Subarea Plan. Prepared by the City of San Diego Community and Economic Development Department. March 1997.*





where the location of conservation areas have not yet been determined and are subject to an amendment process. Both the MHCP and MSCP also outline mitigation ratios and/or guidelines for unavoidable impacts to sensitive plant communities, sensitive plant species, and sensitive wildlife species.

The study area falls within the boundary of the both the MHCP and the boundaries of two MSCP subarea plans including the adopted South County MSCP plan and the draft North County MSCP plan. A portion of the Proposed Project west of Escondido and northeast of Solana Beach is within mapped lands in the draft North County MSCP, as shown in **Figure 2**, *Draft North County Multiple Species Conservation Program (MSCP)*.<sup>8</sup> A small portion of the Proposed Project to the east of Escondido and approximately south of Rancho Santa Fe is within the South County MSCP, as shown in **Figure 3**, *South County Multiple Species Conservation Program (MSCP)*.<sup>9</sup> In addition, the portions of the Proposed Project within the MHCP are shown on **Figure 4**, *Multiple Habitat Conservation Program (MHCP)*.<sup>10</sup> The USFWS has established Critical Habitats for several federally listed plant and wildlife species. Critical Habitats, which are geographic areas that contain features essential for the conservation of a threatened or endangered species, are mapped for five species within the study area, including coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Anaxyrus californicus*), and thread leaved brodiaea (*Brodiaea filifolia*) (as seen in **Figure 5**, *USFWS Species Critical Habitats*).

## 1.2 Project Description

This section provides a brief summary of the project description for the Proposed Project to provide background for this analysis.<sup>11</sup> The Proposed Project consists of development of regional recycled water infrastructure that includes interagency connections to increase the capacity and connectivity of the recycled water storage and distribution systems of a Coalition of agencies in north San Diego County. The Proposed Project includes replacing potable water uses with recycled water components, converting facilities to recycled water service, connecting discrete recycled water systems to one another, increasing recycled water storage capacity, distributing recycled water to

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<sup>8</sup> During the literature review for this assessment it became evident that several locations in the study area required further attention because of an increased potential for having sensitive biological resource considerations. These locations are called "Biological Areas" and are described later in this report in section 3.1 Literature Review. Although the "Biological Areas" are not yet described, they are shown on Figures 2 and 3 to support assessments later in this report.

<sup>9</sup> *Ibid.*

<sup>10</sup> *Ibid.*

<sup>11</sup> *Final Administrative Draft Environmental Impact Report, chapter 2 Project Description, North San Diego Water Reuse Coalition Regional Recycled Water Project, April 2014. Provided by RMC Water and Environment, Inc. to PCR via email on April 21, 2014.*



effectively meet recycled water demands, and implementing advanced water treatment to produce and use potable reuse water within northern San Diego County.

The project description identifies four project components that were studied as part of this assessment and are summarized below. These components include both short-term and long-term project components; short-term components are considered part of the Proposed Project and were analyzed in this assessment; long-term project components are acknowledged in the project description but are not part of the Proposed Project apart from two seasonal storage sites listed below.

**1. Proposed Recycled and Potable Reuse System Expansion:** The Proposed Project includes construction and operation of recycled water pipelines, pump stations, storage tanks, pressure reducing facilities, and all other facilities necessary to deliver recycled water to applicable end users to meet existing and future recycled water demands. The recycled water pipelines are depicted on **Figure 1** of this report; recycled water laterals and other facilities are not mapped as the precise length, size and capacities would be determined during the project-specific design. The pipelines analyzed are grouped by coalition member, group letter, and treatment plant(s) to provide supply, as follows:

- Carlsbad Metropolitan Water District (MWD) coalition, Group A, Carlsbad (Water Reclamation Facility (WRF)/Gafner WRF
- City of Escondido coalition, Group C, Hale Avenue Resource Recovery Facility (HARRF)
- City of Escondido coalition, Group D, Escondido Advanced Water Treatment Facility (AWT)
- San Elijo Joint Powers Authority, Group E, San Elijo WRF/Gafner WRF
- City of Escondido coalition, (removed from Project), Carlsbad WRF
- City of Escondido coalition, Group G, San Luis Rey Waste Water Treatment Plant (WWTP)/ Southern Regional Tertiary Treatment Plant (SRTTP)
- City of Oceanside coalition, (removed from Project), El Corazon WRF (no longer a planned WRF, see below)
- City of Oceanside coalition, Group G, San Luis Rey Waste Water Treatment Plant (WWTP)/ Southern Regional Tertiary Treatment Plant (SRTTP)
- City of Oceanside coalition, Group G, San Luis Rey WWTP - AWT



- Olivenhain MWD coalition, Group H, San Elijo WRF/Gafner WRF
- Olivenhain MWD coalition, Group H, San Elijo WRF - AWT
- Rincon del Diablo MWD coalition, Group I, HARRF
- Rincon del Diablo MWD coalition, Group I, HARRF – AWT
- Santa Fe Irrigation District coalition, Group K, San Elijo WRF/Gafner WRF
- Santa Fe Irrigation District coalition, Group K, San Elijo WRF - AWT
- Vallecitos Water District coalition, Group M, HARRF
- Vallecitos Water District coalition, Group N, Meadowlark WRF - AWT
- Vista Irrigation District coalition, Group O, San Luis Rey WWTP/Carlsbad WRF

Changes were made to the project description following completion of the field assessments conducted for this report, as described in section 3.2 below. These changes included changing the supply source for the Carlsbad WRF-supplied City of Escondido coalition and the El Corazon WRF-supplied City of Oceanside coalition, modifying the proposed El Corazon WRF, and the addition of a new Group E, with the addition of five new alignments. A summary is provided below:

- The alignment for Group G (from San Luis Rey WWTP) has been modified to supply all of the recycled water that would have been served to the portion of the City of Escondido coalition by the Carlsbad WRF and to the portion of the City of Oceanside coalition by the El Corazon WRF. Even though these portions of the project have now been removed from the Proposed Project they have been left in this report as the alignments are now incorporated into Group G.
- El Corazon WRF (City of Oceanside coalition), which had originally been intended to serve a portion of the City of Oceanside coalition, will still be included within the Proposed Project but the site (referred to herein as El Corazon Site) will now be used for storage only and not a stand-alone water reclamation facility. However, because it is a major above-ground facility, it was considered in a manner similar to treatment plants. Two new pipeline alignments were added to the El Corazon Site, specifically the “San Luis Rey WRF to El Corazon Site” and the “El Camino CC to Ocean Hills” alignment. These alignments are incorporated into Group G.



- A new Group E was added that includes facilities necessary to convey recycled water from the San Elijo WRF/Gafner WRF to users in San Elijo JPA's service area (within the San Dieguito Water District [SDWD]). These facilities include three additional alignments herein identified as "SEJPA (San Elijo JPA/SDWD)".

**2. Water Recycling Plant & Waste Water Treatment Plant Expansions:** Two new plant facilities, along with the El Corazon Site, would require construction and five existing plant facilities would need to be increased in capacity as part of the Proposed Project (see Figure 1) as listed below:

New Facilities:

- Escondido AWT
- El Corazon Site<sup>12</sup>
- Harmony Grove WRF

Existing Facilities:

- San Luis Rey WWTP and AWT
- Hale Avenue RRF and AWT
- Meadowlark WRF and AWT
- Carlsbad WRP

**3. Potential Reservoir/Hydro Tanks:** Four tanks and one reservoir are included as part of the Proposed Project (see Figure 1) as listed below:

- Wanket Tank
- Wiegand Tank
- San Elijo Tank
- New RW Tank (Rincon)
- R1 Reservoir

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<sup>12</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.



**4. Potable Reuse Sites:** Potable reuse is being considered as a potential water supply in northern San Diego. Seven potential potable reuse sites have been selected as feasible for purposes of the Proposed Project as follows:

- Lake Dixon
- Mission Basin
- San Elijo Valley Basin
- San Dieguito Basin
- San Dieguito Reservoir
- Escondido Valley Basin
- San Marcos Basin

**5. Seasonal Storage Sites:** Three of the 12 potential long-term storage sites were selected for inclusion in the Proposed Project:

- Maerkle Dam Reservoir/Squires II Reservoir
- South Lake
- Whelan Lake

## **2.0 SCOPE OF STUDY**

The scope of this assessment encompasses the documentation of existing biological resources within the Proposed Project, and a preliminary analysis of potential impacts to these resources on a programmatic level. Specifically, included in this analysis are the short-term components including the new pipeline alignments for the proposed recycled and potable reuse system expansion; the new AWT/WRF plants; the existing AWT/WRF plants proposed for expansion; and the potential reservoir/hydro tanks. The remaining components of the Proposed Project are existing facilities with no proposed improvements, including the existing WRP/WWTP's, the existing reservoir/hydro tanks, the potable reuse sites, and the seasonal storage sites. Since these existing components will not result in any improvements that could potentially impact biological resources they were not included in this assessment. Therefore, should any improvements be required to these existing facilities in the future then additional biological assessments of those areas would be required. Long-term components of the Proposed Project were



also not assessed in this analysis and would be subject to a separate assessment of biological resources.

The assessment described in this letter report began with a literature review. The results of the literature review provided information on species occurrences within the vicinity, laws and regulations, and additional background information such as soils, topography, and local land uses. Following the literature review, a general biological field survey was conducted, which included mapping plant communities, and conducting sensitive species habitat assessments, sensitive plant communities assessments, and preliminary jurisdictional assessments. Impacts were analyzed on a programmatic level for the Proposed Project, and recommendations are provided regarding measures to reduce any resulting significant adverse impacts. This document addresses potential impacts pursuant to the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), USFWS, CDFW, U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), the MHCP and the MSCP plans, under currently accepted scientific, technical, and professional standards.<sup>13</sup> While general biological resources are discussed in a comprehensive manner, the focus of this assessment is on those resources considered to be sensitive.

### **3.0 METHODOLOGY**

As described in section 2.0 above, this assessment included an analysis of the Proposed Project components encompassing new pipelines or expansions of existing facilities. Existing pipelines and facilities not proposed for expansion or improvements of any kind were not included in this assessment. It should also be noted that this analysis is a programmatic level assessment and did not include focused species surveys or formal jurisdictional delineations of regulated waters. As such, project-specific assessments may be required to further analyze sensitive biological resources through focused studies and/or to confirm the presence or absence of biological resources where these have been identified in this report. Furthermore the potential for biological resources was first assessed using aerial imagery due to the wide reaching geographical extent of the study area, and project components crossing undeveloped areas with potentially sensitive biological resources were identified for further study in the field; the remaining components were identified or assumed to occur entirely within developed areas and were not field assessed. However, if these project components change or extend beyond the developed areas during project-level design then additional field assessments would be required.

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<sup>13</sup> Individual City subarea plans were not directly considered in this assessment based on the extensive geographical area covered by the Proposed Project and the programmatic nature of this study. However, the City and County subarea plans are based on the subregional plans and are therefore consistent with regard to definitions of sensitive biological resources. As such, the analysis in this report is considered sufficient to address potential biological concerns pursuant to the MHCP and MSCP on a programmatic level; detailed MHCP and MSCP compliance would be addressed during the project-specific analysis.



### **3.1 Literature Review**

The assessment began with a review of relevant literature on the biological resources of the Proposed Project and the surrounding vicinity. Initially, available databases were queried for all pertinent information regarding the locations of known observations of sensitive species within the USGS quadrangles in which the study area is located as well as those in the surrounding region. These databases included the California Natural Diversity Database (CNDDDB)<sup>14</sup>, which is a CDFW sensitive resources account database, the USFWS species account database, and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants.<sup>15</sup> Also considered were the locations of USFWS designated critical habitat for federal listed species and applicable MHCP and MSCP species lists, most of which are also recognized by CNDDDB and CNPS. Federal register listings, survey protocols, and additional species data provided by the USFWS and CDFW were reviewed in conjunction with anticipated federally- and State-listed species potentially occurring within the study area. In addition, regional flora and fauna field guides were used to assist in the identification of species and suitable habitats. Combined, the sources reviewed provided the baseline from which to inventory the biological resources potentially occurring within the study area.

Using GIS data and the project description provided by RMC Water and Environment, Inc., a desk study was conducted by overlaying the locations of all short-term proposed pipeline alignments and supporting infrastructure components of the Proposed Project onto aerial imagery to study their locations and determine the potential for biological resources. The majority of the components follow existing roadways or lie within existing facilities; the project description states that proposed pipelines would be installed in existing public rights-of-way (ROWs) and newly acquired easements (where necessary) and would be buried except for circumstances such as channel bridge crossings. Potential areas of interest, herein referred to as “Biological Areas” for the purpose of this report, were identified where components were located in undeveloped land or outside of an existing ROW, that appeared to have some degree of natural quality such as intact plant communities or habitats that could potentially support sensitive species, sensitive plant communities, or riparian/aquatic resources under the jurisdiction of the USACE, RWQCB or CDFW. Alignments and/or facilities that followed ROWs or were within developed areas (e.g., industrial areas, residential developments, orchards, vineyards), were not selected as Biological Areas as the assumption was that the pipeline alignments and/or non-linear components (e.g., facilities) would fall within the ROWs. However, native plant communities or drainage features adjacent to these areas that could support potentially

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<sup>14</sup> California Department of Fish and Wildlife, Natural Diversity Database. <https://nrmsecure.dfg.ca.gov/>. Website accessed May, 2014. RareFind: Database Record Search for Information on Threatened, Endangered, Rare, or Otherwise Sensitive Species and Communities.

<sup>15</sup> California Native Plant Society. Website accessed, 2014. <http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/Home> Online Inventory of Rare and Endangered Plants of California. California Native Plant Society.



support sensitive species, sensitive plant communities, or riparian/aquatic resources under the jurisdiction of the USACE, RWQCB or CDFW were identified within a buffer area (100 feet on either side for alignments and 250 feet for non-linear components). The desk study identified 25 Biological Areas with a potential to support biological resources that could be impacted by the Project. Four of these areas were ruled out as Biological Areas during the fieldwork based on recent development that was not evident on the available aerial imagery, resulting in a total of 21 Biological Areas that were studied in detail. The locations of the 21 Biological Areas are depicted on **Figure 6**, Overview of Biological Areas. The Biological Areas are numbered 1-3, 7, 9-15, 16/17, and 18-25. The gaps in the sequencing of the numbers are due to the four Biological Areas that were subsequently ruled out (specifically Biological Areas 4, 5, 6 and 8 were ruled out).

### **3.2 Plant Community Mapping**

Much of the Proposed Project occurs within developed urban settings where native plant communities pertinent to this analysis are non-existent and consequently these areas were not mapped or assessed in the field. Any potential sensitive plant communities adjacent to the urban/developed areas were noted during the literature review. A general biological field survey was conducted by PCR biologists Bob Huttar and Amy Lee on May 25 and 26, 2014 to assess the potential for the Biological Areas to support sensitive plant and wildlife species; sensitive habitats; or USACE, RWQCB or CDFW jurisdictional areas. Coverage was ensured using color aerial photographs, with special attention given to sensitive habitats or those areas potentially supporting sensitive flora or fauna. Biological Area 20 could not be surveyed on foot as it was determined to be on private property during the field assessment; as such, the area was surveyed with the use of binoculars to the greatest extent feasible, in addition to aerial imagery. Plant communities in the Biological Areas were mapped with the aid of 1 inch = 250 feet and 1 inch = 275 feet scale aerial photographs. The project description for the Proposed Project identifies a standard construction ROW of up to 40 feet for linear improvements. To allow for future adjustments in the position of alignments and to accommodate construction support activities, a buffer of approximately 100 feet on either side of the linear alignments, for a total of 200 feet, was surveyed in the Biological Areas. More extensive disturbance areas were assumed for construction of non-linear components, such as storage tanks, which could require slope stabilization and grading; as such, a larger buffer area of approximately 250 feet was surveyed in those locations. Plant community boundaries were delineated directly onto the aerial photographs while in the field and later digitized into PCR's Geographic Information System (GIS) for mapping purposes. Plant community names and hierarchical structure are based on PCR findings and descriptions contained in Oberbauer's





Vegetation Communities of San Diego County.<sup>16</sup> Scientific names are employed upon initial mention of each species; common names are employed thereafter.

### **3.3 Wildlife Movement**

The analysis of wildlife movement is based on information compiled from literature, previous documentation from studies conducted within the region,<sup>17</sup> analysis of aerial photographs and topographic maps, and direct observations made in the field. The relationship of the study area to large open space areas in the immediate vicinity was evaluated in terms of connectivity and habitat linkages. The focus of this study is to determine if the alteration of current land use within the study area would have significant impacts on the regional movement of wildlife. This study did not include the use of track plates, camera stations, or scent stations. Instead, during the field visit locations of animal sign and potential travel routes and linkage areas were noted within the Biological Areas. Resource maps and aerial photographs for the vicinity were also studied. These conclusions are based on the knowledge of desired topography and resource requirements for wildlife potentially using the study area and vicinity.

### **3.4 Preliminary Jurisdictional Assessments**

Preliminary jurisdictional assessments were conducted during the survey to determine the presence of potentially jurisdictional drainages or wetlands regulated by the USACE, RWQCB, and/or CDFW. Features observed in the study area that would be potentially regulated were included as Biological Areas and were noted and mapped on an aerial photograph. It should be noted that since this is a programmatic level approach the identification of potentially jurisdictional waters to assess in this analysis was based solely on aerial imagery; it is possible that small drainage features or wetlands not discernable on aerial imagery are present outside of the Biological Areas. Furthermore, formal jurisdictional delineations were not conducted and would be required at the project-level analysis in areas supporting potential jurisdictional waters or wetlands.

### **3.5 Sensitive Biological Resources**

The presence of protected, regulated, or otherwise sensitive plant or wildlife species and natural plant communities occurring or potentially occurring within the study area is based on an evaluation of the habitat present and the known locations of sensitive resources within the vicinity of the study area. The sensitive plant and wildlife species discussed herein have been afforded special recognition by federal, State, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes usually resulting from habitat loss. These

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<sup>16</sup> Oberbauer, T. March 2008. *Draft Vegetation Communities of San Diego County*. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California", Robert Holland, Ph.D., October 1986

<sup>17</sup> South Coast Wildlands Project. 2000. *Missing Linkages: Restoring Connectivity to the California Landscape*.



include threatened or endangered species that are protected under the provisions of the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA), CNPS listed plants with a CPRP of 2 or less, and CNDDDB species listed as California species of special concern. Natural plant communities that are identified for conservation by CDFW and within the MHCP and/or MSCP are considered “sensitive” based on the rarity of these habitats and/or potential to support sensitive plant or wildlife species. For this reason these sensitive natural plant communities may also be referred to as “sensitive habitat areas”. A list of sensitive natural plant communities identified in the Biological Areas for the Proposed Project is provided in section 4.4. below.

#### **4.0 EXISTING CONDITIONS**

The study area lies within a region that encompasses nearly 200 square miles. Elevations on the study area range from sea level to approximately 960 feet above mean sea level (MSL) in the east. The majority of the study area follows linear alignments, with the addition of other components such as storage tanks and treatment facilities. The alignments for the most part follow existing roadways surrounded by a variety of residential, commercial, industrial developments, and urban parks. Many of the non-linear components are also located in existing water treatment facilities, urban developed areas, or were under development at the time of the survey. Undeveloped portions of the alignments are comprised of a wide variety of habitat conditions which are discussed below.

##### **4.1 Plant Communities**

The majority of the study area covers the linear portion of the Project following city streets and other developed areas with no remaining native plant communities. As such, vegetation maps of those areas were not prepared. Those areas of the study area that had some degree of natural or semi-naturalized plant communities were studied in further detail and mapped, specifically the 21 Biological Areas identified in section 3.1, *Literature Review*, above.

Descriptions of plant communities encountered in the study area are detailed below and include the identifier code from Oberbauer’s 2008 *Draft Vegetation Communities of San Diego County* (see section 3.2 of this report). Several communities found in the study area are categorized as sensitive by CDFW in the CNDDDB, the MHCP, the draft North County MSCP, and/or the South County MSCP plans, as noted in the descriptions below. There are differences in the vegetation classification systems between CDFW, Oberbauer, and the habitat conservation plans (the MHCP and the MSCP plans), and a conservative inclusive approach was taken to insure omissions did not occur. An example would be the handling of coastal sage scrub. The MHCP and MSCP plans both recognize one community by that name while Oberbauer does not list a community by that name and instead labels it Diegan coastal sage scrub, and further sub-divides it with several variations such as Diegan coastal sage scrub: Baccharis- dominated. In this analysis all variations were included.



### **Diegan Coastal Sage Scrub 32500**

Diegan Coastal Sage Scrub is the local expression of the more widespread Coastal Sage Scrub of California. This community is characterized by low to moderately sized shrubs adapted to a Mediterranean regime of summer drought and winter rains by being active during the rainy season. Typically found on low moisture-availability sites with clay rich soils, this community intergrades at higher elevations with chaparral. Characteristic species include California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) together with laurel sumac (*Malosma laurina*), white sage (*Salvia apiana*) and black sage (*Salvia mellifera*). This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the MHCP and MSCP plans.

### **Diegan Coastal Sage Scrub: Baccharis-dominated 32530**

This community is similar to Diegan coastal sage scrub but dominated by coyote bush (*Baccharis pilularis*) and is usually found on disturbed or nutrient-poor soils. This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the MHCP and MSCP plans.

### **Northern Mixed Chaparral 37130**

The northern mixed chaparral plant community is dominated by a variety of woody shrubs, from 6 to 12 feet in height, with small, hard, evergreen leaves. The vegetation is dense and nearly impenetrable and there is usually little to no understory. The dominant plant types include chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus berberidifolia*), several types of lilac (*Ceanothus* spp.), and manzanita (*Arctostaphylos* spp.). This community is targeted for conservation in the MHCP and MSCP plans.

### **Chamise Chaparral 37200**

Chamise chaparral is a chaparral community composed almost exclusively of chamise with few, if any, other shrub species present and with little or no understory. This community is targeted for conservation in the MHCP and MSCP plans.

### **Southern Maritime Chaparral 37030**

Southern maritime chaparral is a fairly low and open chaparral only found in weathered sands within the coastal fog belt. It is dominated by wart-stemmed ceanothus (*Ceanothus verrucosus*) and Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*). This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the MHCP and MSCP plans.



### **Coastal Sage-Chaparral Transition 37G00**

Coastal sage-chaparral transition is a mix of sclerophyllous, woody chaparral species and drought-deciduous, malacophyllous sage scrub species. Chamise and California sagebrush are dominant. This community is targeted for conservation in the MHCP and MSCP plans.

### **Southern Coastal Salt Marsh 52120**

Southern coastal marsh scrub is a riparian community with suffrutescent species found in bays, lagoons, and estuaries along the coast from about Point Conception to the Mexican border. The vegetation is often dense, forming a completely closed canopy. This community is dominated by alkali heath (*Frankenia salina*) and Parish's glasswort (*Arthrocnemum subterminale*). This community is targeted for conservation in the MHCP and MSCP plans.

### **Coastal and Valley Freshwater Marsh 52400**

Coastal and valley freshwater marsh, a riparian community, is usually permanently flooded by fresh water and is dominated by perennial, emergent monocots up to 15 feet in height. The vegetation is often dense, forming a completely closed canopy. This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the MHCP and MSCP plans.

### **Mule Fat Scrub 63310**

Mule fat scrub, a riparian community, is associated with intermittent stream channels and is dominated by mule fat (*Baccharis salicifolia*). Most stands are too dense to allow much understory development.

### **Southern Willow Scrub 63320**

Southern willow scrub, a riparian community, is associated with streams and creeks and is comprised of dense thickets of broadleaved, winter-deciduous shrubs and trees dominated by several types of willow (*Salix* spp.), with scattered emergent Fremont cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. This community is categorized as a sensitive community in the CNDDDB, and targeted for conservation in the MHCP and MSCP plans.

### **Fresh water 64140**

Fresh water, or open water, is comprised of year round bodies of fresh water of low salinity in the form of lakes and ponds that have a less than 10 percent cover of vegetation.



### **Coast Live Oak Woodland 71160**

This woodland is dominated by coast live oak (*Quercus agrifolia*), an evergreen oak that reaches 30 to 75 feet in height. The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac, or blue elderberry (*Sambucus nigra* ssp. *caerulea*). In areas with a history of grazing the understory can be continuous and dominated by non-native brome grasses (*Bromus* spp.) and several other introduced and invasive broadleaf species. This community is targeted for conservation in the MHCP and MSCP plans.

### **Non –Native Grassland 42200**

Non-native grassland has a sparse to dense cover of invasive annual grasses such as brome grasses (*Bromus* spp.) and slender oat (*Avena barbata*) and is overall less than 3 feet in height. The community can also support non-native and native broadleaved annual plants including mustards (*Brassica* spp.) and lupines (*Lupinus* spp.). This community is equivalent to annual grassland, a habitat targeted for conservation by the MHCP and MSCP plans.

### **Disturbed Habitat 11300**

Disturbed areas have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association. Disturbed areas often consist of dirt roads, unvegetated areas with compacted bare ground, or areas of sparse vegetation with evidence of recent human activities limiting natural processes from occurring. Typically, if vegetation is present it is nearly always composed of non-native plant species such as ornamentals, ruderal species or exotic species that take advantage of disturbance.

### **Urban/Developed 12000**

Developed areas have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Examples include roads, buildings, graded areas, and places covered by large amounts of debris or other materials.

### **Orchards and Vineyards 18100**

Orchards and vineyards include areas supporting fruit trees and vines under cultivation as well as minor dirt roads giving direct access to the trees and vines. The area is typically dominated by one (or several) tree or shrub species. Understory growth of both vineyards and orchards often includes short grasses and other herbaceous plants volunteering between rows.



## **4.2 Wildlife Movement**

### **4.2.1 Overview**

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because such conditions preclude the infusion of new individuals and genetic information into isolated populations.<sup>18</sup>

Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “metapopulation.” The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increase overall genetic diversity. An increase in a population’s genetic variability is generally associated with an increase in a population’s health and long-term viability.

Corridors mitigate the effects of habitat fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.<sup>19</sup>

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<sup>18</sup> MacArthur, R. M. and E. O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton University Press: Princeton, New Jersey. Soule, M. E. 1987. *Viable Populations for Conservation*. Sinaur Associates Inc., Publishers, Sunderland, MA. Harris, L. D. and P. B. Gallagher. 1989. *New initiatives for wildlife conservation: the need for movement corridors*. Pages 11-34 in G. Mackintosh, ed. *Preserving communities and corridors. Defenders of Wildlife*. Washington D.C. 96 pp. Bennett, A. F. 1990. *Habitat corridors and the conservation of small mammals in a fragmented forest environment. Landscape Ecol.* 4:109-122.

<sup>19</sup> Noss, R. F. 1983. *A regional landscape approach to maintain diversity. BioScience.* 33:700-706. Fahrig, L. and G. Merriam. 1985. *Habitat Patch Connectivity and Population Survival. Ecology.* 66:1762-1768. Simberloff, D. and J. Cox. 1987. *Consequences and costs of conservation corridors. Conserv.Biol.* 1:63-71. Harris, L. D. and P. B. Gallagher. 1989. *New initiatives for wildlife conservation: the need for movement corridors*. Pages 11-34 in G. Mackintosh, ed. *Preserving communities and corridors. Defenders of Wildlife. Washington D.C.* 96 pp.



Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as “travel route,” “wildlife corridor,” and “wildlife crossing” to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

**Travel route:** A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relative direct link between target habitat areas.

**Wildlife corridor:** A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species.

**Wildlife crossing:** A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are man-made and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along a movement corridor.

#### **4.2.2 Wildlife Movement within the Study Area**

Although the nature of each of the types of movement are species specific, large open spaces will generally support a diverse wildlife community representing all types of movement. Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds, on a local level to many square mile home ranges of large mammals moving at a regional level.

Due to its large geographic size the study area likely supports the movement of numerous types of wildlife. Several linkages are identified as South Coast Missing Linkages in a report



published by the South Coast Wildlands.<sup>20</sup> In addition, the MHCP and MSCP plans identify the presence of wildlife linkages. Several east to west trending creeks and rivers, notably the San Luis Rey and San Dieguito Rivers, provide riparian corridors reaching far inland from their mouths at the Pacific Ocean. A network of roads and highways supporting the residential and commercial developments currently provides a potential barrier restricting the movement of terrestrial wildlife. Few areas of any size within the study area are undeveloped. Ornamental and other vegetation covers much of the area and provides habitat for many bird species.

Wildlife movement on a smaller or local scale likely occurs throughout the study area for the Proposed Project and the surrounding vicinity. The majority of the Proposed Project area is developed and therefore provides limited habitat for wildlife adapted to urban settings in the ornamental trees planted within residential areas and parks, the citrus and avocado trees in the orchards, and along streets. Native scrub provides live-in and foraging habitat for a variety of wildlife species as does, to a limited extent, the disturbed areas found throughout the study area where weedy, opportunistic plant species briefly establish and provide some foraging and cover for wildlife.

### **4.3 Potentially Jurisdictional Areas**

Based on a review of aerial photography and field reconnaissance, numerous drainage features were observed within the study area that potentially would be regulated by the USACE, RWQCB, and/or CDFW. In the majority of cases where these jurisdictional features cross the planned alignment the route is associated with a paved road allowing passage via culverts or bridging structures; as such these areas were not included as Biological Areas. In some cases the alignment traverses open, undeveloped land with potential drainage features and these areas were included as Biological Areas. In the course of this analysis a total of 10 potential jurisdictional areas of this type were identified in 9 locations and are described in greater detail below in section 4.5.2 *Biological Areas*.

### **4.4 Sensitive Biological Resources**

#### **4.4.1 Sensitive Plant Communities/Habitats**

The sensitive plant communities are defined by the CDFW, i.e., plant communities considered a CNDDDB high inventory priority community, and as plant communities to be conserved by the MHCP and MSCP plans. The MHCP plan adopts a habitat group approach and the North County and South County MSCP plans adopt a tiered approach to identify conservation priorities and mitigation ratios for plant communities. Several types of sensitive plant communities were

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<sup>20</sup> *South Coast Wildlands Project. 2000. Missing Linkages: Restoring Connectivity to the California Landscape*





identified in the Biological Areas as listed below, including upland communities (i.e., the sage scrub, chaparral, oak woodland and non-native grassland communities) and riparian communities (i.e., southern willow scrub and fresh water marsh). The locations of the sensitive plant communities are shown in **Figures 7 through 26**, *Biological Areas*, and are described further below in section 4.5.2 *Biological Areas*.

***CNDDDB Sensitive Plant Communities***

- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub: Baccharis dominated
- Fresh Water Marsh
- Southern Maritime Chaparral
- Southern Willow Scrub

***MHCP and MSCP Conserved Plant Communities***

- Coastal Sage-Chaparral Transition– MHCP Habitat Group C, MSCP Tier II
- Diegan Coastal Sage Scrub – MHCP Habitat Group C, MSCP Tier II
- Diegan Coastal Sage Scrub: Baccharis dominated – MHCP Habitat Group C, MSCP Tier II
- Northern Mixed Chaparral – MHCP Habitat Group D, MSCP Tier III
- Chamise Chaparral – MHCP Habitat Group D, MSCP Tier III
- Fresh Water Marsh – MHCP Habitat Group A, MSCP Tier I
- Southern Coastal Salt Marsh – MHCP Habitat Group A, MSCP Tier I
- Southern Maritime Chaparral – MHCP Habitat Group B, MSCP Tier I
- Southern Willow Scrub – MHCP Habitat Group A, MSCP Tier I
- Mulefat Scrub – MHCP Habitat Group A, MSCP Tier I
- Coast Live Oak Woodland – MHCP Habitat Group B, MSCP Tier I
- Non-native (Annual) Grassland – MHCP Habitat Group E, MSCP Tier III



#### 4.4.2 Sensitive Plant Species

Plant species identified from the database searches as occurring in the vicinity of the study area were considered sensitive if they were listed in the CNDDDB, had a CNPS California Rare Plant Rank (CRPR) of 2 or less, and/or if they were federally or state listed as threatened or endangered under FESA or CESA, respectively. Species identified by the MHCP, South County MSCP, and in the draft North County MSCP but not listed in the CNDDDB list are also considered sensitive. The list of potential sensitive species is extensive and those meeting these criteria are listed in **Appendix A**, *Sensitive Species Considered*.

Two species are of particular interest due to the presence of suitable habitat:

- Nevins barberry (*Berberis nevinii*) - federal endangered, State endangered, CRPR 1B.1,<sup>21</sup> South County MSCP narrow endemic, draft North County MSCP targeted conserved, and found in scrub and chaparral
- Encinitas baccharis (*Baccharis vanessae*) - federal threatened, State endangered, CRPR 1B.1, MHCP narrow endemic, South County MSCP narrow endemic, North County MSCP targeted conserved, and found in southern maritime chaparral.

No suitable habitat, i.e., vernal (seasonal) pool, was found for thread-leaved brodiaea (*Brodiaea filifolia*), a species that is federal threatened, State endangered, USFWS Critical Habitat, CRPR 1B.1, MHCP narrow endemic, South County MSCP narrow endemic, North County MSCP targeted conserved. Critical Habitat for this species overlays the study area where Alignment: El Corazon Site to El Camino CC, WRP: El Corazon Site, Agency: Oceanside would use El Camino Real, an existing road, which was not identified as a Biological Area.

No sensitive plant species were observed during the general field survey, and no focused sensitive plant surveys were conducted.

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<sup>21</sup> CNPS has developed five categories rarity in the California Rare Plant Rank (CRPR): List 1A - Presumed extinct in California; List 1B - Plants Rare, Threatened, or Endangered in California and elsewhere; List 2 - Plants Rare, Threatened, or Endangered in California, but more common elsewhere; List 3 - Plants about which we need more information – a review list; and List 4 - Plants of limited distribution – a watch list. The CNPS recently added “threat ranks” which parallel the ranks used by the CNDDDB. These ranks are added as a decimal code after the CRPR (e.g., List 1B.1). The threat codes are as follows: .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); and .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).



#### **4.4.3 Sensitive Wildlife Species**

Wildlife species identified from the database searches as occurring in the vicinity of the study area were considered sensitive if they were listed as federally or state endangered or threatened under the FESA or CESA, candidates for listing by the USFWS or CDFW, or State species of special concern. Species identified by the MHCP, South County MSCP and in the draft North County MSCP but not listed in the CNDDDB list are also considered sensitive. All sensitive wildlife species meeting these criteria are listed in **Appendix A**, *Sensitive Species Considered*.

A wide variety of sensitive species have the potential to occur in the study area and are assumed to have a potential to occur within sensitive habitats described above in section 4.4.1 *Sensitive Plant Communities/Habitats*. Due to the programmatic context of this assessment and the extensive list of sensitive wildlife in the study area (see Appendix A), a detailed analysis of each species was not feasible. However, a list of the species of particular interest that were considered, in addition to their listing status and presence of potential habitat in the study area, is provided below based on the plant communities observed in the study area and available information including the covered species/target species in the MHCP and MSCPs.

##### **Birds**

- Coastal California Gnatcatcher: federal threatened, State species of special concern, MHCP, South County MSCP, draft North County MSCP. Suitable habitat for the coastal California gnatcatcher includes coastal sage scrub. Potential habitat observed.

USFWS established Critical Habitat for this species currently overlays Biological Areas Nos. 2, 3, 9, 10, 11, and 12. Critical Habitat also overlays the study area in several other locations where the alignment would use existing roadways, which were not identified as Biological Areas.

- Least Bell's Vireo: federal endangered, State endangered bird, MHCP, South County MSCP, draft North County MSCP Suitable habitat for the least Bell's vireo includes riparian habitats. Potential habitat observed.

USFWS established Critical Habitat for this species is mapped along a portion of Alignment: SLR WWTP Rocket Farm Herbs Ph1, WRP: San Luis Rey WWTP, Agency: Oceanside where it would use River Road as it approaches the San Luis Rey River in Oceanside. However, due to the otherwise developed condition of this section of the alignment it was not identified as a Biological Area.

- Southwestern Willow Flycatcher (*Empidonax traillii extimus*): federal endangered, State endangered bird, MCHP, South County MSCP, draft North County MSCP.



Suitable habitat for the southwestern willow flycatcher includes riparian and open water. Potential habitat observed.

Critical Habitat for this species overlays the study area in several locations where the alignment would use existing roadways, which were not identified as Biological Areas.

- Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*): State endangered bird, South County MSCP and the draft North County MSCP. Suitable habitat for the western yellow-billed cuckoo includes mature riparian habitat. Potential habitat observed.
- Burrowing Owl (*Athene cunicularia*): Species of special concern bird, South County MSCP, draft North County MSCP. Suitable habitat for the burrowing owl includes non-native grassland. Potential habitat observed.
- California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*): Species of special concern bird, MHCP, South County MSCP, draft North County MSCP. Suitable habitat for the California rufous-crowned sparrow includes chaparral habitat. Potential habitat observed.
- Bell's Sage Sparrow (*Amphispiza belli belli*); Species of special concern, MHCP. Suitable habitat for the Bell's sage sparrow includes coastal sage scrub and chaparral. Potential habitat observed.
- Other Species: In addition to the above species, all migratory nesting birds are afforded protection under the federal Migratory Bird Treaty Act (MBTA) and by the CDFW. The study area has the potential to support migratory bird species, including both raptor and songbirds, due to the presence of many trees in the developed and landscaped roads and communities.

### **Reptiles**

- Southwestern Pond Turtle (*Clemmys marmorata pallid*): Species of special concern, MHCP, South County MSCP, draft North County MSCP. Suitable habitat for the southwestern pond turtle includes open water. Potential habitat observed (limited).
- San Diego Horned Lizard (*Phrynosoma coronatum*): Species of special concern, South County MSCP, draft North County MSCP. Suitable habitat for the San Diego horned lizard includes chaparral. Potential habitat observed.
- Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*): Species of special concern, MHCP, South County MSCP, draft North County MSCP. Suitable habitat



for the orange-throated whiptail includes coastal sage scrub and chaparral. Potential habitat observed.

### **Amphibians**

- Arroyo Toad (*Anaxyrus californicus*): Federal endangered, species of special concern, South County MSCP, draft North County MSCP. USFWS Critical Habitat. Suitable habitat for the arroyo toad includes riparian habitat. Potential habitat observed (limited).

Critical Habitat for this species overlays the study area in several other locations where the alignment would use existing roadways, which were not identified as Biological Areas.

### **Mammals**

- Pacific Pocket Mouse (*Perognathus longimembris pacificus*): Federal endangered species of special concern, South County MSCP. Suitable habitat for the pacific pocket mouse includes coastal sage scrub. Potential habitat observed.
- Stephen's Kangaroo Rat (*Dipodomys stephensi*): Federal endangered, MHCP, draft North County MSCP. Suitable habitat for the Stephen's kangaroo rat includes non-native grassland and coastal sage scrub. Potential habitat observed.
- San Diego Desert Woodrat (*Neotoma lepida intermedia*): species of special concern. Suitable habitat for the San Diego desert woodrat includes coastal sage scrub and chaparral. Potential habitat observed.
- Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*): species of special concern, MHCP. Suitable habitat for the northwestern San Diego pocket mouse includes coastal sage scrub. Potential habitat observed.
- San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*): Species of special concern, MHCP, draft North County MSCP. Suitable habitat for the San Diego black-tailed jackrabbit includes coastal sage scrub and non-native grasslands. Potential habitat observed.

## **4.5 Biological Resources**

As stated earlier in this report, during the literature review it was determined that the majority of the study area falls within urban/developed areas, and consequently the biological considerations were limited to consideration of nesting and migrating songbirds and raptors. Some



portions of the study area, referred to as Biological Areas, are undeveloped and appeared to have biological resources and therefore potential project considerations, in addition to those for nesting and migrating birds, and these areas received further investigation. Biological resources in the urban/developed areas and the Biological Areas are described further below. A summary of all the Proposed Project components that will require construction or improvements and their potential for sensitive biological resources is also provided in **Table A**, *Sensitive Biological Resources Summary*. Potential sensitive biological resources identified adjacent to the urban/developed areas were noted during the literature review and are presented in Table A.

#### **4.5.1 Urban/Developed Areas**

Based on the desk study the majority of the study area is located within urbanized areas and consists of paved or otherwise developed areas within existing road ROWs, existing water treatment facilities including storage tanks and reservoirs, and areas currently under development. Also included in this category were agricultural operations such as orchards and row crops and otherwise heavily disturbed areas. The habitats in this category are most heavily influenced by anthropogenic factors and offer limited natural resources. For the purposes of this report the primary biological resource considered in these areas was the potential for nesting and migratory birds in the habitat created by ornamental or planted native vegetation.

In some locations where the alignment was located on roads in developed areas, potential natural habitat was identified from aerial imagery adjacent to the developed areas. These areas are identified in **Table A** and should be considered if impacts are proposed outside the developed areas in the future when the alignments become finalized during project-level design. In addition these areas would require separate biological analysis as they are not included in this assessment; wherever natural habitat exists it has the potential to support sensitive and special status biological resources.

In three places within the draft North County MSCP the alignment passes through, or within 40 feet of, non-native grassland. These locations were not identified as Biological Areas due to the limited extent of these communities, which was determined to be too small to provide suitable habitat for sensitive species such as burrowing owl. These three areas included:

- Alignment: Harmony Grove Area, WRP: Hale Ave RRF, Agency: Rincon DD, north of Escondido Creek crossing,
- Alignment: Hale Ave. RRF – Rincon Business Park, WRP: Hale Ave. RRF, Agency: Rincon DD, east of Country Club Boulevard beneath power lines on the north side of the alignment, and
- Alignment: To Eden Hill Development (Rincon), WRP: Hale Ave. RRF, Agency: Rincon DD, north side of Hill Valley Drive.



#### **4.5.2 Biological Areas**

Descriptions of the findings in each of the 21 Biological Areas are provided below. The Biological Areas studied here are numbered 1-3, 7, 9-15, 16/17, and 18-25. The gaps in the sequencing of the numbers are due to areas of initial potential interest which were subsequently ruled out, for example where recent development projects not evident in the available aerial imagery had changed the areas.

##### **Biological Area 1 - Alignment: Gilligan Groves Extension - Ph2 lateral**

Group: G

WRP: San Luis Rey WWTP/SRTTP

Agency: City of Oceanside

The “Gilligan Groves Extension - Ph2 lateral” alignment traverses one drainage with existing southern willow scrub vegetation and passes close to the open water of a reservoir probably used by the extensive orchards in the area. A second potential drainage was seen on the western portion of the segment. The drainages are potentially CDFW, USACE and/or RWQCB jurisdictional (**Figure 7: Biological Area 1 - Alignment: Gilligan Groves Extension - Ph2 lateral**). This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) but not within any hardline or softline conservation areas. It supports three sensitive communities (southern willow scrub, Diegan coastal sage scrub, and coastal and valley freshwater marsh) that provide potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher, least Bell’s vireo and nesting birds (see **Table A**).

##### **Biological Area 2 - Alignment: El Corazon Site to Emerald Isle GC**

Group: G

WRP: San Luis Rey WWTP/SRTTP

Agency: City of Oceanside

The portion of the “El Corazon Site to Emerald Isle GC” alignment south of Mesa Drive is aligned with and crosses a drainage with flowing water associated with extensive southern willow scrub habitat. This drainage is potentially CDFW, USACE and/or RWQCB jurisdictional. California sagebrush (*Artemisia californica*) dominated Diegan coastal sage scrub exists on the alignment and a freshwater marsh was found approximately 150 feet north of the alignment (**Figure 8: Biological Area 2 - Alignment: El Corazon Site to Emerald Isle GC**). This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a hardline area requiring 90 percent to 100 percent conservation. It supports two sensitive communities (southern willow scrub, Diegan coastal sage scrub) that provide potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher, least Bell’s vireo and



nesting birds (see **Table A**). Least Bell’s vireo was heard on site during the field investigation. This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).

**Biological Area 3 - Alignment: El Corazon Site to El Camino CC**

Group: G

WRP: San Luis Rey WWTP/SRTTP

Agency: City of Oceanside

The southern terminus of the “El Corazon Site to El Camino CC” alignment crosses an open field of non-native grassland. A potential CDFW, USACE and/or RWQCB jurisdictional drainage was seen originating from a culvert at the eastern end of Via Las Rosas Street and was associated with low quality Diegan coastal sage scrub dominated by coast sunflower (*Encelia californica* (**Figure 9: Biological Area 3 - Alignment: El Corazon Site to El Camino CC**)). This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a softline area requiring less than 90 percent conservation. It supports one sensitive community (Diegan coastal sage scrub) that provides potentially suitable habitat for sensitive wildlife, including coastal California gnatcatcher and nesting birds (see **Table A**). This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).

**Biological Area 7 - Alignment: Junc 4 to Shadowridge existing pipe**

Group: O

WRP: Carlsbad WRF

Agency: Vista ID

The northern terminus of the “Junc 4 to Shadowridge existing pipe” alignment crosses moderately high quality Diegan coastal sage scrub and a small area of southern willow scrub, and ends adjacent to another small patch of southern willow scrub habitat associated with a drainage originating from a water basin approximately 500 feet to the north of the alignment (**Figure 10: Biological Area 7 - Alignment: Junc 4 to Shadowridge existing pipe**). The drainage is potentially CDFW, USACE and/or RWQCB jurisdictional. This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a hardline area requiring 90 percent to 100 percent conservation. It supports two sensitive communities (southern willow scrub, Diegan coastal sage scrub) that provide potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher and nesting birds (see **Table A**).





**Biological Area 9 - Alignment: Gafner WRP to OMWD Ex RW Pipe (portion also within Gafner WRP – Junction Y)**

Group: H (portion in Group A)

WRP: Gafner WRF (portion in Carlsbad WRF/Gafner WRF)

Agency: Olivenhain Metropolitan Water District (portion in Carlsbad Metropolitan Water District)

Where these alignments approach La Costa Avenue from the south they cross the extensive southern willow scrub and coastal and valley freshwater marsh complex associated with the junction of Encinitas Creek and Bataquitos Lagoon. This area is potentially CDFW, USACE and/or RWQCB jurisdictional. Evidence of habitat restoration effort was also found on this section of the alignment where it elevates to meet a housing development; the vegetation becomes high quality Diegan coastal sage scrub in this area, dominated in some places by coyote bush (*Baccharis pilularis*) (**Figure 11: Biological Area 9 - Alignment: Gafner WRP to OMWD Ex RW Pipe (portion also within Gafner WRP – Junction Y)**). This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) in both a hardline area requiring 90 percent to 100 percent conservation and a softline area requiring less than 90 percent conservation. It supports five sensitive communities (southern willow scrub, Diegan coastal sage scrub, Diegan coastal sage scrub: *Baccharis* dominated, and coastal and valley freshwater marsh) that provide potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher, least Bell’s vireo and nesting birds (see **Table A**). This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).

**Biological Area 10 - Alignment: Gafner WRP to OMWD Ex RW Pipe**

Group: H

WRP: Gafner WRF

Agency: Olivenhain Metropolitan Water District

For a distance of approximately 0.7 mile north of Calle Barcelona the “Gafner WRP to OMWD Ex RW Pipe” alignment follows the boundary between a wide valley on the east, which follows Encinitas Creek, and a residential development on the west. The habitat adjacent to the alignment is restored Diegan coastal sage scrub dominated by coyote bush and at the base of the slope, approximately 40 feet from the alignment, is southern willow scrub. The alignment does not cross Encinitas Creek (**Figure 12: Biological Area 10 - Alignment: Gafner WRP to OMWD Ex RW Pipe**). This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a hardline area requiring 90 percent to 100 percent conservation. It supports two sensitive communities (southern willow scrub, Diegan coastal sage scrub: *Baccharis* dominated) that provide potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher, least Bell’s vireo and nesting birds (see



**Table A).** This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).

**Biological Area 11 - Alignments: SEJPA – OMWD Connection and Wanket Tank to OMWD Ex Line**

Group: H

WRP: San Elijo WRF/Gafner WRF

Agency: Olivenhain Metropolitan Water District

The section located north of Leucadia Boulevard crosses a dissected slope covered with chamise chaparral dominated by chamise (*Adenostoma fasciculatum*). There are no drainages in this portion of the alignment (**Figure 13: Biological Area 11 - Alignments: SEJPA – OMWD Connection and Wanket Tank to OMWD Ex Line**). This area is not within the draft North County MSCP or the South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a hardline area requiring 90 percent to 100 percent conservation. It supports one sensitive community (chamise chaparral) that provides potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher, and nesting birds (see **Table A**). This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).

**Biological Area 12 - Alignment: Village Park to Wiegand Tank and Facility: Wiegand Tank**

Group: H

WRP: Gafner WRF

Agency: Olivenhain Metropolitan Water District

In the vicinity of the Wiegand Tank the “Village Park to Wiegand Tank” alignment crosses a plateau and dissected slopes covered by high quality southern maritime chaparral. There are no drainages in this portion of the alignment (**Figure 14: Biological Area 12 - Alignment: Village Park to Wiegand Tank and Wiegand Tank**). This area is not within the draft North County MSCP or the South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a hardline area requiring 90 percent to 100 percent conservation. This area supports one sensitive community (southern maritime chaparral) that provides potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher and nesting birds (see **Table A**). This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).



**Biological Area 13 - Alignment: Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)**

Group: K

WRP: San Elijo WRF

Agency: Santa Fe ID

Near its eastern terminus, the “Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)” alignment crosses the San Dieguito River and its associated southern willow scrub habitat that is potentially CDFW, USACE and/or RWQCB jurisdictional [**Figure 15: Biological Area 13 - Alignment: Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)**]. This area is within the South County MSCP in a PAMA and unincorporated land in the Metro-Lakeside-Jamul segment (see **Figure 3**). It supports one sensitive community (southern willow scrub) that provides potentially suitable habitat for sensitive plants and wildlife, including least Bell’s vireo and nesting birds (see **Table A**).

**Biological Area 14 - Alignment: Harmony Grove Area**

Group: I

WRP: Hale Ave RRF

Agency: Rincon del Diablo Metropolitan Water District

Between Country Club Drive and Johnston Road an east-west oriented portion of the “Harmony Grove Area” alignment crosses extensive high quality Diegan coastal sage scrub as well as smaller amounts of northern mixed chaparral and non-native grassland. No drainages were observed on this portion of the alignment (**Figure 16: Biological Area 14 - Alignment: Harmony Grove Area**). This area falls within the draft North County MSCP in a PAMA and Pre-negotiated (Hardlined) Take Authorized Area (see **Figure 2**), and within a hardline area of the MHCP requiring 90 percent to 100 percent conservation (**Figure 4**). It supports three sensitive communities (Diegan coastal sage scrub, northern mixed chaparral scrub, and non-native grassland) that provide potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher and nesting birds (see **Table A**).

**Biological Area 15 - Alignment: Harmony Grove (by developer)**

Group: J

WRP: Hale Ave RRF

Agency: Rincon del Diablo Metropolitan Water District

In the vicinity of Wilgen Drive the “Harmony Grove (by developer)” alignment follows a drainage, which supports low quality coast live oak woodland and coastal and valley freshwater marsh in the central and southern portions. This drainage is potentially CDFW, USACE and/or RWQCB jurisdictional. As the alignment progresses north the slope increases, the canyon narrows and the habitat transitions to a narrow strip of moderate quality Diegan coastal sage scrub [**Figure 17: Biological Area 15 - Alignment: Harmony**



*Grove (by developer)]*. This area falls within the draft North County MSCP in a Preserve Area, a pre-approved PAMA, an Outside PAMA, and a Pre-negotiated (Hardlined) Take Authorized Area (see **Figure 2**). It supports three sensitive communities (Diegan coastal sage scrub, coastal and inland freshwater marsh, and oak woodland). Suitable habitat for sensitive plants was observed and there is the potential for sensitive wildlife species such as coastal California gnatcatcher due to the presence of native sensitive habitats; this would be determined during project-specific studies (see **Table A**).

**Biological Area 16/17 - Alignment: VWD New Development**

Group: I

WRP: Hale Ave RRF

Agency: Rincon del Diablo Metropolitan Water District

Near the western terminus of the “VWD New Development” alignment where the Harmony Grove (by developer) alignment connects the route passes through a coast live oak woodland of low quality associated with the same drainage identified in Figure 15. The drainage is potentially CDFW, USACE and/or RWQCB jurisdictional. Scattered under the oaks are native willows (*Salix* spp.) as well as non-native tamarisk (*Tamarix ramosissima*) and pampas grass (*Cortaderia selloana*) (**Figure 18: Biological Area 16/17 - Alignment: VWD New Development**). This area falls within the draft North County MSCP in a Preserve Area and a Pre-negotiated (Hardlined) Take Authorized Area (see **Figure 2**). It supports two sensitive communities (Diegan coastal sage scrub and oak woodland). Suitable habitat for sensitive plants was observed and there is the potential for sensitive wildlife species such as coastal California gnatcatcher; this would be determined during project-specific studies (see **Table A**).

**Biological Area 18 - Alignment: To R1 Reservoir and Facility: R1 Reservoir**

Group: I

WRP: Hale Ave RRF

Agency: Rincon del Diablo Metropolitan Water District

The alignment To R1 Reservoir climbs a steep rocky slope covered by good quality northern mixed chaparral. There are no drainages in this portion of the alignment (**Figure 19: Biological Area 18 - Alignment: To R1 Reservoir and R1 Reservoir**), however the northern mixed chaparral scrub is a sensitive community. This area falls within the draft North County MSCP in Special District and a pre-approved PAMA (see **Figure 2**). Suitable habitat for sensitive plants was observed, and there is the potential for sensitive wildlife species due to the presence of native sensitive habitats; this would be determined during project-specific studies.



**Biological Area 19 - Alignment: Harmony Grove Area**

Group: I

WRP: Hale Ave RRF

Agency: Rincon del Diablo Metropolitan Water District

The “Harmony Grove Area” alignment crosses Escondido Creek and its associated southern willow scrub habitat near Citracado Parkway that is potentially CDFW, USACE and/or RWQCB jurisdictional. South of the crossing the alignment passes through non-native grassland and coast oak woodland interspersed with rock outcrops (**Figure 20: Biological Area 19 - Alignment: Harmony Grove Area**). This area falls within the draft North County MSCP in a pre-approved PAMA and an outside PAMA (see **Figure 2**), and in the MHCP but not within any hardline or softline areas requiring conservation. It supports three sensitive communities (southern willow scrub, oak woodland scrub and non-native grassland) that provide potentially suitable habitat for sensitive plants and wildlife, including least Bell’s vireo, burrowing owl and nesting birds (see **Table A**).

**Biological Area 20 - Alignment: Oak Memorial to East Ag Block**

Group: I

WRP: Hale Ave RRF

Agency: Rincon del Diablo Metropolitan Water District

Near the eastern terminus of the Harmony Grove Area alignment where it follows Mountain View Drive the route crosses undeveloped land on an incomplete portion of the road that was on private property and the survey team was unable to inspect it. From aerials the area appears to be disturbed habitat but may support coastal sage scrub species due to the close proximity of coastal sage scrub, in addition to native or non-native species of large shrubs (**Figure 21: Biological Area 20 - Alignment: Oak Memorial to East Ag Block**). This Biological Area lies within the South County MSCP in unincorporated land in the Metro-Lakeside-Jamul Segment (see **Figure 3**). It potentially supports a sensitive community (Diegan coastal sage scrub) that could provide suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher and nesting birds (see **Table A**).

**Biological Area 21 - Alignment: Oak Memorial to East Ag Block**

Group: C

WRP: Hale Ave RRF

Agency: City of Escondido

A potential drainage that descends to the east of Oak Hill Memorial Park cemetery originates in close proximity to the path of the “Oak Memorial to East Ag Block” alignment. This drainage is potentially CDFW, USACE and/or RWQCB jurisdictional. The habitat is generally a moderate quality coast live oak woodland but in the understory tall umbrella sedge (*Cyperus eragrostis*), a plant requiring moist conditions and often associated with



wetlands, was found (**Figure 22: Biological Area 21 - Alignment: Oak Memorial to East Ag Block**). This Biological Area lies within the South County MSCP in unincorporated land in the Metro-Lakeside-Jamul Segment (see **Figure 3**), and in the MHCP but not within any hardline or softline areas that require conservation (see **Figure 4**). Coast live oak woodland is a sensitive plant community. Suitable habitat for sensitive plants was observed and there is the potential for sensitive wildlife species due to the presence of native habitats; this would be determined during project-specific studies (see **Table A**).

### **Biological Area 22: Wanket Tank to OMWD Ex Line and Wanket Tank**

Group: H

WRP: Gafner WRF

Agency: Olivenhain Metropolitan Water District

The proposed Wanket Tank location is at the north end of the “Wanket Tank to OMWD Ex Line” alignment and is essentially in the same habitat as Biological Area 11, which is a dissected east facing slope covered with chamise chaparral (**Figure 23: Biological Area 22 - Wanket Tank to OMWD Ex Line and Wanket Tank**). This area is not within the draft North County MSCP or South County MSCP (see **Figures 2 and 3**); it is within the MHCP (**Figure 4**) and specifically a hardline area requiring 90 percent to 100 percent conservation. Chamise chaparral is a sensitive community that provides potentially suitable habitat for sensitive plants and wildlife, including coastal California gnatcatcher and nesting birds (see **Table A**). This Biological Area falls within the USFWS coastal California gnatcatcher Critical Habitat (see **Figure 5**).

### **Biological Area 23 - Alignment: Carlsbad – Phase III LVWD to CMWD demand**

Group: A

WRP: Carlsbad WRF

Agency: Carlsbad

The pipeline begins from the east at a man-made pond within the golf course located in the La Costa Country Club. The pipeline continues west where it terminates at El Camino Real. The majority of the pipeline is located in developed areas, such as the golf course and along the paved service road within the golf course. Within the 100 foot buffer of the alignment is moderate quality southern coastal salt marsh, disturbed habitat, mule fat scrub, coastal and inland fresh water marsh, Diegan coastal sage scrub, urban/developed, and open water. Approximately 800 feet of the alignment (heading east from the western terminus) crosses an undeveloped area vegetated with coastal salt marsh and landscaping (urban/developed). The pipeline alignment follows a channel (San Marcos) which flows into the Batiquitos Lagoon. This open channel is potentially CDFW, USACE and/or RWQCB jurisdictional (**Figure 24: Biological Area 23 - Alignment: Carlsbad – Phase III LVWD to CMWD demand**). This area falls within the MHCP (see **Figure 2**). It supports three sensitive communities (Diegan



coastal sage scrub, coastal and valley freshwater marsh and coastal salt marsh). Suitable habitat for sensitive plants was observed and there is the potential for sensitive wildlife species due to the presence of native sensitive habitats; this would be determined during project-specific studies (see **Table A**).

**Biological Area 24 - Alignment: Private Residence/Bridges Golf Course Junction – Bridges Golf Course**

Group: H

WRP: San Elijo WRF

Agency: Olivenhain

The alignment is adjacent to the San Dieguito Reservoir and follows along a paved road north of the reservoir. The majority of the alignment is within developed habitat, with the exception of the area adjacent to the northeast portion of the reservoir where the coastal and valley freshwater marsh habitat, dominated by cattails (*Typa* sp.) and common tule (*Schoenoplectus acutus*), is located within a few feet of the pipeline alignment. The marsh habitat is potentially CDFW, USACE and/or RWQCB jurisdictional (**Figure 25: Biological Area 24 - Alignment: Private Residence/Bridges Golf Course Junction – Bridges Golf Course**). This area falls within the Draft North County MSCP outside PAMA and within Special Districts (see **Figure 2**). It supports two sensitive communities (coastal and valley freshwater marsh and non-native grassland). Suitable habitat for sensitive plants was observed and there is the potential for sensitive wildlife species due to the presence of native sensitive habitats; this would be determined during project-specific studies (see **Table A**).

**Biological Area 25 – Facility: Harmony Grove WRP**

Group: J

WRP: Harmony Grove WRF

Agency: Rincon DD

The proposed Harmony Grove WRP location is located on a knoll north of Harmony Grove Road, east of the intersection of Country Club Drive and Harmony Grove Road, and just south of Biological Area 18. The knoll that the Harmony Grove WRP is located is on disturbed coastal sage-chaparral transitional habitat (**Figure 26: Biological Area 25 – WWTP/WRP – Harmony Grove WRP**). Although the habitat is disturbed, it is contiguous with the surrounding native habitat. This area is not within the draft North County MSCP, South County MSCP, or the MHCP (see **Figures 2, 3, and 4**). It supports one community (Coastal Sage-Chaparral Transition) that provides potentially suitable habitat for sensitive plants and wildlife, including nesting birds (see **Table A**).



**Table A**  
**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
<b>PIPELINE ALIGNMENTS</b>							
<b>Group A: Carlsbad MWD Extensions – Carlsbad WRF/Gafner WRF</b>							
Carlsbad – Segment 1a	MHCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	Pipeline alignment runs along portions of Corte Del Nogal, Corte Del Abeto, Las Palmas Drive, Yarrow Drive, Corte Del Cedro, and Corte De La Pina, an area with mainly businesses. Trees and shrubs present. Native scrub habitat approximately 65 feet south of the portion along Corte Del Nogal and ends at Camino Vida Roble.
Carlsbad Segment 2 and CBMWD Segment 2	MHCP	[Y, adjacent only]	–	–	–	Y	CBMWD Segment 2: Agua Hedionda located at the intersection of Cannon Road and El Arbol Drive. This body of water is located within 100 feet of pipeline alignment.





**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							Carlsbad Segment 2: Follows major roads; undeveloped land north of the intersection of Palomar Airport Road and Carlsbad Boulevard.
Carlsbad – Segment 5	MHCP	[Y, adjacent only]	–	[Y, adjacent only]	[B, C – adjacent only]	Y	The pipeline alignment follows a large street and goes into residential areas. Potential native coastal sage scrub vegetation is found along El Camino within 100 feet of the alignment off of Marron Road. Undeveloped land south of the intersection of El Camino Real and Chestnut Avenue, Approximately 100



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
							feet from the intersection of El Camino Real and Cannon Road (southwest corner) is southern willow riparian scrub.
Carlsbad – Segment 7 laterals	MHCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	The pipeline alignment follows large streets and goes into a residential area. Potential native coastal sage habitat is found along Tamarack Avenue approximately 40+ feet east of the alignment.
CBMWD – Segment 9	MHCP	–	–	–	–	Y	Pipeline alignment follows Avenida Encinas with residential and commercial development. Portion of pipeline alignment also follows Navigator Circle with residential development.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							Landscaped trees within the pipeline alignment.
CBMWD – Southwest Users – Segment 9	MHCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	Pipeline alignment follows Ponto Road and Ponto Drive. Along Ponto Road is residential development; along Ponto Road is undeveloped open space with a mix of non-native species and native coastal sage scrub. Some large trees within 100 feet of the pipeline alignment.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
Carlsbad – Segment 18	MHCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	North of the intersection of Palmer Way and Impala Drive is potentially native coastal sage habitat (approx. 130 feet of the alignment). Portion of the alignment that follows Palmer Way abuts to an undeveloped area to the east, just north of Faraday Avenue.
Carlsbad MWD – Junction X towards OMWD Users	MHCP	[Y, adjacent only]	–	[Y, adjacent only]	[A, B, C – adjacent only]	Y	Pipeline alignment is along El Camino Real. Potential marsh habitat and Batiquitos Lagoon to the west of El Camino Real within 40-100 feet of the alignment. Adjacent to the southern terminus, the alignment crosses a drainage (alignment was not considered a Biological Area as the



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							assumption is that the alignment will follow El Camino Real).
Carlsbad – Phase III LVWD to CMWD demand	MHCP	Y	Y	CDFW, MHCP	A, B	Y	<b>Biological Area 23</b> Pipeline alignment follows a golf course off El Camino Real. South of Estrella de Mar Road are trees within 100 feet of the alignment. Western terminus is at El Camino Real which abuts to Batiquitos Lagoon.
Gafner WRP – Junction Y	MHCP	Y	Y	CDFW, MHCP	B, C	Y	Pipeline alignment along La Costa Avenue and El Camino Real. Potential riparian and native scrub habitat is found along La Costa within 40-100 feet of the alignment. Portion of this alignment is in <b>Biological Area 9</b> .



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
<b>Group C: City of Escondido Extensions – HARRE</b>							
Ex RW line to New AWT	MHCP	–	–	–	–	Y	Pipe alignment appears to be following a bike path, which is within 100 feet of a concrete lined drainage.
ESC – Escondido Users South	MHCP	–	–	[Y – adjacent only]	[Y – adjacent only]	Y	Pipeline alignment follows Beethoven Drive. Portion of alignment is within shopping center parking lot. Native habitat to the east within 100 feet of alignment.
New AWT to Oak Memorial	MHCP	–	–	–	–	Y	Pipeline alignment follows N Citrus Avenue and continuing on S Citrus Avenue, consisting mainly of residential development. Some undeveloped land present along Citrus Avenue. Pipeline then follows Glenridge



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							Road, with the eastern end of the alignment running through Oak Hill Memorial Park.
Oak Memorial to East Ag Block	SC MSCP SC MSCP, MHCP	- Y	Y Y	CDFW, MSCP CDFW, MSCP, MHCP	C B (potential)	Y Y	<b>Biological Area 20</b> <b>Biological Area 21</b>
<b>Group D: City of Escondido Extensions -- Escondido AWTF</b>							
Potable Reuse <sup>a</sup>		-	-	-	-	-	
<b>Group E: San Dieguito Water District – SEJPA (San Elijo JPA/SDWD)</b>							
SEJPA (San Elijo JPA/SDWD)	MHCP	-	-	[Y – adjacent only]	[Y – adjacent only]	Y	Potential native habitat at the southern terminus of the alignment along Lahoud Drive, in addition to trees throughout the developed areas.
<b>Group G: City of Escondido Extensions – San Luis Rey WWTP/SRTTP</b>							
VID 4 to Ocean Hills	MHCP	-	-	[Y – adjacent only]	[C – adjacent only]	Y	Assumption is the alignment will follow Wisteria Drive, which is adjacent to development with no biological impacts. However, if the alignment proposed goes through the



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							easement, then native coastal sage scrub habitat occurs within 40+ feet of the pipeline alignment at the southwestern terminus.
<b>Group G: City of Oceanside Extensions – San Luis Rey WWTP/SRTTP</b>							
El Corazon Site to El Camino CC	MHCP	Y	–	CDFW, MHCP	C,E	Y	<b>Biological Area 3</b> Northern terminus within graded area. Majority of the alignment follows El Camino Real. Native scrub species to the east and west. Undeveloped land to the east of El Camino Real, north of Via Las Rosas.
El Corazon Site to El Camino CC Lateral Ph1	MHCP	–	–	–	–	Y	Pipeline is along Fire Mountain Drive with landscaped vegetation to the north and south of the road.





**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
El Corazon Site to Emerald Isle GC	MHCP	Y	Y	CDFW, MHCP	B,C	Y	<b>Biological Area 2</b> Northern portion of alignment goes through residential area.
El Corazon WRF to Ocean Ranch	MHCP	–	–	–	–	Y	Pipeline alignment is located in an active landfill.
El Camino CC to Ocean Hills (new)	MHCP	[Y, adjacent only]	–	–	–	Y	Pipeline alignment follows major roads, (west to east), Vista Way, college Blvd., and Lake Blvd. Portions of Lake Blvd. abuts to drainage to the south.
SLR WWTP – Rocket Farm Herbs Ph1	MHCP	[Y, adjacent only]	–	–	B	Y	Portion of the alignment that runs along N River Road has a drainage immediately to the south of the road within the 100 feet buffer. To the north of the alignment consists mainly agriculture. Most northern portion of the



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							alignment, along Sleeping Indian Road, is undeveloped land.
SLR WWTP – Rocket Farms Extension – Ph1	MHCP	–	–	–	–	Y	Pipeline alignment follows Wilshire Road, terminating at N. River Road. Undeveloped land to the east and west of the alignment (agricultural use fields).
SLR WWTP – Gilligan Groves Extension – Ph2 lateral	MHCP	Y	Y	CDFW, MHCP	A,B,C,D	Y	<b>Biological Area 1</b> Pipeline alignments adjacent to agriculture.
SLP WWTP – Gilligan Groves Extension -- Ph2	MHCP	–	–	–	–	Y	Pipeline alignment is mainly adjacent to agriculture, but trees are along portions of the pipeline. Undeveloped lands present along the pipeline alignment.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
Existing Camp Pendleton Pipeline to OMWD Connection	MHCP	[Y, adjacent only]	–	–	–	Y	Pipeline is within government land. Drainages located to the east and west of the pipeline alignment within 40-100 feet. (the alignment is not considered a Biological Area as the assumption is that it will follow Vandegrift Boulevard).
<b>Group G: City of Oceanside Extensions - San Luis Rey WWTP – AWT</b>							
Potable Reuse <sup>a</sup>		–	–	–	–	–	
<b>Group H: Olivenhain MWD Extensions – San Elijo WRF/Gafner WRF</b>							
Gafner WRP to OMWD Ex RW Pipe	MHCP MHCP	Y -	Y Y	CDFW, MHCP CDFW, MHCP	B,C B,C	Y Y	<b>Biological Area 9</b> <b>Biological Area 10</b> Southern terminus, along Garden View Road, adjacent to native scrub habitat
Junction Y – Village Park	MHCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	Pipeline alignment follows N. El Camino Real and Garden View Road. Native coastal sage scrub habitat found to the west



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							within 100 feet west and east of the pipeline alignment along Garden View Road.
SEJPA – OMWD Connection	MHCP	–	–	[Y, adjacent only]	[D – adjacent only]	Y	Pipeline alignment follows Leucadia Boulevard. Chaparral habitat to the north and south of the alignment within 100 feet. Adjacent to <b>Biological Area 11</b> .
Village Park to Wiegand Tank	MHCP	–	Y	CDFW, MHCP	D	Y	<b>Biological Area 12</b> (found along the portion of alignment north of the intersection of Via Cantabria and Via Tierra). Majority of the alignment follows major roads.
Wanket Tank to OMWD Ex Line	MHCP MHCP	– –	Y Y	MHCP MHCP	D D	Y Y	<b>Biological Area 11</b> <b>Biological Area 22</b>
Private Residence/Bridges Golf Course Junction – Private	MHCP	Y	Y	CDFW, MHCP, MSCP	A, B, E	Y	<b>Biological Area 24</b> San Dieguito



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
Residence							Reservoir 100 feet east of pipeline alignment. At northern terminus is a golf course.
SFID – San Dieguito Park	NC MSCP	–	–	–	–	Y	Pipeline alignment follows El Camino Real. Trees align both sides of street. Continues along Rancho Serena, which is a residential neighborhood. Landscape vegetation along Rancho Serena.
<b>Group H : Olivenhain MWD Extensions – San Elijo WRF – AWT</b>							
Potable Reuse <sup>a</sup>		–	–	–	–	–	
<b>Group I: Rincon del Diablo MWD Extensions – HARRF</b>							
ESC – Escondido Country Club	NC MSCP, MHCP	–	–	–	–	Y	Pipeline alignment follows N Nutmeg Street, Rockhoff Road, East of intersection of Rockhoff Road and N Nutmeg Street is undeveloped land.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
ESC – Rincon Business Park/ESC Junction	MHCP	–	–	–	–	Y	Pipeline alignment follows Washington Blvd. Few trees along Washington Avenue and vegetation in median within 100 feet of pipeline alignment.
ESC – VWD 1	NC MSCP MHCP	–	–	–	–	Y	Pipeline alignment follows major roads. Majority of the pipeline is along Nordahl Road. West of Nordahl Road adjacent to Rock Springs Road is undeveloped land.
Hale Ave RRF-Rincon Business Park	NC MSCP, MHCP	–	–	[Y, adjacent only]	[E - adjacent only]	Y	Pipeline alignment along Harmony Grove Road, undeveloped lands to the north and south of the road. Eucalyptus trees along Kauna Loa Drive within 100 feet of pipeline alignment. Non-native grassland



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							within 40 feet of alignment.
Harmony Grove Area	NC MSCP, MHCP	Y	Y	CDFW, MSCP, MHCP	C, B,D, E	Y	<b>Biological Area 19</b> <b>Biological Area 14</b> Lengthy alignment includes landscaped trees along Citracado Parkway and crosses non-native grassland.
Harmony Grove – Hale Ave RRF	NC MSCP, MHCP	–	–	–	–	Y	Portion of pipeline follows Avenida Del Diablo. Where the alignment crosses Harmony Grove Road, a new bridge and road (to the west of Harmony Grove Road) has been developed. Assumption is that the alignment will follow the bridge and new road.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
Rincon Business Park/ESC Junction – Rincon Business Park	NC MSCP, MHCP	–	–	[Y, adjacent only]	[C – adjacent]	Y	Pipeline alignment along Country Club Drive. Undeveloped land with native scrub habitat within 100 feet of alignment on the east. Portion of pipeline along Auto Park Way is in developed commercial area.
To Eden Hill Development (Rincon)	NC MSCP, MHCP	–	–	[Y, adjacent only]	[E – adjacent only]	Y	Pipeline alignment along Hill Valley Drive. Trees and shrubs along Hill Valley Drive within 100 feet of the pipeline alignment. Non-native grassland within 40 feet of alignment.
To R1 Reservoir	NC MSCP	–	Y	MSCP	D	Y	<b>Biological Area 18</b>
VWD New Development	NC MSCP	Y	Y	CDFW, MSCP	C	Y	<b>Biological Area 16</b> (alignment is within the northern most portion of the Biological Area)





**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							<b>Biological Area 17</b> (western terminus of alignment). Portion of alignment also follows Country Club Drive. There is undeveloped land at the southern terminus of the alignment along Country Club Drive.
<b>Group I: Rincon del Diablo MWD Extensions – HARRF – AWT</b>							
Potable Reuse <sup>a</sup>		–	–	–	–	–	
<b>Group J: Rincon del Diablo MWD Extensions – Harmony Grove WRF</b>							
Harmony Grove (by developer)	NC MSCP	Y	Y	CDFW, MSCP	B,C	Y	<b>Biological Area 15</b> <b>Biological Area 16</b> Majority of the alignment appears to be within a graded area. Portions of this alignment are adjacent to a reconfigured drainage.
Harmony Grove WRP – Harmony Grove	NC MSCP	[Y, adjacent only]	–	–	–	–	Pipeline alignment runs north of the intersection of



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							Country Club Drive and Harmony Grove Road (currently within construction area). Grading and development along pipeline alignment. Drainage located approximately 150 feet south of the southern terminus of the pipeline.
<b>Group K: Santa Fe ID Extensions – San Elijo WRF/Gafner WRF</b>							
Private Residence/Bridges Golf Course Junction – Private Residences (150 AFY)	NC MSCP	–	–	–	–	Y	Pipeline alignment along El Montevideo and meets with SFID Major Junction – Private Residence/Bridges Golf Course Junction. Orchards/agriculture to the north and south of alignment.
Rancho Santa Fe WRP/Private Users Junction – SFID Major Junction	NC MSCP	–	–	–	–	Y	Pipeline Alignment follows Avenida De Acacias, Via de Santa Fe, El Sicomoro.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
							Pipeline alignment ends at the intersection of El Sicomoro and Calle Feliz. Northern portion is within a golf course. Adjacent to Via De La Valle and Via De Sante Fe is undeveloped land to the west.
Rancho Santa Fe WRP/Private Users Junction – Private users (105 AFY)	SC MSCP	Y	Y	CDFW, MSCP	B	Y	<b>Biological Area 13</b>
Rancho Santa Fe GC to SFID Customers Central	NC MSCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	Pipeline alignment follows Rambla de las Flores. Along Ramblas De Las Flores north of LA Orilla is native scrub habitat.
San Elijo JPA – San Dieguito Users	MHCP	–	–	–	–	–	Pipeline alignment follows San Elijo Avenue. Undeveloped land to the west of the alignment.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
San Elijo WRF – SFID Existing SDWD 30” Pipeline	NC MSCP, MHCP	[Y, adjacent only]	–	–	–	Y	Existing pipeline alignment follows Manchester Ave and crosses over a drainage and continues on La Noria to La Bajada. To the south of the alignment is San Elijo Lagoon, crosses a drainage at Hunter Run and crosses natural area south of La Bajada. Assumption is pipeline alignment follows the major roads as it is an existing pipeline.
SFID Existing SDWD 30” Pipeline – Santa Fe Golf Course	NC MSCP	–	–	–	–	Y	Existing pipeline alignment that follows Los Morros and continues on San Elijo Ave. to Via De La Cumbre and ends at the Rancho Santa Fe Golf Club. Landscaped trees on



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
							both sides of the alignment.
SFID Major Junction-Private Residence/Bridges Golf Course Junction	NC MSCP	–	–	–	–	Y	Pipeline alignment follows San Elijo Avenue, Avenida de Acacias and ends at Rancho Santa Fe Golf Club. Adjacent to the intersection of Loma Verde Drive and Avenida De Acacias are orchards to the east. Also Orchards to the southwest of the intersection of El Montevideo and San Elijo Avenue. Landscaped trees along alignment.
SFID Major Junction – Rancho Santa Fe Golf Course	NC MSCP	–	–	–	–	Y	Pipeline alignment abuts golf course to the north. Follows San Elijo Avenue and Via De La Cumbre. Landscaped trees to the north and south of alignment.



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
SFID – SFID HOAs	-	[Y, adjacent only]	-	-	-	Y	Pipeline follows Via De La Valle. Drainage to the south within 100 feet of alignment. Undeveloped land to the west of the intersection of Camino Del Mar and Via De La Valle, which is within 100 feet of the alignment.
SFID – SFID HOAs Lateral	NC MSCP	-	-	-	-	Y	Pipeline alignment follows Del Mar Downs Rd. from Via De La Valle.
<b>Group K: Santa Fe Extensions – San Elijo WRF -- AWT</b>							
Potable Reuse <sup>a</sup>		-	-	-	-	-	
<b>Group M: Vallecitos WD Extensions -- HARRF</b>							
ESC – VWD 1	NC MSCP, MHCP	-	-	-	-	Y	Majority of the pipeline alignment follows Nordahl Road. Undeveloped land to the east of Nordahl Road along the alignment. Mainly



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							landscaped trees along the road.
<b>Group N: Vallecitos WD Extensions – Meadowlark WRF -- AWT</b>							
Potable Reuse <sup>a</sup>		-	-	-	-	-	
<b>Group O: Vista ID Extensions – Carlsbad WRF</b>							
Carlsbad Existing to Junc 4	MHCP	[Y, adjacent only]	-	[Y, adjacent only]	[C – adjacent only]	Y	Pipeline alignment follows S Melrose Drive. 100 feet west, potential coastal sage scrub habitat. Alignment crosses over a drainage via a bridge at the northern portion (alignment is not considered a biological area as the assumption is that the alignment will follow S Melrose Drive).
Junc 4 to Existing Shadowridge Existing Pipe	MHCP	Y	Y	CDFW, MHCP	B,C	Y	<b>Biological Area 7</b>



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
Junc 4 to Vid 4	MHCP	–	–	[Y, adjacent only]	[C – adjacent only]	Y	Pipeline alignment follows Melrose Drive. Potential coastal sage scrub habitat is within 100 feet west of the alignment.
<b>WRP/WWTP EXPANSIONS</b>							
Carlsbad Water Reclamation Facility	MHCP	–	–	–	–	Y	Existing facility. Adjacent to Carlsbad—Segment 2. The long-term portion of this component (facility upgrades) is included as part of the Proposed Project
Gafner Water Reclamation Facility		–	–	–	–	Y	Existing facility. Along La Costa Ave at Leucadia Wastewater District. Few landscaped trees around parking structure with 100 feet.





**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
Hale Avenue Resource Recovery Facility	MHCP	–	–	–	–	–	Existing facility. Located off Hale Avenue and Avenida del Diablo. No trees within 100 feet.
Escondido Advanced Water Treatment Facility		[Y, adjacent only]	–	–	–	Y	New facility. Located along Escondido channel, where it intersects with Citrus Ave. Appears area has been graded. Trees within vicinity. Escondido channel approximately 50 feet south.
San Luis Rey Wastewater Treatment Plant	MHCP	–	–	–	–	Y	Existing Facility. Ornamental trees within 100 feet. The long-term portion of this component (facility upgrades) is included as part of the Proposed Project.
El Corazon Site	MHCP	–	–	–	–	Y	New Facility – site proposed for storage (originally proposed as a stand-alone water



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							reclamation facility) Located off El Camino Real and Oceanside. Adjacent to an unnamed basin within 40-100 feet. Location of site is currently an active landfill.
Harmony Grove Water Reclamation Facility		[Y, potential; adjacent only]	Y	MHCP, MSCP	C, D	Y	<b>Biological Area 25</b> New Facility. Bounded to the north by Mt. Whitney Road, to the south and east by Harmony Grove Road, and to the west by undeveloped land. Possible drainage south of Harmony Grove Rd within 40-100 feet.
Meadowlark Water Reclamation Facility	MHCP	-	-	-	-	Y	Existing facility. The long-term portion of this component (facility upgrades) is included as part of the Proposed Project



**Table A (Continued)**

**Sensitive Biological Resources Summary**

<b>Segment Number</b>	<b>MHCP/MSCP Plan</b>	<b>Potential Jurisdictional Features</b>	<b>Potential Sensitive Plants</b>	<b>Sensitive Natural Communities</b>	<b>Potential Sensitive Wildlife<sup>†</sup></b>	<b>Potential Nesting and Migratory Birds</b>	<b>Comments</b>
San Elijo Water Reclamation Facility	MHCP	[Y, potential; adjacent only]	–	[Y, adjacent only]	[B,C adjacent]	Y	Existing Facility. The facility is located north of San Elijo Lagoon. Bordering the facility is native sage scrub habitat north, east, and west, and riparian habitat to the south (the riparian habitat continues into the lagoon). Assumption is that all work will be within the existing facility.
<b>POTENTIAL RESERVOIR/HYDRO TANKS</b>							
Wanket Tank	MHCP	–	Y	MHCP	D	Y	<b>Biological Area 22</b>
Wiegand Tank	MHCP	–	Y	CDFW, MHCP, MSCP	D	Y	<b>Biological Area 12</b>
San Elijo Tank	MSCP	–	–	–	–	Y	The proposed tank is located adjacent to a golf course on San Elijo Avenue.
New RW Tank (Rincon)	MSCP	–	–	–	–	Y	The proposed tank is located approximately 0.50 mile east of the intersection of Mountain View Drive and Canyon Crest



**Table A (Continued)**

**Sensitive Biological Resources Summary**

Segment Number	MHCP/MSCP Plan	Potential Jurisdictional Features	Potential Sensitive Plants	Sensitive Natural Communities	Potential Sensitive Wildlife <sup>†</sup>	Potential Nesting and Migratory Birds	Comments
							Drive. The tank is located within agricultural land.
R1 Reservoir	MSCP	–	Y	MHCP, MSCP	D	Y	<b>Biological Area 18</b> At the end of the To R1 Reservoir alignment.

<sup>a</sup> The locations of the pipelines are not yet determined. Please refer to the Potable Reuse Sites section of the table below.

*Abbreviations*

*Y: Yes, potentially present*

*CDFW: California Department of Fish and Wildlife*

*SC MSCP: South County MSCP*

*NC MSCP: draft North County Multiple Species Conservation Program*

*MHCP: Multiple Habitat Conservation Program*

<sup>†</sup> The potential for sensitive species was determined based on the presence of habitats known to support these species as follows:

*A – Open Water B – Riparian (Southern Willow Scrub or Freshwater Marsh) C – Coastal Sage Scrub D – Chaparral E - Grassland*



## **5.0 PROJECT IMPACT ANALYSIS**

### **5.1 Approach**

The following discussion examines the potential impacts to biological resources that may occur as a result of the Proposed Project. The determination of impacts in this analysis is based on both the features of the Proposed Project and the biological values of the habitat and/or sensitivity of plant and wildlife species potentially affected. Specifically impacts are analyzed for new alignments or facilities, or proposed expansion of existing facilities, within the 21 Biological Areas identified in the study area that support sensitive biological resources. Areas outside the Biological Areas are either existing components not proposed for expansions or improvements of any kind that would therefore not impact sensitive biological resources, or are assumed to occur within developed areas that do not support sensitive biological resources based on the project description, GIS data, and/or aerial imagery for the Proposed Project.

As outlined in section 3.0 of this report, a survey buffer either side of the proposed linear alignments and non-linear components (such as storage tanks) was established during the field work in areas with potential biological resources, to allow for future adjustments in the position of alignments and proposed construction support activities. These buffers included approximately 100 feet on either side of the linear alignments for a total of 200 feet, and a larger buffer area of approximately 250 feet for non-linear components. The proposed standard construction ROW of 40 feet is assumed to occur within the buffer areas. However, should the alignments and/or construction limits of the Biological Areas change in the future beyond the buffer areas then additional biological assessments and a revised impacts analysis would be required. Furthermore, if areas outside the Biological Areas extend beyond the developed areas into adjacent native habitat areas (as identified in **Table A**), new biological assessments would be required to conduct the impacts analysis.

Since this is a programmatic level assessment it is anticipated that a more detailed impacts analysis will be conducted at the time of project-level assessments. For example, this programmatic level analysis did not include focused species surveys or formal jurisdictional delineations of regulated waters within the Biological Areas. As such, these surveys may be required where potential resources have been identified in this study and impacts are proposed to those resources, as determined during the detailed project-level design. Also, in areas outside the Biological Areas it is assumed those components will occur entirely within developed areas although potentially sensitive habitats may exist adjacent to those areas. However, if impacts are proposed beyond the developed areas during the project-level design field surveys would be required at that time to assess potentially biologically sensitive resources. Updated field surveys may also be required at the time of project-level assessments to confirm the presence or absence of biological resources within the



Biological Areas; there is a potential these resources may change between the programmatic level assessment and the time the final project-level design is analyzed.

The impact analysis in this section assumes that the majority of pipelines would be constructed using open cut construction: a trench would be excavated along the proposed alignment, a pipeline would be installed, and the soil replaced. It was assumed that minimal surficial traces would remain after construction was complete. Alternatively, placement of pipelines can be achieved with minimal, if any, surface disturbance through the use of other technologies such as Jack and Boring and Horizontal Directional Drilling (HDD). As such, it is anticipated that impacts from the pipelines would be temporary and that minimal permanent impacts would only occur as a result of the facilities. Impacts to biological resources are assessed using impact significance threshold criteria, which mirror the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. The questions below model those included in the checklist of questions listed in Appendix G of the CEQA guidelines.

## **5.2 Impact Analysis**

Impacts were analyzed as both permanent (e.g., the footprints of any permanent structures and maintained ROWs) and temporary (e.g., staging areas and construction zones outside the permanent footprints). Both direct and indirect impacts were also analyzed. Direct impacts refer to effects such as the removal of sensitive habitat or take of listed species, and indirect impacts refer to effects such as noise on sensitive species.

### **5.2.1 Impacts to Sensitive Species**

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

*Less than Significant with Mitigation Incorporated*

#### **Sensitive Plant Species**

No impacts to sensitive plant species are anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of natural communities to support any plants, assuming work occurs entirely within the existing developed areas. Of the 21 Biological Areas, 20 were determined to have a potential to support sensitive plant species based on the type and quality of habitat. If present, those sensitive plant species could potentially be impacted by the Proposed Project. Biological Area 3 was determined not suitable habitat for sensitive plants



since it supported only a small area of degraded Diegan coastal sage scrub and was surrounded by urban development.

Plant species identified from the database searches as occurring in the vicinity of the study area were considered sensitive if they were listed with a CNPS California Rare Plant Rank (CPRP) of 2 or less, and/or if they were federally or state listed as threatened or endangered under FESA or CESA, respectively. Sensitive species unique to the South County MSCP, the draft North County MSCP, and the MHCP were also given consideration including narrow endemic species. A summary of the 19 Biological Areas with potential for sensitive plants is provided in **Table B**, *Biological Areas with Potential for Sensitive Plants*, below. The Proposed Project has the potential to directly impact sensitive plant species if vegetation within suitable habitats supporting these species is cleared during construction within the Biological Areas identified in **Table B**. Impacts are anticipated to be mostly temporary for trenching of the pipeline alignments. Impacts associated with facilities would be permanent within the facility footprints and temporary for areas required in order to construct the footprint.

Impacts to federally or state-listed species that are not covered by the MHCP or MSCP plans or applicable subarea plans would require mitigation measures in accordance with applicable FESA, CESA, and/or wildlife agency policies and regulations. As such, a mitigation measure (MM) is proposed to ensure impacts to any sensitive plant species are avoided or minimized in compliance with these regulations subject to agency approval, including focused surveys and mitigation (if needed). With the implementation of MM BIO-1 (see section 8.2, below) potential impacts would be reduced to a less-than-significant level. This mitigation measure could also be used as a basis for mitigation required pursuant to the MHCP or MSCP plans, depending on the species in question and assuming compliance with the plans. Since this is a programmatic level analysis an assessment of all the specific mitigation requirements for plant species pertaining to the Proposed Project was not feasible. However, an overview of species requirements for plants in the MHCP and MSCP plans are provided below. In addition, applicable MSCP plan requirements are included in MM BIO-1.

The MHCP is a habitat-based plan and does not address mitigation requirements for impacts to individual species, but is intended to provide conservation of the covered species (listed in Table 3-6 of the MHCP plan) through conservation of their habitats. However, for impacts to certain species the subregional or subarea plans may describe mitigation guidelines to those species through impacts to habitats or vegetation communities. These guidelines are included in the conservation requirements listed for each species in Volume II of the MHCP Plan. Impacts to narrow endemic plant species (listed in Table 3-2 of the MHCP plan) should be avoided as much as possible both inside and outside the FPAs; the MHCP plan assumes 100 percent conservation in hardline FPAs, 95 percent within softline FPAs, and at least 80 percent outside FPAs. Mitigation for unavoidable impacts could include, in addition to mitigation for vegetation communities as described in section



**Table B**

**Biological Areas with Potential for Sensitive Plants**

<b>Biological Area No.</b>	<b>Group</b>	<b>WRP</b>	<b>Agency</b>	<b>Alignment/Facility</b>
1	G	San Luis Rey WWTP/SRTTP	City of Oceanside	Gilligan Groves Extension - Ph2 lateral
2	G	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to Emerald Isle GC (original)
7	O	Carlsbad WRF	Vista ID	Junc 4 to Shadowridge existing pipe
9	H	Gafner WRF	OMWD	Gafner WRF to OMWD Ex RW Pipe
10	H	Gafner WRF	OMWD	Gafner WRF to OMWD Ex RW Pipe
11	H	Gafner WRF	OMWD	Wanket Tank to OMWD Ex Line
12	H	Gafner WRF	OMWD	Village Park to Wiegand Tank
13	K	San Elijo WRF	Santa Fe ID	Rancho Santa Fe WRF/Private Users Junction-Private Users (105 AFY)
14	I	Hale Ave RRF	Rincon DD	Harmony Grove Area
15	J	Hale Ave RRF	Rincon DD	Harmony Grove (by developer)
16/17	I	Hale Ave RRF	Rincon DD	VWD New Development
18	I	Hale Ave RRF	Rincon DD	To R1 Reservoir
19	I	Hale Ave RRF	Rincon DD	Harmony Grove Area
20	I	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block
21	C	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block
22	H	San Elijo WRF/ Gafner WRF	OMWD	Wanket Tank
23	A	Carlsbad WRF/ Gafner WRF	Carlsbad MWD	Carlsbad – Phase III LVWD to CMWD demand
24	H	San Elijo WRF/ Gafner WRF	OMWD	Private Residence/Bridges Golf
25*	J	WRP/WWTP Expansion	Rincon DD	Harmony Grove WRF

\* Biological Area 25 is the only one of all the Biological Areas that is not within the MSCP and/or MHCP.

5.2.2 below, special management or restoration requirements as specified in a jurisdiction’s subarea plan.

The MSCP is intended to provide take of covered species and their habitats associated with development assuming consistency with the subarea plans, and conformance with the plans is





accomplished in part through the Biological Mitigation Ordinance (BMO) for the County of San Diego Subarea Plan.<sup>22</sup> The take of covered species for the South County MSCP applies to the lands in the Metro-Lakeside-Jamul Segment as well as the major and minor amendment areas for the Lake Hodges and South County Segments. Take of covered species within major or minor amendment areas may be authorized only after the area has become part of the Segment Plan through the appropriate amendment process, which requires consistency with the South County MSCP plan and conformance with the BMO requirements, as applicable. A total of 85 covered species are included in the South County MSCP as listed in Attachment 1, section 1.16 of the plan, and the Lake Hodges Segment provides conservation benefits for an additional 29 species that are known to occur in the Segment, as listed in Attachment 1, section 2.11 of the plan. The current list for covered species in the draft North County Plan includes 63 species.<sup>23</sup>

All critical populations of sensitive species included in the BMO require avoidance and in non-critical areas require minimization consistent with the subarea plans and BMO. Sensitive species include sensitive plants within the County's subarea (Attachment C of BMO), narrow endemic plant species within the County's subarea (Attachment E of the BMO), and San Diego County Sensitive Plant Species (as defined by the BMO). Critical populations of covered plant species and narrow endemic plants are listed in Tables 4-4 and 4-5 of the South County MSCP, and narrow endemic species are listed in Table 7-4 of the draft North County MSCP. Specific conditions for species are outlined in the Federal Fish and Wildlife Permit (USFWS) for the MSCP that is attached to the South County MSCP plan, and guidelines for sensitive plant populations are also provided in Sec. 86.507 of the BMO, including for critical populations of sensitive plant species, avoidance of sensitive plants, and mitigation for sensitive plant species. Specific mitigation measures are conditioned by the County of San Diego Director at the time of project approval based on an analysis of the sensitivity and size of the species' population.

### **Sensitive Wildlife Species**

No direct impacts to sensitive wildlife species are anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of natural communities to support habitat for any species, assuming work occurs entirely within the existing developed areas. Potential indirect impacts could occur to sensitive wildlife species in adjacent native habitats as discussed below. All 21 of the Biological Areas were determined to have a potential to support sensitive wildlife species based on the presence and quality of sensitive habitats known to support them including, but not limited to, coastal California gnatcatcher within coastal

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<sup>22</sup> *County of San Diego Biological Mitigation Ordinance, An Excerpt From The San Diego County Code of Regulatory Ordinances (Amendments effective 4-2-10).*

<sup>23</sup> *As available online January 2015 at [http://www.sandiegocounty.gov/content/sdc/pds/mscp/NCMSCP\\_documents.html](http://www.sandiegocounty.gov/content/sdc/pds/mscp/NCMSCP_documents.html)*



sage scrub habitats, least Bell's vireo in riparian habitats, and/or burrowing owl in grassland habitats. If present, these sensitive species could potentially be impacted by the Proposed Project.

Wildlife species identified from the database searches as occurring in the vicinity of the study area were considered sensitive if they were listed as federally or state endangered or threatened under the FESA or CESA, candidates for listing by the USFWS or CDFW, and species of special concern. Sensitive species unique to the South County MSCP, the draft North County MSCP, and the MHCP were also given consideration including narrow endemic species. The Biological Areas were assessed for the presence of suitable habitat for sensitive wildlife species with particular focus on several species based on the literature review (see section 4.4.3 above). Potential for sensitive wildlife species is summarized in **Table A**, and for the Biological Areas is also listed below in **Table C**, *Biological Areas with Potential for Sensitive Wildlife*. In addition, there is a potential for sensitive species outside Biological Areas in urban/developed locations where potential habitat was observed adjacent to the Proposed Project components (see **Table A** for adjacent habitats). In these areas, individual birds could be indirectly disturbed by construction noise. Due to the programmatic nature of this study, the potential for all species identified in Appendix A to occur within the study area could not be assessed. However, when natural habitat was found it was assumed that there is a potential for sensitive wildlife that would require a more detailed assessment during the project-specific stage. The Proposed Project has the potential to directly impact sensitive wildlife species and/or their habitats if occupied and/or mapped Critical Habitats are cleared during construction. These impacts are expected to be mostly temporary for trenching of the pipeline alignments; impacts resulting from the facilities would be permanent for the footprint and temporary for areas required for construction only. The Proposed Project could also result in temporary indirect impacts through noise from construction activities. The potential for these impacts is focused within the Biological Areas identified in **Table C** below, but could also occur in potential native habitats adjacent to Proposed Project components that are within urban/developed areas identified in **Table A** due to indirect, temporary noise effects during construction.

Impacts to federally or state-listed species that are not covered by the MHCP or MSCP plans or applicable subarea plans would require mitigation measures in accordance with applicable FESA, CESA, and/or wildlife agency policies and regulations.<sup>24</sup> As such, a mitigation measure is proposed to ensure impacts to any sensitive wildlife species are avoided or minimized in compliance with these regulations subject to agency approval, including surveys and mitigation (if needed). With the implementation of MM BIO-2 (see section 8.2, below) potential impacts would be reduced to a less-than-significant level. This mitigation measure could also be used as a basis for mitigation required

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<sup>24</sup> Including Take Authorization for the coastal California gnatcatcher through section 4(d) of the ESA, in accordance with the Special Rule concerning take of the threatened California gnatcatcher (58 FR 65088).



**Table C**

**Biological Areas with Potential for Sensitive Wildlife**

<b>Biological Area</b>	<b>Group</b>	<b>WRP</b>	<b>Agency</b>	<b>Alignment/Facility</b>	<b>Habitats Types<sup>†</sup></b>
1	G	San Luis Rey WWTP/SRTTP	City of Oceanside	Gilligan Groves Extension - Ph2 lateral	A,B,C,D
2	G	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to Emerald Isle GC (original)	B,C
3	G	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to El Camino CC (original)	C,E
7	O	Carlsbad WRF	Vista ID	Junco 4 to Shadowridge existing pipe	B,C
9	H	Gafner MWD	OMWD	Gafner WRP to OMWD Ex RW Pipe	B,C
10	H	Gafner MWD	OMWD	Gafner WRP to OMWD Ex RW Pipe	B,C
11	H	Gafner WRF	OMWD	Wanket Tank to OMWD Ex Line	D
12	H	Gafner WRF	OMWD	Village Park to Wiegand Tank	D
13	K	San Elijo WRF	Santa FE ID	Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)	B
14	I	Hale Ave RRF	Rincon DD	Harmony Grove Area	C,D,E
15	J	Hale Ave RRF	Rincon DD	Alignment: Harmony Grove (by developer)	B,C
16/17	I	Hale Ave RRF	Rincon DD	VWD New Development	C
18	I	Hale Ave RRF	Rincon DD	To R1 Reservoir	D
19	I	Hale Ave RRF	Rincon DD	Harmony Grove Area	B,E
20	I	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block	C
21	C	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block	B (potential)
22	H	Gafner WRF	OMWD	Wanket Tank	D
23	A	Carlsbad WRF/ Gafner WRF	Carlsbad MWD	Carlsbad – Phase III LVWD to CMWD demand	A,B
24	H	San Elijo WRF/ Gafner WRF	OMWD	Private Residence/Bridges Golf	A,B,E
25*	J	WRP/WWTP Expansion	Rincon DD	Harmony Grove WRF	C,D

\* *Biological Area 25 is the only one of all the Biological Areas that is not within the MSCP and/or MHCP.*

<sup>†</sup> **A** – Open Water      **B** – Riparian (Southern Willow Scrub or Freshwater Marsh)      **C** – Coastal Sage Scrub,  
**D** – Chaparral      **E** – Grassland



pursuant to the MHCP or MSCP plans, depending on the species in question and assuming compliance with the plans. Since this is a programmatic level analysis an assessment of all the specific mitigation requirements for wildlife species pertaining to the Proposed Project was not feasible. However, an overview of species requirements for wildlife in the MHCP and MSCP plans are provided below. In addition, applicable MSCP plan requirements are included in MM BIO-2 for the wildlife species identified in the measure.

As outlined under **Sensitive Plant Species** above, the MHCP is a habitat-based plan and does not address mitigation requirements for impacts to individual species, although subregional or subarea plans may describe mitigation guidelines to those species through impacts to habitats or vegetation communities based on guidelines in Volume II of the MHCP Plan. Impacts to narrow endemic wildlife species (listed in Table 3-2 of the MHCP plan) should be avoided as much as possible both inside and outside the FPAs; the MHCP plan assumes 100 percent conservation in hard-line FPAs, 95 percent within softline FPAs, and at least 80 percent outside FPAs. Mitigation for unavoidable impacts could include, in addition to mitigation for vegetation communities as described in section 5.2.2 below, special management or restoration requirements as specified in a jurisdiction's subarea plan.

The MSCP is intended to provide take of covered species and their habitats associated with development assuming consistency with the subarea plans, and conformance with the BMO (County of San Diego ordinance), as outlined above under **Sensitive Plant Species**. All critical populations of sensitive species included in the BMO require avoidance and in non-critical areas require minimization consistent with the South County Plan, draft North County Plan, and the BMO. Sensitive species include rare narrow endemic animal species (Attachment D of the BMO). Narrow endemic animal species are listed in Table 4-6 of the South County MSCP, and in Table 7-4 of the draft North County Plan. Specific conditions for species are outlined in the Federal Fish and Wildlife Permit (USFWS) for the MSCP that is attached to the South County MSCP plan, and guidelines for wildlife species are also provided in Sec. 86.507 of the BMO, including for impacts to rare narrow endemic animal species, burrowing owl habitat, arroyo toad habitat, and other sensitive animal species, in addition to management conditions for least Bell's vireo for projects located adjacent to habitat. Specific mitigation measures are conditioned by the County of San Diego Director at the time of project approval based on an analysis of the sensitivity and size of the species' population.



### 5.2.2 Impacts to Sensitive Natural Communities

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

*Less than Significant with Mitigation Incorporated*

No impacts to sensitive natural communities are anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of natural communities, assuming work occurs entirely within the existing developed areas. Potential impacts to riparian habitat and other sensitive natural communities for the Biological Areas, if present, as well as the associated mitigation, are detailed below.

Based on field reconnaissance, a review of aerial photography, and under the current plan design, sensitive habitats<sup>25</sup> were observed in 20 of the Biological Areas, as summarized in **Table D**, *Biological Areas with Potential Sensitive Habitats*.

Not all of the sensitive communities described in the Biological Areas are so designated by the CDFW in the CNDDDB (see Section 4.4.1). Communities that not identified as sensitive by CNDDDB but are targeted for conservation within the MHCP and MSCP include northern mixed chaparral, chamise chaparral, southern maritime scrub, non-native annual grassland, oak woodland, and freshwater marsh. In three locations outside Biological Areas and within the draft North County MSCP, the alignments pass through, or within 40 feet of, non-native grassland (see Section 4.5.1). The extent of the non-native grassland is limited. However, the community is targeted for conservation within the MSCP; as such, impacts to this habitat may require mitigation. Any impacts to sensitive plant communities are considered potentially significant. The Proposed Project has the potential to directly impact sensitive plant communities if clearing occurs during construction within the Biological Areas identified in Table D. Impacts are predominantly expected to be temporary as a result of trenching and construction associated activities; impacts resulting from the facilities would be permanent for the footprint and temporary for areas required for construction only.

A mitigation measure is proposed to ensure impacts to any sensitive communities are minimized and that compensation is included in the project. With the implementation of MM BIO-3, potential impacts would be reduced to a less-than-significant level.

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<sup>25</sup> As defined by CDFW, the MSHP plan, and/or the MSCP plans – see section 4.4.1 of this report for details.



**Table D**

**Biological Areas with Sensitive Plant Communities**

<b>Biological Area No.</b>	<b>Group</b>	<b>WRP</b>	<b>Agency</b>	<b>Alignment/Facility</b>	<b>Plant Communities</b>
1	G	San Luis Rey WWTP/SRTTP	City of Oceanside	Gilligan Groves Extension – Ph2 lateral	DCSS, FWM, SWS, NNG
2	G	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to Emerald Isle GC	DCSS, SWS
3	G	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to El Camino CC	DCSS, NNG
7	O	Carlsbad WRF	Vista ID	Junc 4 to Shadowridge existing pipe	DCSS, SWS
9	H	Gafner WRF	OMWD	Gafner WRP to OMWD Ex RW Pipe	DCSS, DCSS:BP, SWS, FWM
10	H	Gafner WRF	OMWD	Gafner WRP to OMWD Ex RW Pipe	DCSS:BP, SWS
11	H	Gafner WRF	OMWD	Wanket Tank to OMWD Ex Line	CCH
12	H	Gafner WRF	OMWD	Village Park to Wiegand Tank	SMC
13	K	San Elijo WRF	Santa Fe ID	Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)	SWS
14	I	Hale Ave RRF	Rincon DD	Harmony Grove Area	DCSS, NMCH, NNG
15	J	Hale Ave RRF	Rincon DD	Alignment: Harmony Grove (by developer)	DCSS, FWM, OAK
16/17	I	Hale Ave RRF	Rincon DD	VWD New Development	OAK, DCSS
18	I	Hale Ave RRF	Rincon DD	Alignment to R1	NMCH
19	I	Hale Ave RRF	Rincon DD	Harmony Grove Area	SWS, OAK, NNG
20	I	Hale Ave RRF	Rincon DD	Oak Memorial to East Ag Block	DCSS
21	C	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block	CCH
22	H	Gafner WRF	OMWD	Wanket Tank	OAK
23	A	Carlsbad WRF/ Gafner WRF	Carlsbad MWD	Carlsbad – Phase III LVWD to CMWD demand	CSM, DCSS, FWM, MFS
24	H	San Elijo WRF/ Gafner WRF	OMWD	Private Residence/Bridges Golf	FWM, NNG

*DCSS – Diegan Coastal Sage Scrub*  
*NMCH – Northern Mixed Chaparral*  
*SMC – Southern Maritime Scrub*  
*NNG – Non-Native (Annual) Grassland*  
*OAK – Oak Woodland*  
*MFS – Mulefat Scrub*

*DCSS:BP – Diegan Coastal Sage Scrub: Baccharis Dominated*  
*CCH – Chamise Chaparral*  
*FWM – Coastal and Inland Freshwater Marsh*  
*SWS – Southern Willow Scrub*  
*CSM – Coastal Salt Marsh*



### 5.2.3 Impacts to Wetlands

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

*Less than Significant with Mitigation Incorporated*

No impacts to wetlands or other potentially jurisdictional features are anticipated in areas not identified as Biological Areas based on their urban/developed nature and therefore absence of such features, assuming work is limited entirely to the developed areas. Potential jurisdictional wetlands and non-wetland features for the Biological Areas, if present, as well as impacts and the associated mitigation, are detailed below.

Based on field reconnaissance, a review of aerial photography, and under the current plan design, 12 potential wetland areas in the form of coastal and inland freshwater marshes, coastal salt marsh, or southern willow scrub were observed within the Biological Areas of the study area. Formal jurisdictional delineations are recommended at these locations to confirm the presence/absence and extent of any jurisdictional areas regulated by the USACE, RWQCB and/or CDFW. A list of potential wetlands is provided in **Table E**, *Biological Areas with Potential Wetlands*.

In addition to potential wetlands, at least 13 potentially jurisdictional drainage features were observed in 12 Biological Areas (No. 1 had two potential drainages) within the study area that may be regulated by the USACE, RWQCB, and/or CDFW. Formal jurisdictional delineations are recommended at these locations to confirm the presence/absence and extent of any areas under USACE, RWQCB, and/or CDFW jurisdiction. The list of potential drainages can be seen in **Table F**, *Biological Areas with Potential Drainages*.

Wetland and non-wetland drainage features are regulated by USACE under Section 404 of the Clean Water Act (CWA), in addition to Section 401 of the CWA regulated by the San Diego RWQCB and Section 1602 of the California Fish and Game Code regulated by CDFW. Based on the Proposed Project activities, it is anticipated that impacts to jurisdictional wetlands and drainages would be avoided by the use of existing overhead bridge crossings or by trenchless methods (jack and boring or HDD). If overhead crossings are implemented, no impacts would be expected to any wetland or non-wetland features.



**Table E**

**Biological Areas with Potential Wetlands**

<b>Biological Area No.</b>	<b>Group</b>	<b>WRP</b>	<b>Agency</b>	<b>Alignment</b>
1	G	San Luis Rey WWTP/SRTTP	City of Oceanside	Gilligan Groves Extension - Ph2 lateral
2	G	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to Emerald Isle GC
7	O	Carlsbad WRF	Vista ID	June 4 to Shadowridge existing pipe
9	H	Gafner WRF	OMWD	Gafner WRP to OMWD Ex RW Pipe
13	K	San Elijo WRF	Santa Fe ID	Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)
15	J	Hale Ave RRF	Rincon DD	Alignment: Harmony Grove (by developer)
16/17	I	Hale Ave RRF	Rincon DD	VWD New Development
19	I	Hale Ave RRF	Rincon DD	Harmony Grove Area
21	C	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block
23	A	Carlsbad WRF/ Gafner WRF	Carlsbad MWD	Carlsbad – Phase III LVWD to CMWD demand
24	H	San Elijo WRF/ Gafner WRF	OMWD	Private Residence/Bridges Golf

If the trenchless method is implemented, jack-and-bore or HDD activities would occur outside of USACE/RWQCB/CDFW jurisdiction, thereby avoiding direct impacts to jurisdictional waters. Although no direct impacts to jurisdictional waters are anticipated, there is a slight potential for impacts as a result of “frac-out” (uncontrolled release of drilling fluids into the environment). Because of the potential for frac-out CDFW may require a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code for any stream crossings using trenchless construction techniques. To address the potential for frac-out, as a contingency measure, MM BIO-4 is proposed to ensure any potential impacts to jurisdictional features are minimized. With implementation of this mitigation measure, potential impacts would be reduced to a less than significant level.

If direct impacts cannot be avoided and an open cut method is implemented, permits would be required from the regulatory agencies if the drainage features are determined to be jurisdictional, including a CWA Section 404 permit from the USACE, a CWA Section 401 permit from the RWQCB, and/or a Streambed Alteration Agreement permit under Section 1602 of the California Fish and Game Code from the CDFW. Impacts from the open cut method would involve trenching the jurisdictional features to install the pipe below grade, and backfilling the trench once installation is complete. Impacts from trenching would be temporary and the jurisdictional features would be





**Table F**

**Biological Areas with Potential Drainages**

<b>Biological Area No.</b>	<b>Group</b>	<b>WRP</b>	<b>Agency</b>	<b>Alignment</b>
1	G	San Luis Rey WWTP/SRTTP	City of Oceanside	Gilligan Groves Extension - Ph2 lateral
2	E	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to Emerald Isle GC
3	E	San Luis Rey WWTP/SRTTP	City of Oceanside	El Corazon Site to El Camino CC
7	O	Carlsbad WRF	Vista ID	Junc 4 to Shadowridge existing pipe
9	H	Gafner WRF	OMWD	Gafner WRP to OMWD Ex RW Pipe
13	K	San Elijo WRF	Santa Fe ID	Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)
15	J	Hale Ave RRF	Rincon DD	Alignment: Harmony Grove (by developer)
16/17	I	Hale Ave RRF	Rincon DD	VWD New Development
19	I	Hale Ave RRF	Rincon DD	Harmony Grove Area
21	C	Hale Ave RRF	City of Escondido	Oak Memorial to East Ag Block
23	A	Carlsbad WRF/ Gafner WRF	Carlsbad MWD	Carlsbad – Phase III LVWD to CMWD demand

restored to pre-project conditions. Restoring the temporary impact areas to pre-project conditions would be expected to satisfy the compensatory mitigation requirements pursuant to the regulatory permitting processes, subject to approval by the agencies. Any permanent impacts to the jurisdictional features would likely require on- and/or off-site replacement (e.g., at an agency-approved mitigation bank) at a ratio of no less than 1:1 (see MM BIO-4). Impacts would also need to be in compliance with the County of San Diego BMO and the Resource Protection Ordinance (RPO) for areas the County of San Diego defines as wetlands, which includes areas exhibiting one or more of the following: presence of hydrophytes, undrained hydric soils, and/or saturation or inundation of water at some time during the growing season of each year.<sup>26</sup> The RPO outlines permitted uses in wetland, requirements for providing wetland buffers and uses within the buffers. The draft North County MSCP also outlines guidelines for buffer widths to be determined based on the functions and values present in the wetland area that it serves to protect, ranging from no less than 50 feet in lower quality wetlands to 100-200 feet for higher quality wetlands. Through compliance with these existing regulations, impacts would be less-than-significant.

<sup>26</sup> Ordinance No. 9830 (New Series). An Ordinance Amending and Codifying The Resource Protection Ordinance, A compilation of Ordinance Nos. 7968, 7739, 7685 and 7631.



#### **5.2.4 Impacts to Wildlife Movement and Migratory Species**

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

*Less than Significant with Mitigation Incorporated*

#### **Wildlife Movement**

Several regionally important dispersal or seasonal migration corridors are known in north San Diego County. Several east to west trending creeks and rivers, notably the San Luis Rey and San Dieguito Rivers, provide riparian corridors reaching far inland from their mouths at the Pacific Ocean. The Proposed Project would be constructed in some of these areas but due to the nature of the proposed activities, predominantly including installation of underground pipelines and construction of facilities where ones already exist, the Proposed Project would have little, if any, lasting effect on the movement of wildlife on a regional scale. The study area is expected to support potential live-in and movement habitat for species on a local scale (i.e., some limited live-in and at least marginal movement habitat for reptile, bird, and mammal species). Movement on a local scale is likely limited to species adapted to urban environments due to the existing disturbance and high level of development within the study area and immediate vicinity. In addition, for these reasons, any movement corridors within the study area are most likely limited to the larger drainages. Although implementation of the Proposed Project would result in potential disturbances to local wildlife movement during construction, those species adapted to urban areas would be expected to persist on site following construction, particularly within the open space areas. In the major drainages where wildlife corridors exist, pipelines would be installed by jack and boring or HDD to avoid surface disturbance and therefore impacts to wildlife would be less-than-significant. The study area is not known to support wildlife nursery area(s) and no impacts would occur, therefore no mitigation measures would be required. The alignments, or buried pipelines, would not inhibit wildlife movement in the undeveloped areas after their installation has been completed. The one proposed component that would be located in currently undeveloped land, the Wanket Tank, does not lie within a wildlife corridor. The proposed Harmony Grove WRP is located on a disturbed knoll area that does not provide suitable habitat conditions for a wildlife corridor. For these reasons the Project would not have an adverse effect on wildlife movement.

#### **Migratory Species**

The study area supports potential nesting habitat for songbirds and raptors in the trees and shrubs within landscaped areas adjacent to alignments proposed along roadways and other



developed areas (and located outside the Biological Areas), and in native communities within the Biological Areas. Disturbing or destroying active nests of migratory birds is a violation of the MBTA. In addition, nests and eggs are protected under Fish and Game Code Section 3503. Nesting activity typically occurs from February 15 to August 31 for songbirds, and January 15 to August 31 for raptors. Where possible, construction activities, especially vegetation removal, should be conducted outside of the nesting season. However, if construction activities must occur during the nesting season, impacts are considered potentially significant in the absence of mitigation. A mitigation measure (MM BIO-5) is proposed to ensure impacts to nesting songbirds and raptors are avoided or minimized (see section 8.2 below). With the implementation of MM BIO-5, potential impacts would be reduced to a less-than-significant level.

**e.) Consistency with Local Policies and Ordinances**

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

*Less than Significant with Mitigation Incorporated*

Trees are located throughout the study area within the developed (i.e., landscaped) and undeveloped portions (i.e., Biological Areas) portions. At this time the nature, number, and locations of any trees that may require removal is unknown. The Cities of San Diego, Escondido, Carlsbad, Encinitas, Vista, San Marcos, and Del Mar have tree ordinances protecting certain tree types, and requiring permits for removal and mitigation thereof. Any impacts to protected trees would be considered potentially significant in the absence of mitigation. Therefore, MM BIO-6, which requires a tree inventory and may require a Tree Protection Plan or tree removal permit, would be required to ensure impacts to trees are minimized. With the implementation of this mitigation measure, potential impacts would be reduced to a less-than-significant level.

**5.2.5 Consistency with Adopted Natural Community Conservation Plan**

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

*Less than Significant with Mitigation Incorporated*

The majority of the Proposed Project study area is located within the MHCP and/or MSCP, the majority being within the MHCP and the draft North County MSCP and with only a few portions within the South County MSCP. However, only those portions of the Proposed Project within the Biological Areas are considered to support sensitive biological resources and therefore be subject to the requirements and mitigation outlined in these plans (apart from Biological Area 25 which is not



within the MHCP or MSCP plans). The analysis in this report is based on the foundation documents for the MHCP and MSCPs; specific City subarea plans were not directly considered since this is a programmatic analysis. However, since the City subarea plans are based on the MSCP and MHCP plans they are therefore considered consistent in terms of sensitive biological resources and mitigation required; City subarea plans may provide additional details or guidelines on mitigation requirements. In addition to the MHCP and MSCP plans, the Proposed Project would be required to comply with existing state and federal laws and regulations pertaining to biological resources which is addressed in this analysis. For these reasons, the analysis in this report is considered adequate to identify potential conservation requirements pertaining to plant communities and targeted plant and wildlife species that are consistent with MHCP and MSCP requirements; it is expected that a detailed MSCP or MHCP analysis, as applicable, would occur during the project-specific phase.

It is anticipated that the sensitive natural communities within the South County MSCP, the draft North County MSCP, and the MHCP would be avoided to the greatest extent feasible; unavoidable impacts are likely to be limited to temporary constructed-related activities with any affected areas restored following completion. For permanent unavoidable impacts the mitigation measure proposed for sensitive natural communities (MM BIO-3) is expected to provide adequate compensation because it is in compliance with the MSCP required mitigation ratios. In addition, the Project would be required to comply with existing regulations and permitting requirements, such as those pertaining to sensitive plant and wildlife species and jurisdictional drainages that are also resources conserved under the MSCP and MHCP. As such, the Project is not expected to conflict with any provisions of the MSCP or MHCP plans.

## **6.0 MITIGATION MEASURES**

### **6.1 Approach**

Mitigation measures are recommended for those impacts to sensitive biological resources determined to be significant. Mitigation measures for impacts considered to be “significant” were developed in an effort to reduce such impacts to a level of “less than significant,” while at the same time allowing the project Applicant an opportunity to realize development goals. As stated in CEQA Guidelines Section 15370 mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.



4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

The MHCP and MSCP plans serve as umbrella documents to guide the preparation of subarea plans by each participating jurisdiction and do not receive any permits. To receive permit authorization, subarea plans must be consistent with the conservation and policy guidelines of the MHCP and MSCP plans and be approved by the wildlife agencies (CDFW and USFWS). Five cities have prepared subarea plans for the MHCP that have been submitted for public review including Carlsbad, Encinitas, Escondido, Oceanside, and San Marcos. Of these, the Carlsbad Subarea Plan is a final, approved document with permit authorization (amended December 1999).<sup>27</sup> Final approved subarea documents within the South County MSCP include the County of San Diego Subarea Plan, the City of San Diego Subarea Plan, and the City of Chula Vista Subarea Plan. MSCP and MHCP compliance would, therefore, be required pursuant to these approved plans for any permits or authorizations that are requested from the County or Cities implementing the approved plans. Approval of compliance and any necessary mitigation measures would be negotiated during the permitting process. Exemptions may be applicable for certain activities; specifically the County of San Diego outlines exemptions in their Biological Mitigation Ordinance (BMO). Projects in areas that do not have approved subarea plans and for which impacts are proposed to sensitive biological resources would be required to apply independently for permits to any agency regulating those biological resources.

## **6.2 Mitigation Measures for Significant Impacts**

The following mitigation measures (MM) address potentially significant impacts from implementation of the Proposed Project.

### **6.2.1 Measures to Mitigate Potentially Significant Impacts to Sensitive Plant Species (For Biological Areas Nos. 1, 2, 7, and 9 through 25; Biological Area 3 is excluded)**

This measure applies to the Biological Areas listed above. However, it should be noted that potential native habitats that could support sensitive plant species exist adjacent to project components that are outside the Biological Areas and proposed within developed areas. It is assumed no impacts would occur beyond the developed areas. However, should impacts be proposed beyond the developed areas into habitat areas during the project-level design the mitigation

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<sup>27</sup> According to information from SANDAG at <http://www.sandag.org/?projectid=97&fuseaction=projects.detail>



measure below would apply. Potential sensitive habitats observed adjacent to project components on aerial imagery during this assessment are outlined in **Table A** of this report. The mitigation measure applies to portions of the Proposed Project within or outside the limits of approved MHCP and/or MSCP plans; specific measures pertaining to these plans are indicated as applicable.

### **MM BIO-1 Surveys and Mitigation for Sensitive Plant Species.**

Prior to the initiation of construction the responsible agency shall conduct habitat assessments for sensitive plant species in areas of native habitat within construction zones, with focused surveys in areas where potentially suitable habitat for any species is identified. If the surveys determine the absence of sensitive plant species habitats or individuals, no further surveys or mitigation is required. In the event that any sensitive plant species are found on site and it is infeasible to avoid impacts that are determined to be significant, mitigation would be required. The significance of impacts shall be based on an assessment by a professional botanist familiar with the species based on the listing status of the species and the size and regional significance of the population(s) found. The mitigation shall consist of a minimum 1:1 ratio based on plant numbers or acreage occupied by the population, as deemed appropriate, pursuant to a Mitigation and Monitoring Plan (MMP) prepared by a professional botanist. The MMP shall be consistent with recommendations provided by the regulatory agency (CDFW and/or USFWS), professional restoration ecologists, and/or professional botanists familiar with the potentially impacted species. Specific measures to be included in the MMP shall include one or more of the following elements, as appropriate for the species and population size and the type of impacts (temporary or permanent):

- Restoration of sensitive plant species on the affected site if the area is only affected temporarily during construction; this may include the collection of seed, cuttings, or entire plants from the temporary impact area prior to construction to allow for transplantation post-construction. Seeds and cuttings may be propagated at an approved nursery or botanical garden prior to transplantation.
- Protection of mitigation “set asides” and transplantation receiver site(s) as mitigation for permanent impacts, including the recordation of a conservation easement or deed restriction and related best management practices (BMPs) such as protective fencing;
- The selection of a transplantation receiver site or sites as mitigation for permanent impacts. These sites shall be chosen with an emphasis placed on both ecological suitability to allow for maximum survival rate of transplants as well as the minimization of impacts to existing quality habitat;



- Collection of seed, cuttings, or entire plants from permanent impact areas for transplantation at receiver or mitigation sites; and/or
- Propagation of the seed or cuttings salvaged from permanent impact areas by an approved nursery or botanical garden for future transplantation to receiver or mitigation sites.

Permanent impacts to sensitive plants within the County of San Diego shall comply with the County of San Diego Biological Mitigation Ordinance and shall not exceed 20 percent of the population on-site. Mitigation for any impacts shall be required at a 1:1 ratio to 3:1 ratio depending on the sensitivity of the species and population size, as determined in a biological analysis approved by the County of San Diego Director. For impacts to sensitive plant species in Habitat Groups C and D on the County of San Diego Sensitive Plant List, mitigation shall also be in-kind at a ratio based on the sensitivity of the species and population size, as determined in a biological analysis approved by the County of San Diego Director.

#### **6.2.2 Measures to Mitigate Potentially Significant Impacts to Sensitive Wildlife Species (For Biological Areas Nos. 1, 2, 3, 7, and 9 through 25)<sup>28</sup>**

This measure applies to all the Biological Areas, as listed above. However, it should be noted that potential native habitats that could support sensitive wildlife species exist adjacent to project components that are outside the Biological Areas and proposed within developed areas. It is assumed no impacts would occur beyond the developed areas. However, should impacts be proposed beyond the developed areas into habitat areas during the project-level design the mitigation measure below would apply. Potential sensitive habitats observed adjacent to project components on aerial imagery during this assessment are outlined in **Table A** of this report. The mitigation measure below may also apply if potential indirect effects from noise would occur to species in these adjacent habitats, including but not limited to coastal California gnatcatcher in coastal sage scrub habitats and least Bell's vireo and/or southwestern willow flycatcher in riparian habitats. The mitigation measure applies to portions of the Proposed Project within or outside the limits of approved MHCP and/or MSCP plans; specific measures pertaining to these plans are indicated as applicable.

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<sup>28</sup> Specifically, Diegan coastal sage scrub that was determined to be of high natural quality, not intergrading with chaparral, and with California sagebrush as at least a sub-dominant member of the community was judged to be suitable habitat for the coastal California gnatcatcher. Habitat meeting these qualifications was found in Biological Areas Nos. 1, 2, 7, 9, 10, 11, 13, 14, and 19 and in these areas focused protocol surveys should be conducted. Biological Areas Nos. 2, 3, 9, 10, 11, and 12 are also USFWS designated Critical Habitat for coastal California gnatcatcher. Habitat where sufficiently dense and tall southern willow scrub could support the least Bell's vireo was found in Biological Areas 1, 2, 9, 10, 13, and 19 and in these areas focused protocol surveys should be conducted for this species. Potential suitable habitat for burrowing owl was found in Biological Area 19.



## **MM BIO-2 Surveys for Sensitive Wildlife Species.**

Prior to the initiation of construction the responsible agency shall conduct habitat assessments for sensitive wildlife species in areas of native habitat within construction zones, with focused surveys in areas where potentially suitable habitat for any species is identified (including but not limited to the coastal California gnatcatcher, the least Bell's vireo, southwestern willow flycatcher and burrowing owl). Habitat assessments and/or focused surveys may also be required in areas where construction is located adjacent to but not within potential habitat areas to ensure no indirect noise impacts occur, for example construction proposed adjacent to riparian habitat that could support least Bell's vireo. Focused surveys shall be conducted by a qualified biologist(s) possessing valid permits as necessary, such as an Endangered Species Act Section 10(a)(1)(A) Recovery Permit (herein referred to as a USFWS permitted biologist), and following the required agency approved survey protocols. If the surveys determine the absence of sensitive wildlife species habitats or individuals, no further surveys or mitigation is required.

In the event that sensitive wildlife species are found on site and/or Critical Habitat for a sensitive species is mapped, and it is infeasible to avoid impacts, mitigation may be required. Authorization for impacts to federally-listed species (incidental take) or Critical Habitats would require a FESA Section 7 Consultation (if a federal nexus is established from an "agency action") or a Section 10(a) Habitat Conservation Plan (HCP) (in the absence of a federal nexus) through the USFWS. The Section 7 process requires a Biological Assessment and consultation with the USFWS, which would issue a Biological Opinion. USFWS may consider informal consultation for minimal or temporary impacts.

During consultation, the USFWS would gather all relevant information concerning the Proposed Project and the potential project-related impacts on the species (i.e., the project applicant would submit a species-specific Biological Assessment), prepare its opinion with respect to whether the project is likely to jeopardize the continued existence of the species (i.e., the USFWS would issue a Biological Opinion), and recommend mitigation/conservation measures where appropriate. Additionally, the need for state regulatory permits (i.e., Fish and Wildlife Code Section 1602 Streambed Alteration Agreement issued by the CDFW) would require either a Consistency Determination or Incidental Take Permit from the CDFW for state-listed species, such as least Bell's vireo, under CESA.

If coastal California gnatcatcher, least Bell's vireo/southwestern willow flycatcher, burrowing owl and/or Stephen's kangaroo rat are found to occupy the site, the measures outlined below shall be incorporated into the project with USFWS and/or CDFW approval. Avoidance measures shall also be incorporated





to avoid impacts from construction adjacent to any occupied areas. The proposed measures may be refined during USFWS consultation process, if required. MSCP requirements for these species as conditioned by the USFWS permit for the plan and outlined in the County of San Diego Biological Mitigation Ordinance are also included below.

### **Coastal California Gnatcatcher (CAGN)**

1. Avoid CAGN occupied habitat to the greatest extent feasible and preserve any mitigation areas in-perpetuity, as appropriate (see 2. and 3. below). No clearing of CAGN occupied habitat shall occur between March 1 through August 15.
2. Mitigate for any impacts to CAGN occupied habitat at a minimum 1:1 ratio of habitat restoration or creation either on site and/or off site on land acquired for the purpose of mitigation, or through the purchase of mitigation credits at an agency approved mitigation bank. Purchase of any mitigation credits shall occur prior to any habitat removal. Mitigation on land acquired for mitigation shall include the preservation, creation, restoration, and/or enhancement of similar habitat pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP shall be prepared prior to any impacts to the habitat, and shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. The goal of the mitigation shall be to preserve, create, restore, and/or enhance similar habitat with equal or greater function and value than the impacted habitat.
3. Provide long-term management of mitigation habitat, if appropriate.
4. Avoid direct mortality of individual CAGN during construction by:
  - a. Removing any vegetation within CAGN occupied habitat outside the breeding season (the breeding season is February 15 to August 31) to the greatest extent feasible; and
  - b. Monitoring by a qualified biologist during vegetation removal to flush out any non-breeding birds away from the clearing activities.
5. Avoid indirect impacts to CAGN including noise impacts during construction and edge effects post-construction, by implementing measures to buffer and avoid human-wildlife conflicts as appropriate. Proposed measures are as follows:



#### During Construction

- a. Construction noise shall not exceed 60 dB(A) Leq in avoided occupied coastal California gnatcatcher habitat between February 15 and August 31 unless noise attenuation measures are implemented to reduce noise levels below this level, or the USFWS approves noise levels above this threshold. Noise attenuation measures may include, but are not limited to, establishing construction set-back buffers, equipment noise mufflers, and noise walls, as determined necessary by an acoustic specialist and in consultation with the project biologist. Monitoring by a qualified biologist shall also occur during construction to ensure noise levels are maintained below the threshold. Alternatively, construction noise levels above 60 dB(A) Leq may be approved by USFWS if monitoring by a USFWS permitted biologist for this species determines that the construction noise is not impacting the expected breeding behavior of the birds.

#### Post Construction

- a. Restricting access to any native habitat areas adjacent to new above-ground facilities, such as tanks, for example through installation of a fence around the perimeter and/or signs.
- b. Direction of all night lighting associated with new above-ground facilities away from adjacent habitat.
- c. Implementation of an awareness program to educate the occupants/employees of new above-ground facilities about the conservation values associated with any adjacent habitat areas.

#### **Least Bell's Vireo (LBV)<sup>29</sup>**

1. Avoid LBV occupied habitat to the greatest extent feasible and preserve any mitigation areas in-perpetuity, as appropriate (see 2. and 3. below). No clearing of LBV occupied habitat shall occur between March 15 and September 15 (no harm or lethal take of this species is authorized within the U.S. Army Corps of Engineers' jurisdictional wetlands). A biological buffer of at least 100 feet shall be maintained adjacent to habitat occupied by LBV.

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<sup>29</sup> *These measures also apply to southwestern willow flycatcher and western yellow-billed cuckoo. For southwestern willow flycatcher, no clearing of occupied habitat shall occur within the MSCP between May 1 and September 1.*



2. Mitigate for any impacts to LBV occupied habitat at a minimum 1:1 ratio of habitat restoration or creation either on site and/or off site on land acquired for the purpose of mitigation, or through the purchase of mitigation credits at an agency approved mitigation bank. Purchase of any mitigation credits shall occur prior to any habitat removal. Mitigation on land acquired for mitigation shall include the preservation, creation, restoration, and/or enhancement of similar habitat pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP shall be prepared prior to any impacts to the habitat, and shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. The goal of the mitigation shall be to preserve, create, restore, and/or enhance similar habitat with equal or greater function and value than the impacted habitat.
3. Provide long-term management of mitigation habitat, if appropriate.
4. Avoid direct mortality of individual LBV during construction by:
  - a. Removing any vegetation within LBV occupied habitat outside the breeding season (the breeding season is March 15 to September 15); and
  - b. Monitoring by a qualified biologist during construction in adjacent areas to avoid inadvertent removal of occupied habitat.
5. Avoid indirect impacts to LBV including noise impacts during construction by implementing the following proposed measures:
  - a. Construction limits in and around least Bell's vireo potential habitat shall be delineated with flags and fencing prior to the initiation of any grading or construction activities.
  - b. Prior to grading and construction a training program shall be developed and implemented to inform all workers on the project about listed species, sensitive habitats, and the importance of complying with avoidance and minimization measures.
  - c. All construction work shall occur during the daylight hours. The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours determined by the City.
  - d. During all excavation and grading on site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers'



standards to reduce construction equipment noise to the maximum extent possible. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors (i.e., least Bell's vireo territory) nearest the project site.

- e. The construction contractor shall stage equipment in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.
- f. Noise from construction activities shall be limited to the extent possible through the maximum use of technology available to reduce construction equipment noise. Project-generated noise, both during construction and after the development has been completed, shall be in compliance with the requirements outlined in any local noise regulations to ensure that noise levels that the riparian area is exposed to do not exceed noise standards for residential areas.
- g. The project shall be designed to minimize exterior night lighting while remaining compliant with local ordinances related to street lighting. Any necessary lighting (e.g., to light up equipment for security measures), both during construction and after construction has been completed, will be shielded or directed away from the nesting area and are not to exceed 0.5 foot-candles. Monitoring by a qualified lighting engineer (attained by the project applicant and subject to spot checking by local municipality staff) shall be conducted as needed to verify light levels are below 0.5 foot-candles required within identified, occupied least Bell's vireo territories, both during construction and at the onset of operations. If the 0.5 foot-candles requirement is exceeded, the lighting engineer shall make operational changes and/or install a barrier to alleviate light levels during the breeding season.

### **Burrowing Owl**

Focused surveys for burrowing owl shall be conducted during the breeding season by a qualified biologist with experience conducting burrowing owl surveys, prior to vegetation clearing or ground disturbing activities. Surveys shall be conducted in suitable habitat as determined by the qualified biologist based on a field assessment of site conditions at the time of the survey, including habitats such as the ruderal and non-native grassland plant communities. The survey methodology shall follow the protocol provided as Appendix D of the *Staff Report on Burrowing Owl Mitigation* published by the California Department of Fish and Wildlife (March 7, 2012). Pursuant to this protocol four survey visits are required, including at least one site visit between February 15 and April 15,



and a minimum of three survey visits at least three weeks apart between April 15 and July 15 (with at least one visit after June 15). The results of the focused surveys are typically considered valid for one year after completion.

If burrowing owls are determined present following focused surveys, occupied burrows shall be avoided to the greatest extent feasible, following the guidelines in the 2012 *Staff Report on Burrowing Owl Mitigation* including, but not limited to, conducting pre-construction surveys, avoiding occupied burrows during the nesting and non-breeding seasons, implementing a worker awareness program, biological monitoring, establishing avoidance buffers, and flagging burrows for avoidance with visible markers. If occupied burrows cannot be avoided, acceptable methods may be used to exclude burrowing owl either temporarily or permanently, pursuant to a Burrowing Owl Exclusion Plan that shall be prepared and approved by CDFW. The Burrowing Owl Exclusion Plan shall be prepared in accordance with the guidelines in the *Staff Report on Burrowing Owl Mitigation*. Habitat mitigation pursuant to the MSCP and BMO shall also be provided for occupied habitats subject to the approval of the implementing agency, at a minimum 1:1 ratio for the territory of the owl.

#### **Stephen's Kangaroo Rat (SKR)<sup>30</sup>**

1. Avoid SKR occupied or suitable habitat to the greatest extent feasible and preserve any mitigation areas in perpetuity, as appropriate (see 2. and 3. below).
2. Mitigate for any impacts to SKR occupied habitat at a minimum 2:1 ratio of habitat restoration or creation either on site and/or off site on land acquired for the purpose of mitigation, or through the purchase of mitigation credits at an agency approved mitigation bank. Purchase of any mitigation credits shall occur prior to any habitat removal. Mitigation on land acquired for mitigation shall include the preservation, creation, restoration, and/or enhancement of similar habitat pursuant to a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP shall be prepared prior to any impacts to the habitat, and shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. The goal of the mitigation shall be to preserve, create, restore, and/or enhance similar habitat with equal or greater function and value than the impacted habitat.
3. Provide long-term management of mitigation habitat.
4. Avoid direct mortality of individual SBKR during construction by:

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<sup>30</sup> Applies to other small mammal species, as applicable, such as pacific pocket mouse, northwestern San Diego pocket mouse, and San Diego desert woodrat.



- a. Installation of exclusionary fencing at the limits of construction within suitable habitat areas; and
  - b. Live-trapping of SKR within suitable habitat in construction areas and the relocation of trapped individuals to one or more biologically appropriate receiver sites (defined as suitable habitat that is known to be unoccupied, is below population carrying capacity levels, and/or where scrub vegetation has been restored and colonization by the species has not occurred). Trapping shall be conducted by a USFWS permitted or approved biologist.
5. Avoid indirect impacts to SKR as a result of edge effects post-construction for new above-ground facilities adjacent to suitable habitat areas by implementing measures to buffer and avoid human-wildlife conflicts as appropriate, such as installation of fencing or signage to restrict access, shielding night lighting away from the habitat areas, and educating the occupants/employees of the facilities as to the conservation value of the habitat areas.

**6.2.3 Measures to Mitigate Potentially Significant Impacts to Sensitive Natural Communities (For Biological Areas 1, 2, 3, 7, and 9 through 24; Biological Area 25 is excluded)**

This measure applies to the Biological Areas listed above. However, it should be noted that potential native habitats exist adjacent to project components that are outside the Biological Areas and proposed within developed areas. It is assumed no impacts would occur beyond the developed areas. However, should impacts be proposed beyond the developed areas into habitat areas during the project-level design the mitigation measure below would apply. Potential habitats observed adjacent to project components on aerial imagery during this assessment are outlined in **Table A** of this report. The mitigation measure applies to portions of the Proposed Project within or outside the limits of approved MHCP and/or MSCP plans; specific measures pertaining to these plans are indicated as applicable. MM BIO-3 Native Habitat Compensation.

Prior to the issuance of any grading permit in areas determined to support sensitive habitat communities, a field assessment shall occur to confirm the presence/absence and extent of the communities. If sensitive plant communities are present and impacts to sensitive plant communities cannot be avoided, a Mitigation and Monitoring Plan (MMP) shall be prepared to offset impacts to those sensitive plant communities. The MMP shall focus on the restoration of equivalent habitat (for temporary impacts) or the restoration, enhancement or creation of equivalent habitats outside the impact area (for permanent impacts).



In addition, the MMP shall provide details as to the implementation of the mitigation, maintenance, and future monitoring. Mitigation for impacts shall be offset in one or more of the following ways:

- Transplantation of the plant community species,
- Seeding of the plant community species,
- Planting of container plants of the plant community species, and/or
- Salvage of duff and seed bank and subsequent dispersal.
- Off-site preservation at an established mitigation bank or other area dedicated for conservation.

Mitigation ratios shall be 1:1 for temporary impacts by restoring to pre-project conditions. Ratios for permanent impacts will be consistent with MSCP and MHCP required ratios as outlined below for areas within approved subarea plans. For areas outside approved subarea plans, sensitive communities requiring mitigation would be those identified by CDFW as 'high priority'.<sup>31</sup> Mitigation for CDFW high priority communities shall be at a minimum 1:1 ratio for sensitive upland plant communities (the ratio of mitigation for upland plant communities would be subject to approval by CDFW and/or USFWS if occupied by sensitive species) and at a minimum of 2:1 ratio for sensitive riparian and wetland communities (the ratio of mitigation for riparian and wetland communities proposed for impacts within areas under the jurisdiction of CDFW, USACE and/or RWQCB would be subject to approval by the regulatory agencies during the permitting process).

### **Draft North County MSCP**

The North County MSCP subarea plan is in draft form, negotiations are ongoing and final approval is pending at this time. In its current draft the mitigation requirements apply to both lands mapped as Pre-Approved Mitigation Areas (PAMA) and outside PAMA areas. The land conservation categories and mitigation ratios are provided below, and are subject to change in the final plan document.

#### *Land conservation categories:*

- Pre-Approved Mitigation Area (PAMA)
- Outside PAMA

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<sup>31</sup> [http://www.dfg.ca.gov/biogeodata/vegcamp/natural\\_communities.asp](http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp)



- Pre-negotiated (Hardlined) Take Authorized Areas
- Preserve Areas
- Special Districts

Mitigation Ratios:

Habitat Tier	Impacted land within the PAMA	Impacted land outside the PAMA
Tier I <sup>a</sup>	2:1	1:1
Tier II <sup>b</sup>	1:1.5	1:1
Tier III <sup>c</sup>	1:1	0.5:1

<sup>a</sup> For plant communities identified within the Biological Areas, Tier I includes Freshwater marsh, southern maritime chaparral, southern willow scrub, and coast live oak woodland.

<sup>b</sup> For plant communities identified within the Biological Areas, Tier II includes Diegan coastal sage scrub, Diegan coastal sage scrub: Baccharis dominated, chamise chaparral

<sup>c</sup> For plant communities identified within the Biological Areas, Tier III includes northern mixed chaparral and non-native (annual) grassland – Tier III

**South County MSCP Conserved Plant Communities**

The South County MSCP plan is approved and being implemented at this time. The required mitigation ratios for each habitat tier under this plan are provided below (taken from Table 4-8 of the South County MSCP and consistent with the BMO) and apply to areas that meet the criteria for biological resource core areas (including but not limited to PAMA’s identified for conservation, major and minor amendment areas for which specific conservation lands have not yet been identified, wildlife linkages/corridors, lands that contain a high number of sensitive species, and so on. A comprehensive list is provided in Sec. 86.506 of the BMO).





<b>Tier 1</b>	<b>Impacted Land</b>	
<b>Conserved Land</b>	<b>Meets criteria for biological resource core area</b>	<b>Does not meet criteria for biological resource core area</b>
<b>Meets criteria for biological resource core area*</b>	2:1	1:1
<b>Does not meet criteria for biological resource core area</b>	3:1	2:1

*Note: For plant communities identified within the Biological Areas, Tier 1 includes fresh water marsh, southern maritime chaparral, southern willow scrub and coast live oak woodland. Fresh water march and southern maritime chaparral required in-kind mitigation.*

<b>Tier 2</b>	<b>Impacted Land</b>	
<b>Conserved Land</b>	<b>Meets criteria for biological resource core area</b>	<b>Does not meet criteria for biological resource core area</b>
<b>Meets criteria for biological resource core area*</b>	1.5:1	1:1
<b>Does not meet criteria for biological resource core area</b>	2:1	1.5:1

*Note: For plant communities identified within the Biological Areas, Tier 2 includes Diegan coastal sage scrub, Diegan coastal sage scrub: Baccharis dominated, and chamise chaparral.*

<b>Tier 3</b>	<b>Impacted Land</b>	
<b>Conserved Land</b>	<b>Meets criteria for biological resource core area</b>	<b>Does not meet criteria for biological resource core area</b>
<b>Meets criteria for biological resource core area*</b>	2:1	1:1
<b>Does not meet criteria for biological resource core area</b>	3:1	2:1

*Note: For plant communities identified within the Biological Areas, Tier 3 includes northern mixed chaparral and non-native (annual) grassland. Non-native (annual) grassland requires mitigation at a 0.5:1 ratio.*

*\*- Biological resource areas are defined in the County's Biological Mitigation Ordinance.*



### **MHCP Conserved Plant Communities**

The MHCP plan is approved and being implemented at this time. The required mitigation ratios for unavoidable impacts to each habitat group under this plan are pursuant to specific mitigation criteria defined in the subarea plans, but shall be at ratios no less than those provided below that are taken from Table 4-6 of the MHCP Plan.

For impacts to Habitat Group A communities, mitigation shall consist of restoration or creation of new habitat areas to meet the no net loss goal. It is assumed that restored or new areas would not displace nor convert other natural habitat areas to wetland vegetation, but would replace disturbed or non-habitat areas. Restored habitat areas are assumed to be in-kind and located in an FPA, generally in the same watershed and in the relative vicinity of the impacted habitat.

For impacts to Habitat Group B, C, D and E vegetation communities, mitigation shall consist of permanent conservation of habitat in an FPA. In some cases, habitat creation or restoration may also qualify as mitigation. For Habitat Group B communities, restored or conserved habitat will be in-kind. For Habitat Groups C, D and E, conserved habitat may be out-of-kind, if the conserved habitat is located in an FPA, or outside an FPA, if it is shown to be a viable addition to the regional preserve system.



Habitat Group	Location of Impacted Habitat	
	Inside FPA <sup>a</sup>	Outside FPA
<b>Habitat Group A. Wetland/Riparian</b> (coastal salt marsh, alkali marsh, freshwater marsh, estuarine, salt pan/mudflats, riparian forest, riparian woodland, riparian scrub, vernal pool, disturbed wetland, flood channel, fresh water)	No net loss – see table below	
<b>Habitat Group B. Rare upland</b> (beach, southern coastal bluff scrub, maritime succulent scrub, southern maritime chaparral, Engelmann oak woodland, coast live oak woodland, native grassland)	3:1	2:1
<b>Habitat Group C. Coastal sage scrub</b> (coastal sage scrub, coastal sage scrub/chaparral mix)	2:1	1:1
<b>Habitat Group D. Chaparral</b> (chaparral excluding southern maritime chaparral)	1:1	0.5:1
<b>Habitat Group E. Annual grasslands</b> (annual non-native grassland)	0.5:1	0.5:1
<b>Habitat Group F. Other lands</b> (disturbed land including ruderal, agricultural land, eucalyptus)	None <sup>b</sup>	None <sup>b</sup>

<sup>a</sup> Primary conservation actions for natural habitat inside a FPA are assumed to be impact avoidance and minimization of unavoidable impacts. Inside a FPA, habitat that is conserved through impact avoidance may be used, subject to the jurisdiction's mitigation guidelines, to satisfy the mitigation obligation associated with habitat impacts of development elsewhere onsite.

<sup>b</sup> A local jurisdiction may require mitigation or levy of an in-lieu mitigation fee for impacts to this habitat group if it finds that such actions are necessary to meet the goals of the MHCP or the subarea plan.



**Replacement Mitigation Ratios for Impacts to Wetland Vegetation Communities**  
 (taken from Table 4-7 of the MHCP Plan)

<b>Wetland Vegetation Community<sup>a</sup></b>	<b>Mitigation Ratio<sup>b</sup></b>
Coastal salt marsh	4:1
Alkali marsh	4:1
Estuarine	4:1
Saltpan/mudflats	4:1
Oak riparian forest	3:1
Riparian forest	3:1
Riparian woodland	3:1
Riparian scrub	1:1 to 2:1
Fresh water	1:1
Freshwater marsh	1:1 to 2:1
Flood channel	1:1 to 2:1
Disturbed wetlands	1:1 to 2:1
Vernal pool	2:1 to 4:1

<sup>a</sup> *These communities are subject to the goal of no net loss in acreage, function, and biological value. The highest priority will be given to impact avoidance and minimization. Replacement of habitat subject to unavoidable impact will occur through restoration or creation of substitute habitat areas, generally of the same kind and in the vicinity of the impacted habitat.*

<sup>b</sup> *Mitigation ratios applicable in areas subject to review by the California Coastal Commission will be addressed in the cities' respective subarea plans. Such ratios may differ from those noted here.*



#### **6.2.4 Measures to Mitigate Potentially Significant Impacts to Jurisdictional Features (For Biological Areas 1, 2, 3, 7, 9, 13, 15, 16/17, 19, 21, 23, and 24; Biological Areas 10-12, 14, 18, 20, 22, and 25 are excluded)**

This measure applies to the Biological Areas listed above. However, it should be noted that potential drainages and/or wetlands exist adjacent to project components that are outside the Biological Areas and proposed within developed areas. It is assumed no impacts to these areas would occur. However, should impacts be proposed beyond the developed areas during the project-level design the mitigation measure below would apply. Potential drainages observed adjacent to project components on aerial imagery during this assessment are outlined in **Table A** of this report but are not necessarily inclusive of all jurisdictional features. Based on the scale of this programmatic assessment it is feasible that small drainages and wetland features not discernable on aerial imagery exist adjacent to project components outside the Biological Areas.

#### **MM BIO-4 Complete Jurisdictional Delineation and Mitigation As Applicable.**

A formal jurisdictional delineation shall be conducted prior to any ground disturbing activities to confirm the presence and extent of features regulated by the U.S. Army Corp of Engineers, the Regional Water Quality Control Board and/or California Department of Fish and Wildlife. If implementation of the project results in unavoidable impacts to jurisdictional waters, the responsible agency shall obtain a CWA Section 404 permit from the USACE, a CWA Section 401 permit from the RWQCB, and Streambed Alteration Agreement permit under Section 1602 of the California Fish and Game Code from the CDFW. The following mitigation shall be incorporated into the permitting, subject to approval by the regulatory agencies:

- On- and/or off-site replacement of USACE/RWQCB jurisdictional “waters of the U.S.”/“waters of the State” at a ratio no less than 1:1 for permanent impacts, and for temporary impacts to restore the impact area to pre-project conditions (i.e., pre-project contours and revegetate as appropriate). Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank.
- On- and/or off-site replacement of CDFW jurisdictional streambed and associated riparian habitat at a ratio no less than 2:1 for permanent impacts, and for temporary impacts to restore the impact area to pre-project conditions (i.e., pre-project contours and revegetate as appropriate). Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank.



If potential jurisdictional features are avoided through jack and boring and/or HDD methods, the following measure shall be incorporated into the project:

- Prior to any ground disturbing activities, the USACE, RWQCB, and CDFW shall be notified of the proposed jack and boring and/or horizontal directional drilling (HDD) activities beneath jurisdictional features. If required by CDFW, a Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code would be obtained. A plan to deal with potential frac-out release or other emergency shall be prepared by the contractor (or project engineer) for submittal to USACE, RWQCB, and CDFW, if requested, prior to the activities outlining the project as well as the provisions in place to avoid/contain pollutants in case of an accident (e.g., should frac-out release occur).

Impacts and avoidance of wetland areas shall also comply with the County of San Diego County Biological Mitigation Ordinance and the Resource Protection Ordinance with regards to permitted uses and buffer avoidance widths for areas within the County of San Diego.

#### **6.2.5 Measures to Mitigate Potentially Significant Impacts to Migratory or Nesting Birds (Entire Study Area)**

##### **MM BIO-5 Avoid Migratory Bird Nesting Season or Complete Surveys Before Construction Activities.**

If feasible, construction within or adjacent to vegetation suitable for migratory birds shall occur outside the nesting season (i.e., September 1 through January 14) to avoid potential direct and indirect impacts to nesting birds. If vegetation removal is required during the nesting season, a qualified biologist shall survey all suitable habitats for the presence of nesting birds before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) around the nest shall be delineated, flagged, and avoided until the nesting cycle is complete, or as determined appropriate by the biologist. Biological monitoring shall also occur until the nesting cycle is complete.

#### **6.2.6 Measures to Mitigate Potentially Significant Impacts to Regulated Trees (Entire Study Area where trees are located).**

##### **MM BIO-6 Conduct Inventory of Trees Having the Potential to be Impacted, Prepare Tree Protection Plans, and Acquire Permits as Required by Municipality of Jurisdiction.**

Prior to any ground disturbing activities, a certified arborist shall conduct a tree inventory of any regulated trees within the project area in accordance with Tree Protection Ordinances of the applicable municipality or jurisdiction. Permits



shall be obtained, as needed, for tree removal. At such time any and all requirements shall be completed, including but not limited to the preparation of tree protection plans or acquisition of permits.

## **7.0 IMPACTS AFTER MITIGATION**

The inclusion of all of the above mitigation measures and compliance with existing regulations and ordinances would reduce all potentially significant impacts to a less than significant level.

If you have any questions regarding the methodology or findings of this assessment please feel free to contact Ceri Williams-Dodd ([c.williams-dodd@pcrnet.com](mailto:c.williams-dodd@pcrnet.com)) at (949) 753-7001.

Sincerely,  
**PCR SERVICES CORPORATION**

A handwritten signature in black ink that reads 'Bob Huttar'.

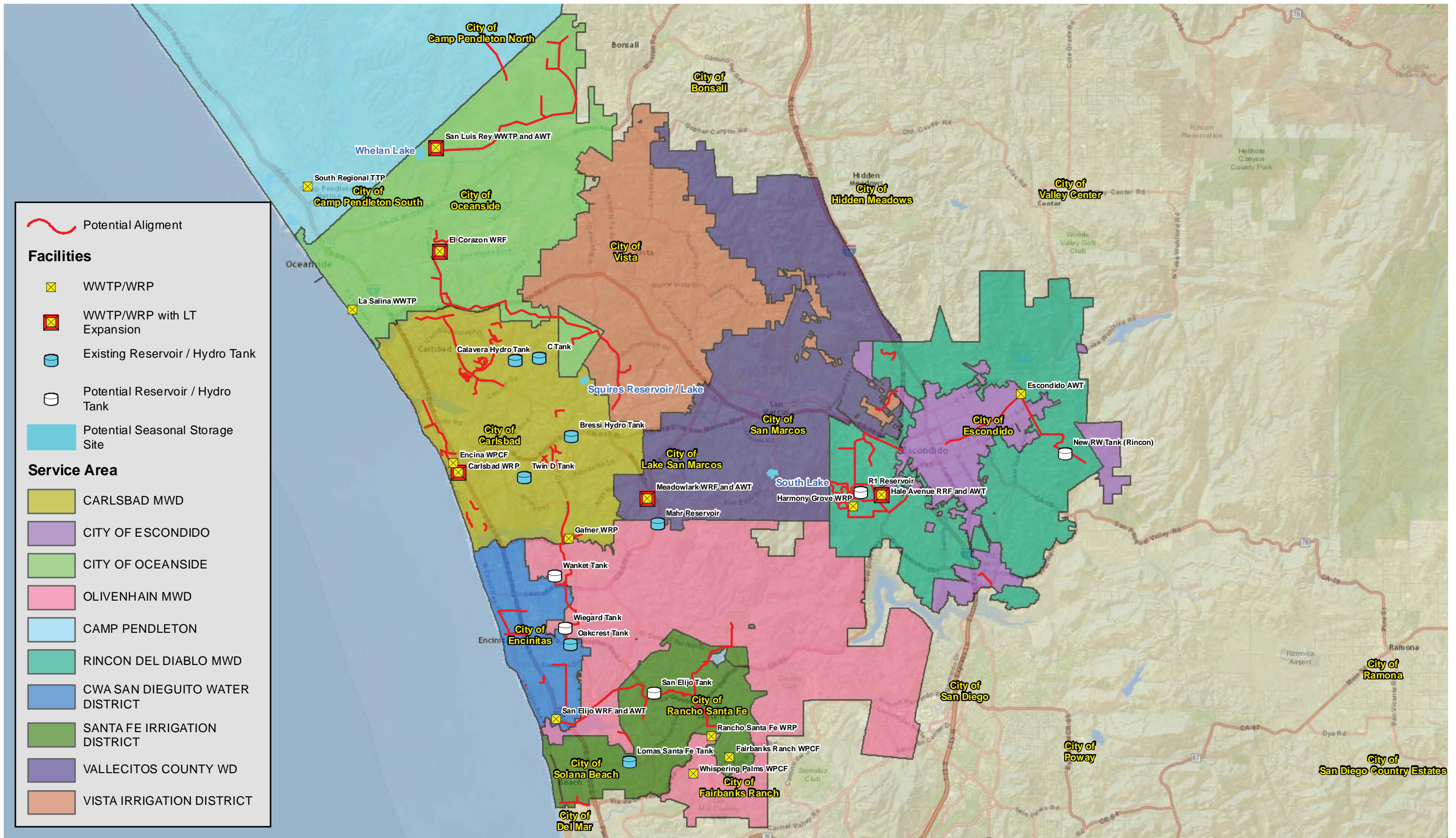
Bob Huttar  
Biologist

A handwritten signature in black ink that reads 'Ceri Williams-Dodd'.

Ceri Williams-Dodd, Ph.D.  
Senior Biologist II/Senior Technical Writer

Attachments

Figures 1 through 27  
Appendix A -

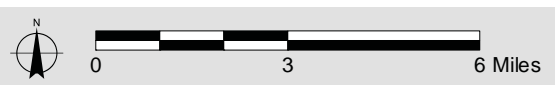
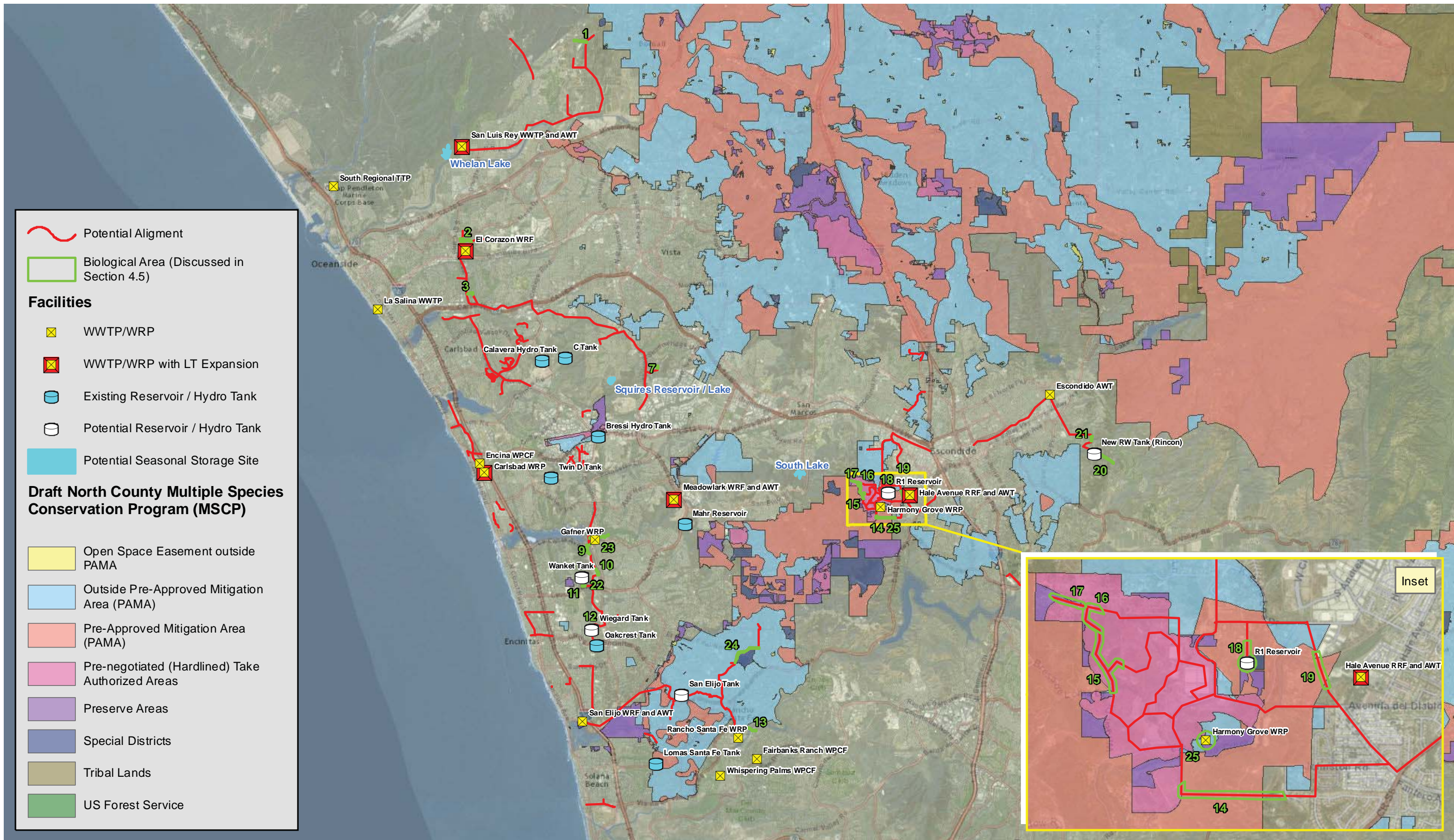


**Regional Overview Map**

FIGURE

**1**



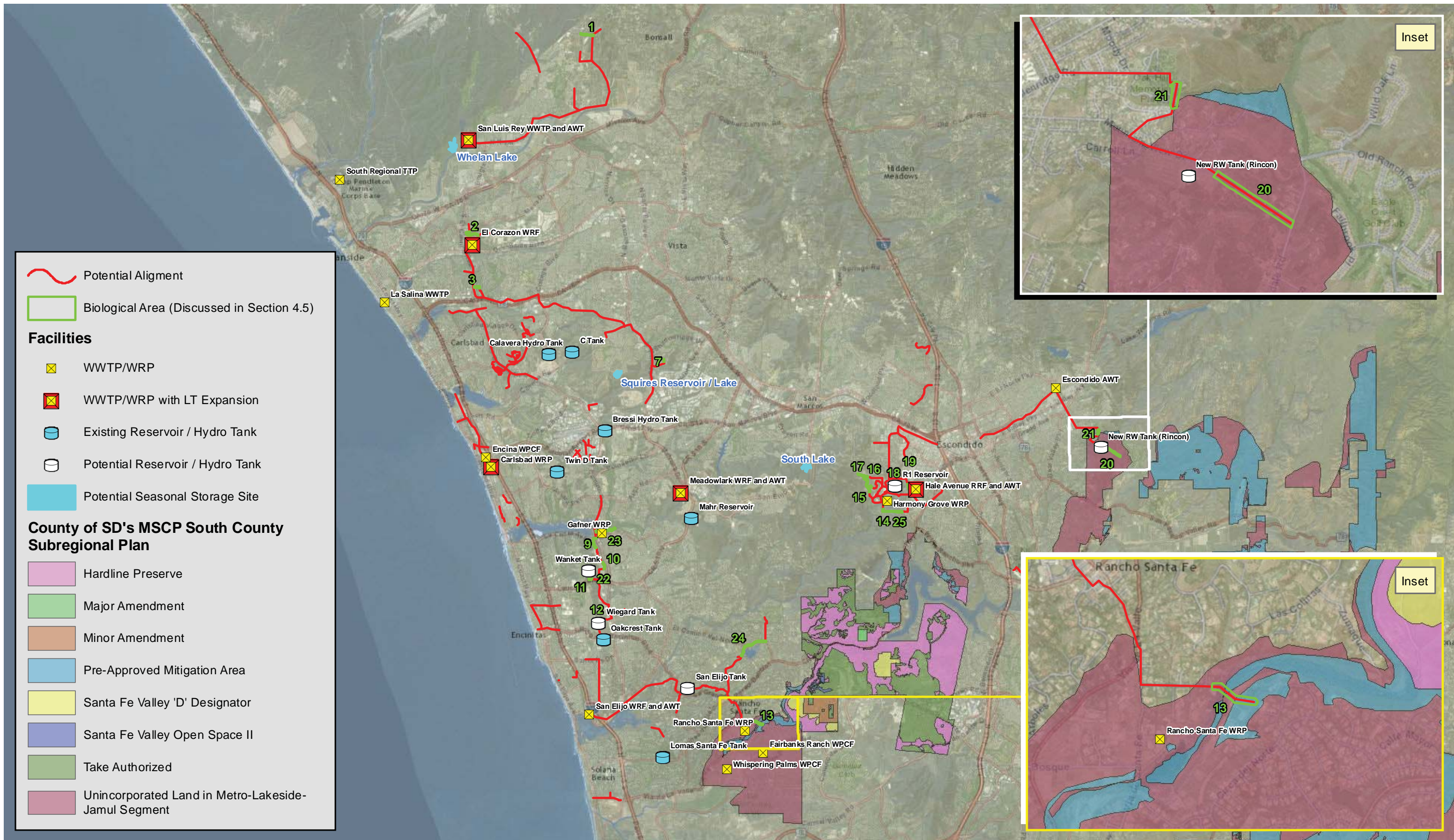


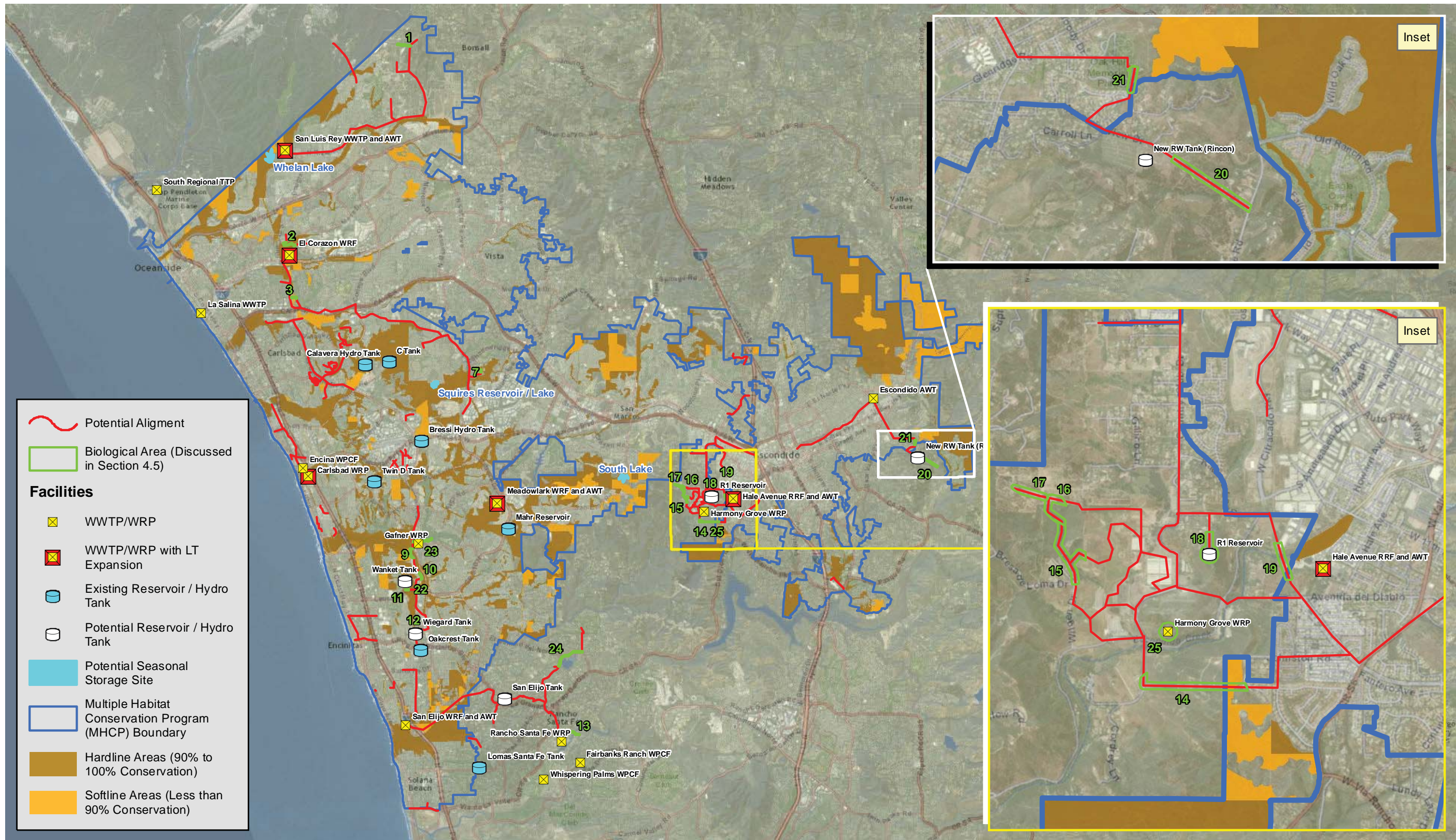
**Draft North County Multiple Species Conservation Program (MSCP)**

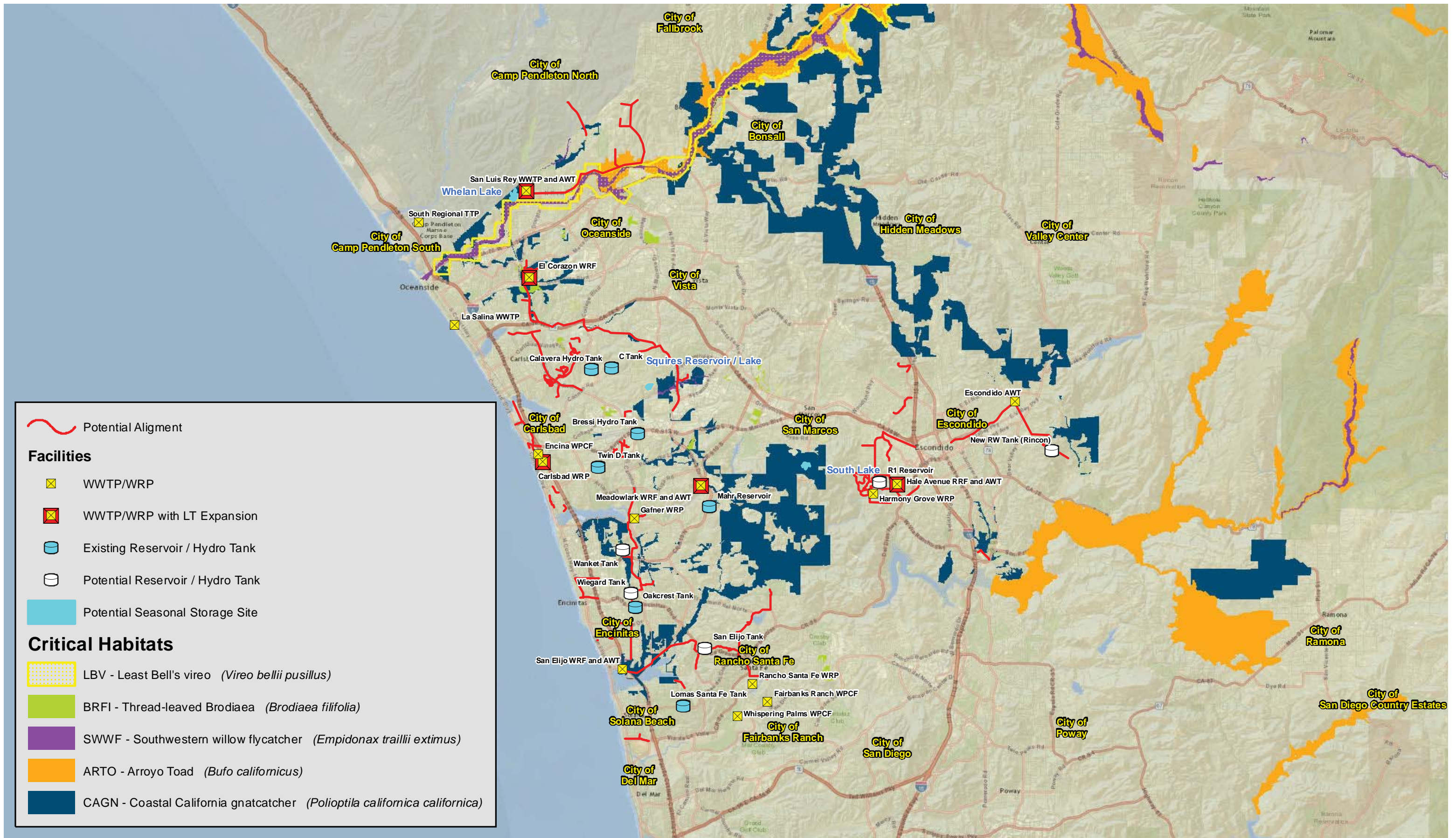
FIGURE

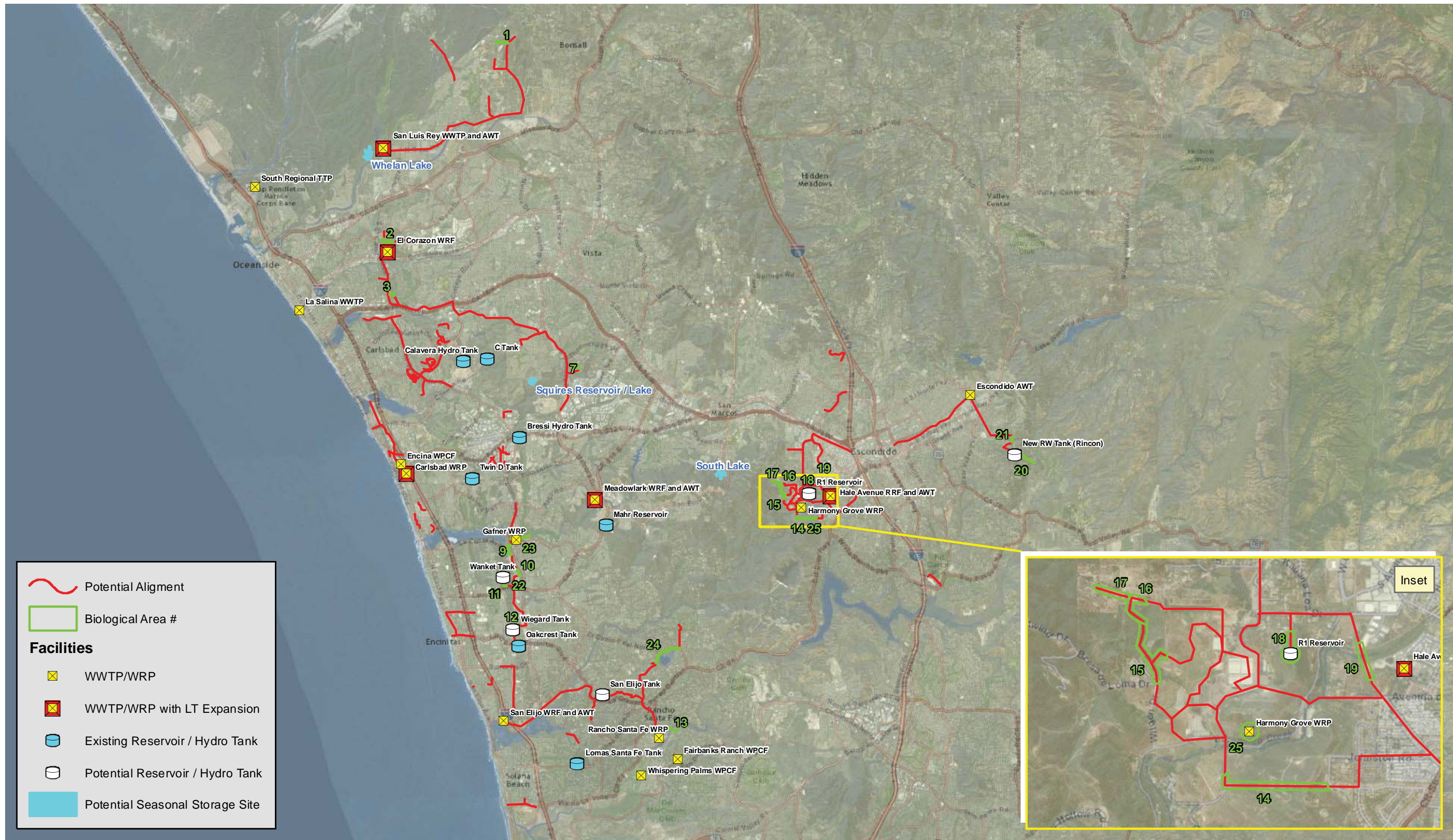
**2**


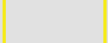

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

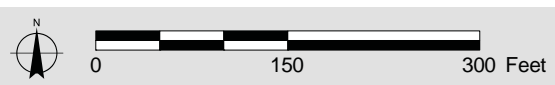
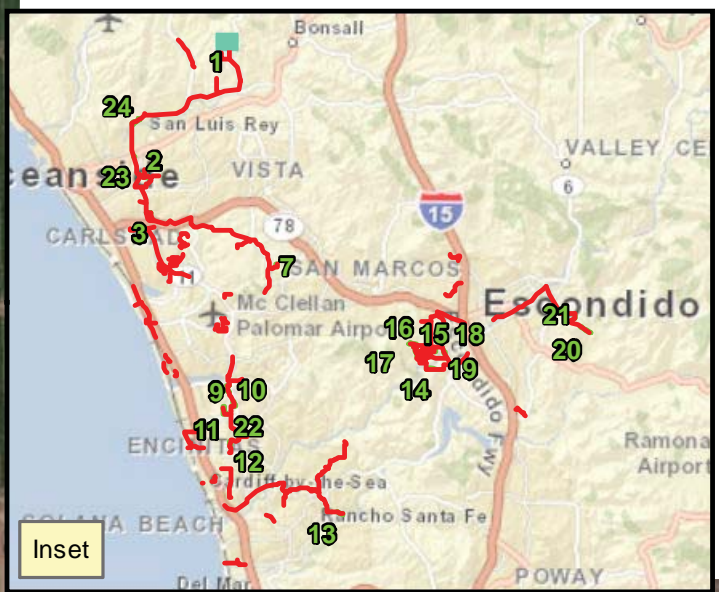
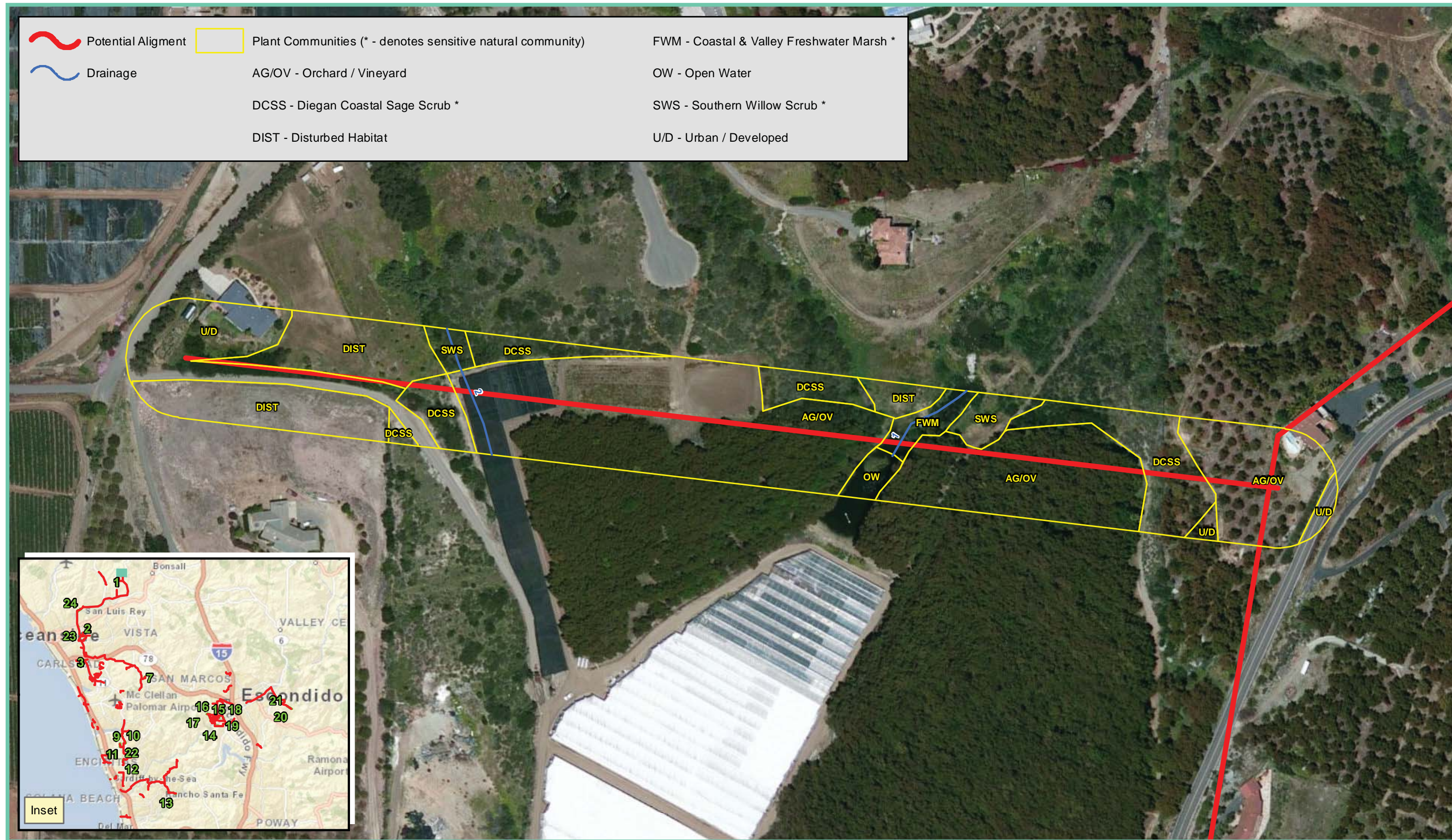






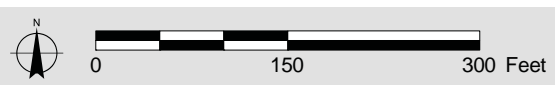


 Potential Alignment	 Plant Communities (* - denotes sensitive natural community)	FWM - Coastal & Valley Freshwater Marsh *
 Drainage	AG/OV - Orchard / Vineyard	OW - Open Water
	DCSS - Diegan Coastal Sage Scrub *	SWS - Southern Willow Scrub *
	DIST - Disturbed Habitat	U/D - Urban / Developed



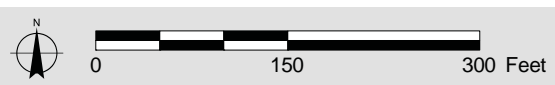
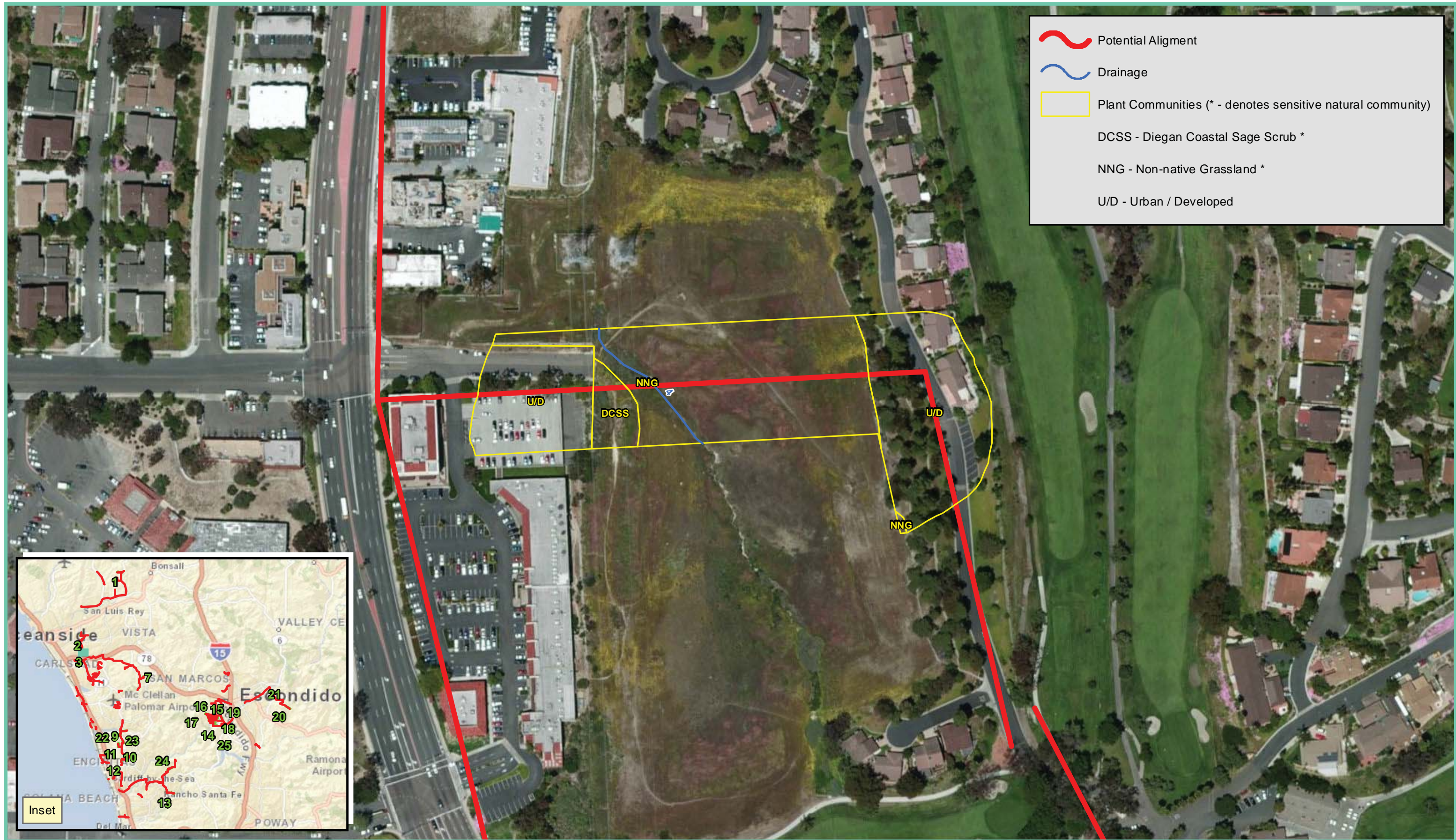
**Biological Area 1 - Alignment: SLR WWTP - Gilligan Groves Extension - Ph2 lateral  
(Group: G / WRP: San Luis Rey WWTP / Agency: City of Oceanside)**

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.



**Biological Area 2 - Alignment: El Corazon Site WRF to Emerald Isle GC  
(Group: G / WRP: San Luis Rey WWTP/SRTTP / Agency: City of Oceanside)**




RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

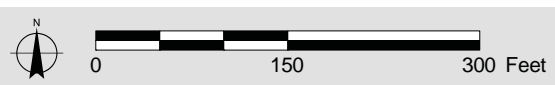
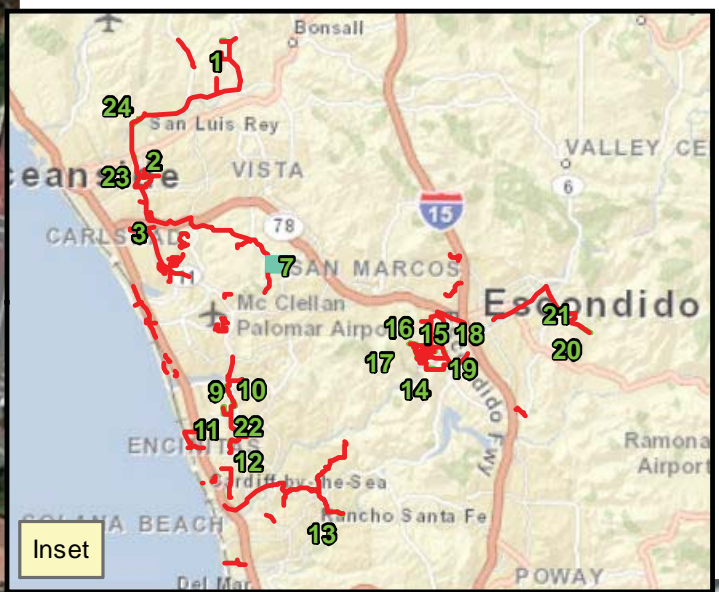
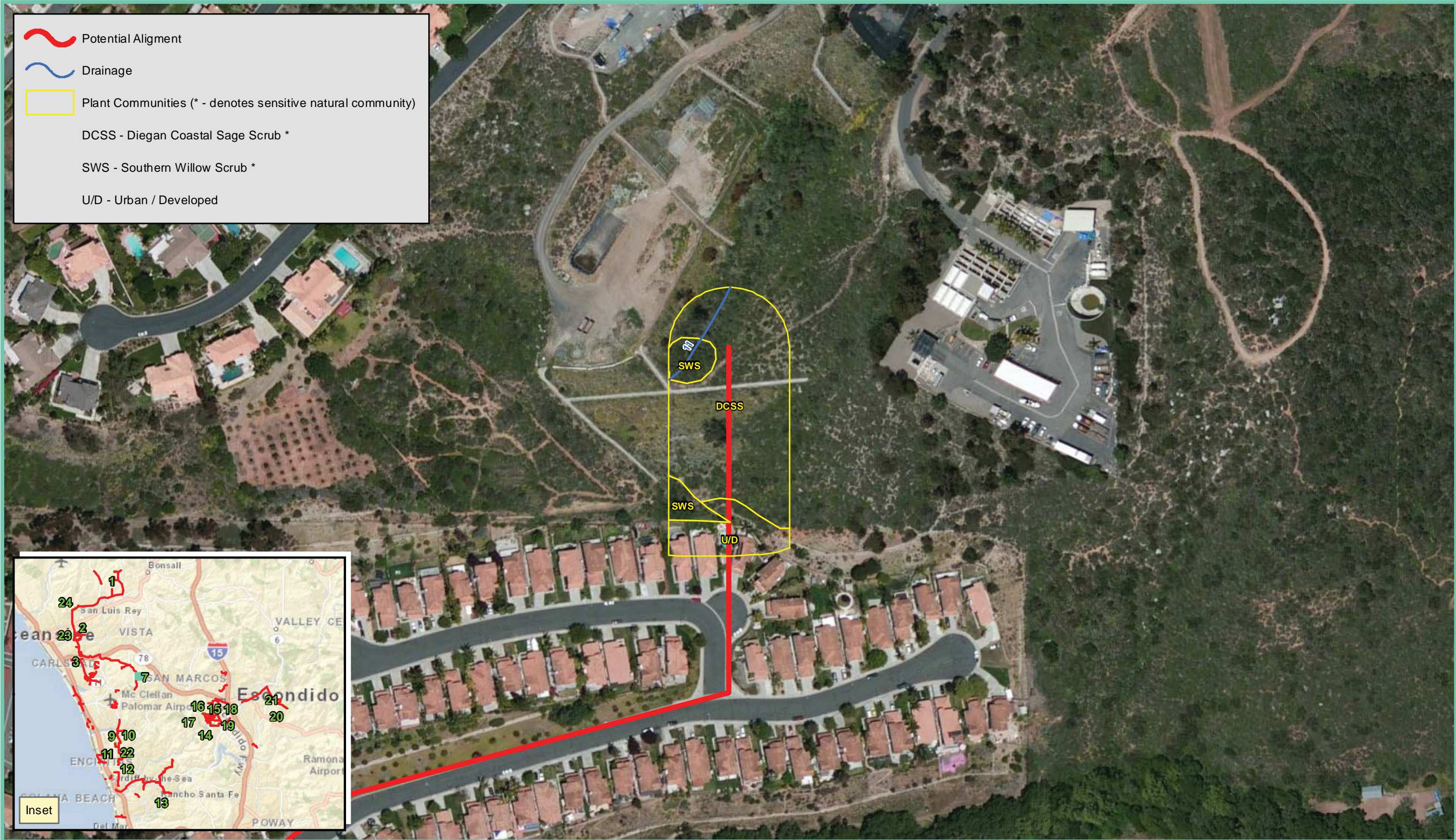


**Biological Area 3 - Alignment: El Corazon Site WRF to El Camino CC  
(Group: G / WRP: San Luis Rey WWTP/SRTTP / Agency: City of Oceanside)**

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.






-  Potential Alignment
-  Drainage
-  Plant Communities (\* - denotes sensitive natural community)
- DCSS - Diegan Coastal Sage Scrub \*
- SWS - Southern Willow Scrub \*
- U/D - Urban / Developed

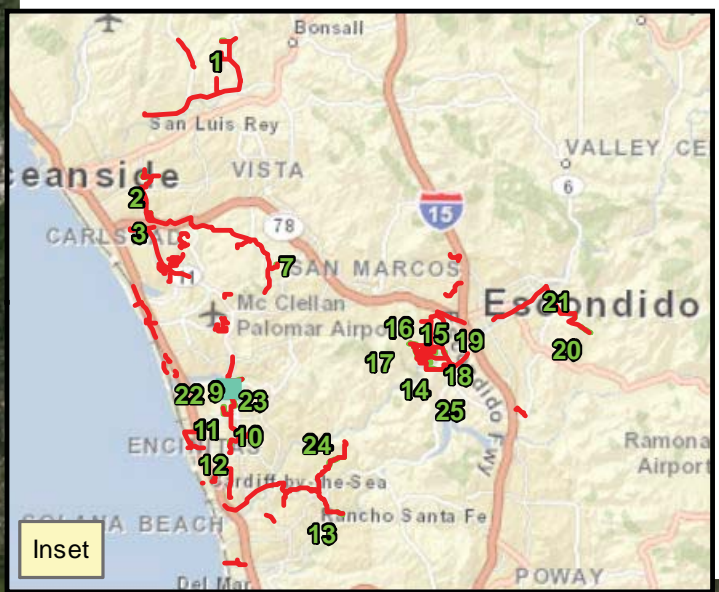
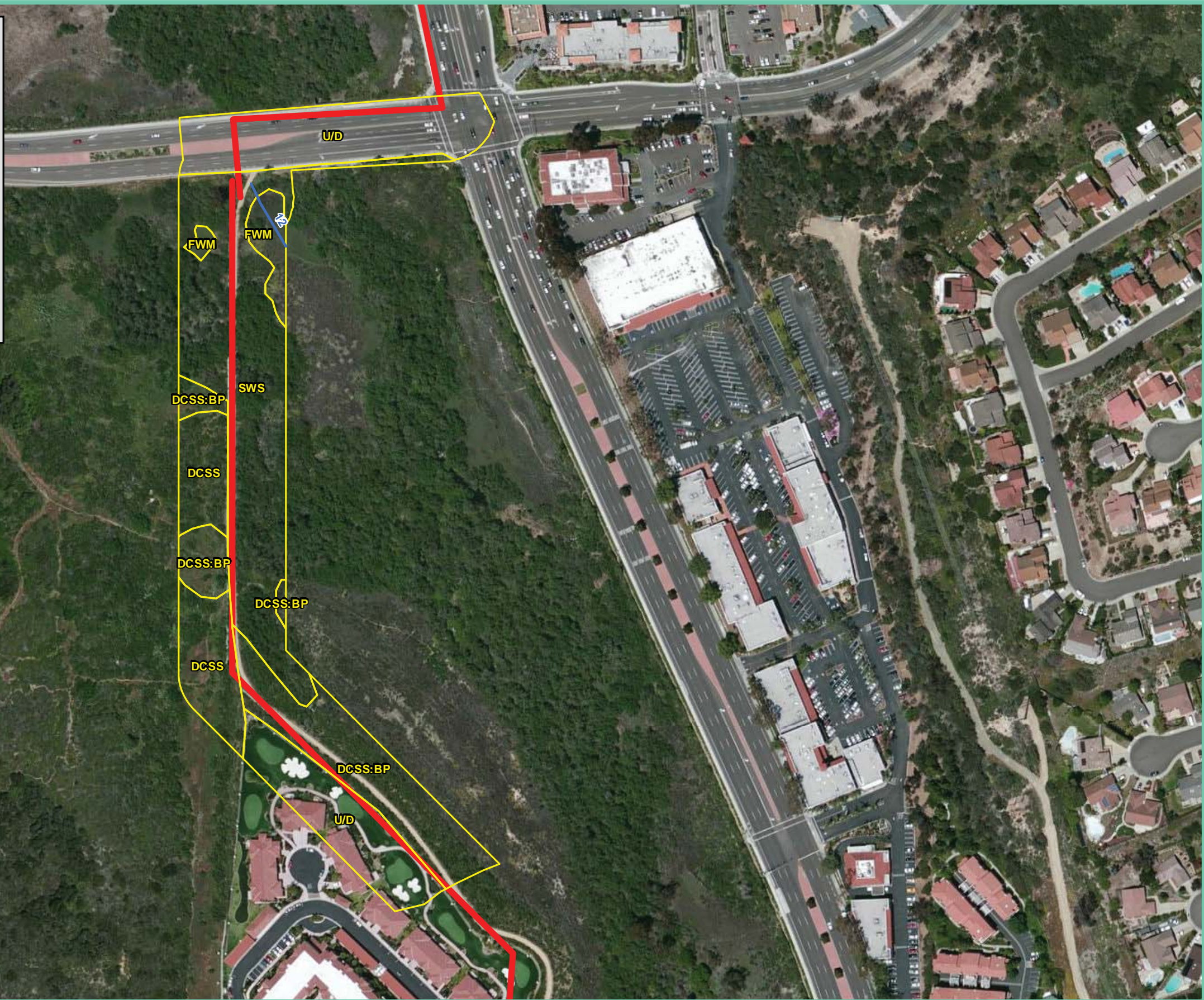


**Biological Area 7 - Alignment: Junc 4 to Shadowridge existing pipe**  
**(Group: O / WRP: Carlsbad WRF / Agency: Vista ID)**

RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

 Potential Alignment  
 Drainage  
 Plant Communities (\* - denotes sensitive natural community)


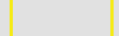
DCSS - Diegan Coastal Sage Scrub \*  
 DCSS:BP - Diegan Coastal Sage Scrub: Baccharis-dominated \*  
 FWM - Coastal & Valley Freshwater Marsh \*  
 SWS - Southern Willow Scrub \*  
 U/D - Urban / Developed

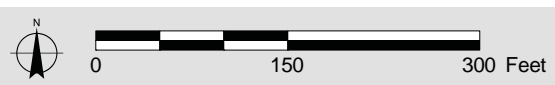
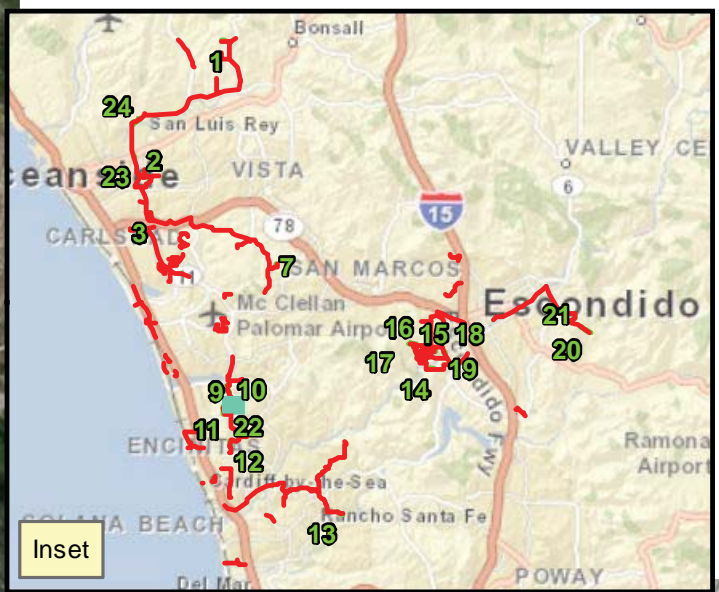


**Biological Area 9 – Alignment: Gafner WRP to OMWD Ex RW Pipe (Group: H / WRP: Gafner WRF / Agency: Olivenhain Metropolitan Water District) and Gafner WRP – Junction Y (Group: A / Carlsbad WRF-Gafner WRF / Agency: Carlsbad Metropolitan Water District)**




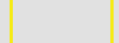
RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

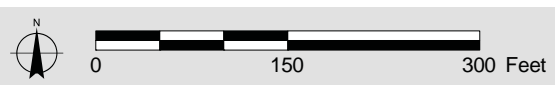
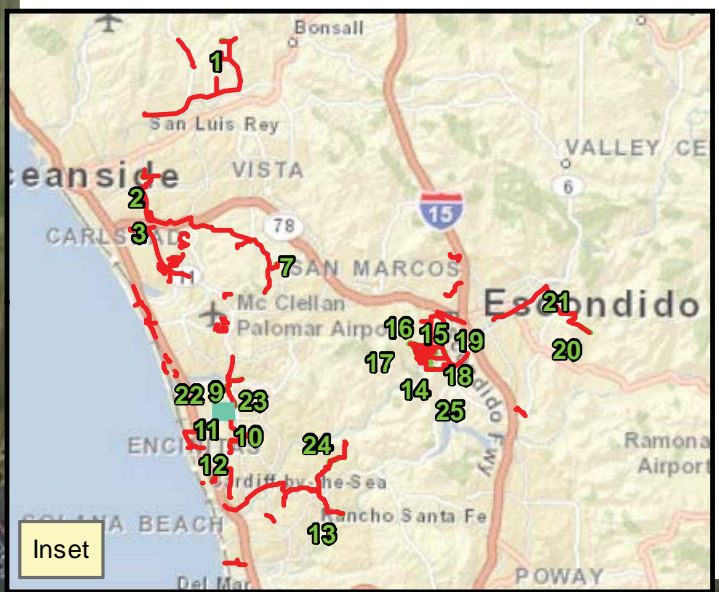
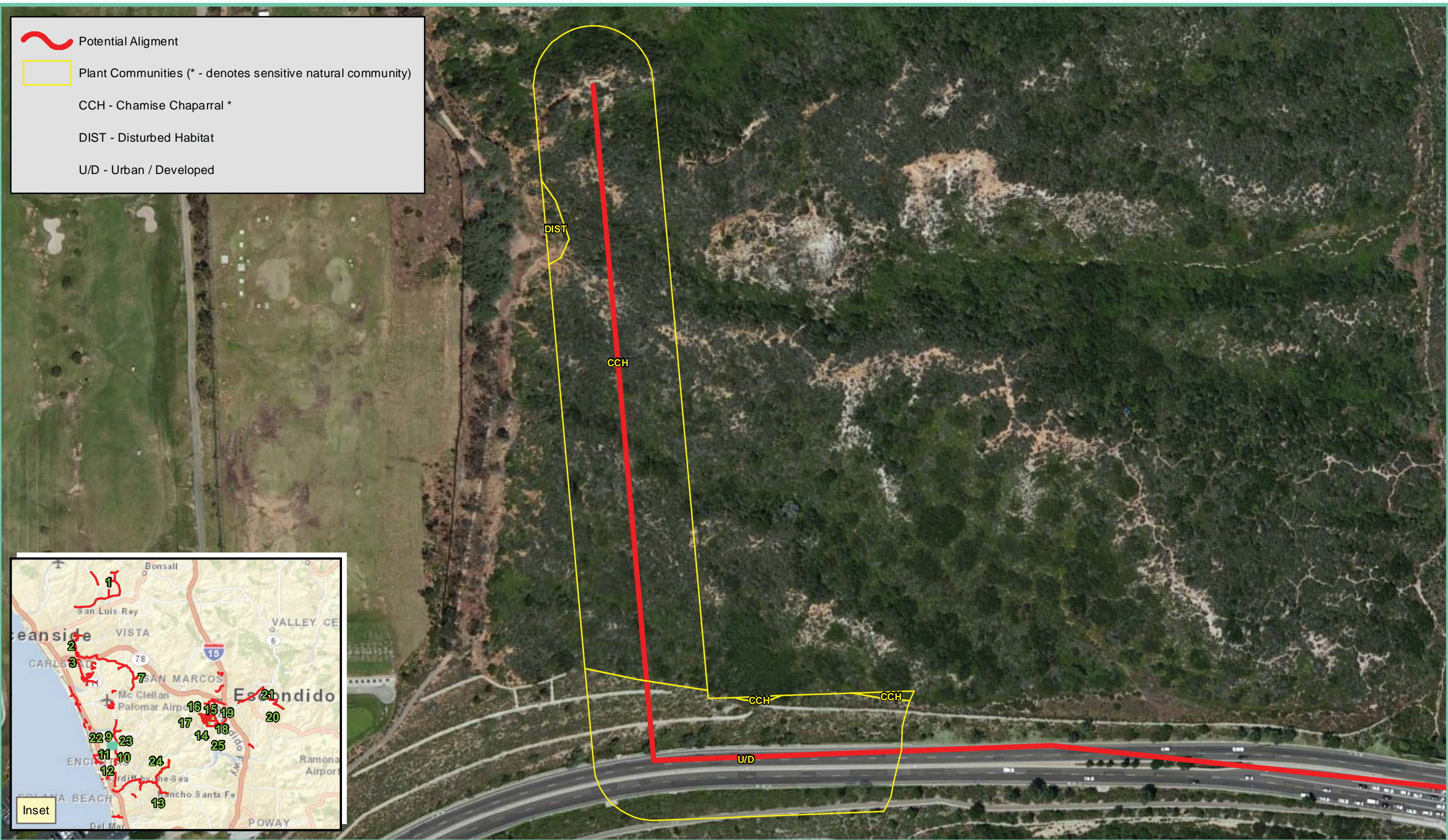
-  Potential Alignment
-  Plant Communities (\* - denotes sensitive natural community)
- DCSS:BP - Diegan Coastal Sage Scrub: Baccharis-dominated \*
- SWS - Southern Willow Scrub \*
- U/D - Urban / Developed



**Biological Area 10 - Alignment: Gafner WRP to OMWD Ex RW Pipe**  
 (Group: H / WRP: Gafner WRF / Agency: Olivenhain Metropolitan Water District)


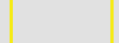
RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

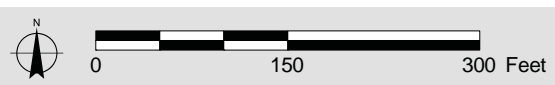
 Potential Alignment  
 Plant Communities (\* - denotes sensitive natural community)  
 CCH - Chamise Chaparral \*  
 DIST - Disturbed Habitat  
 U/D - Urban / Developed



**Biological Area 11 – Alignments: SEJPA – OMWD Connection**  
**and Wanket Tank to OMWD Ex Line (Group: H / WRP: San Elijo WRF-Gafner WRF / Agency: Olivenhain Metropolitan Water District)**

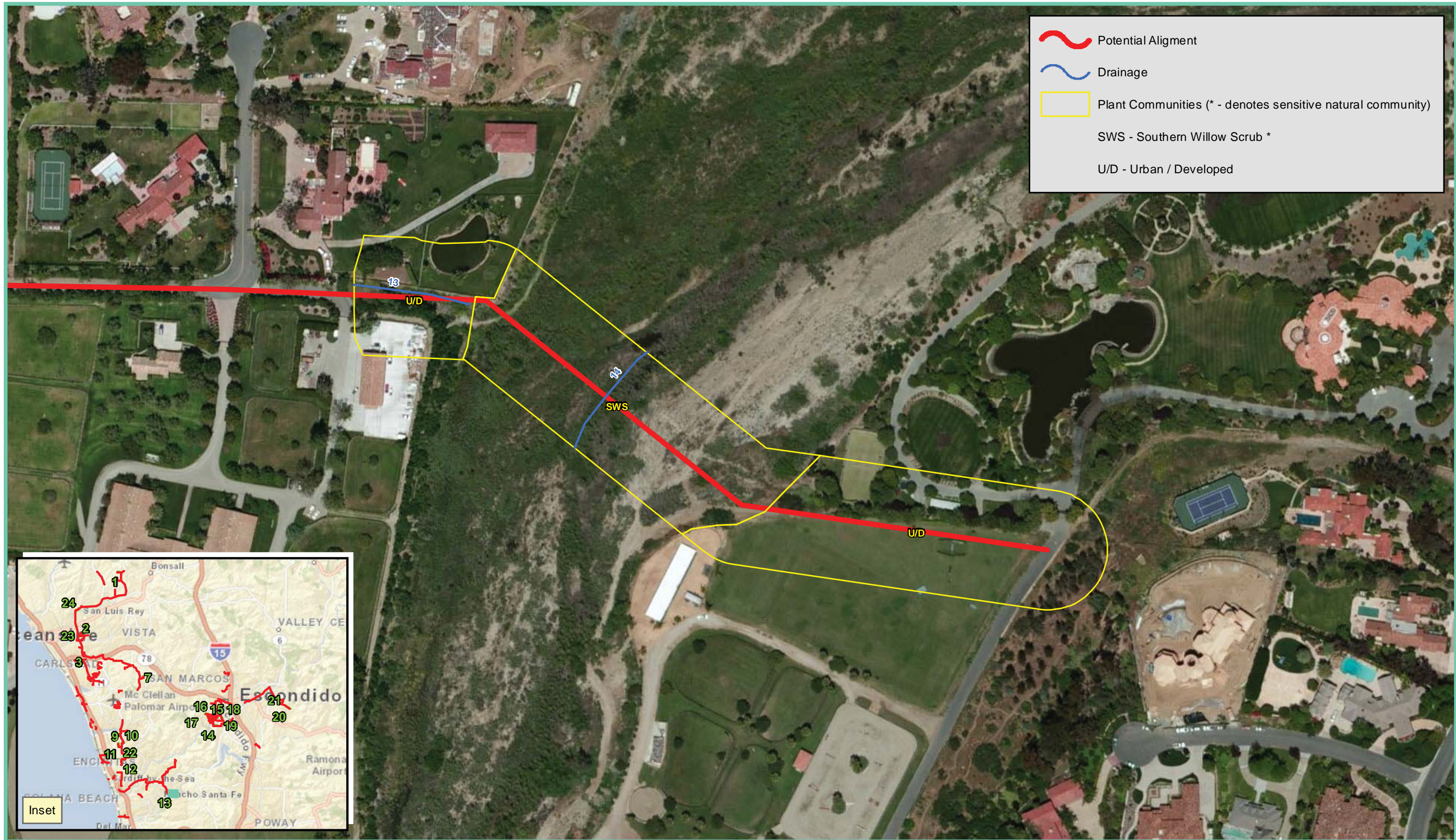
RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.




 Potential Alignment  
 Plant Communities (\* - denotes sensitive natural community)  
 SMC - Southern Maritime Chaparral \*  
 U/D - Urban / Developed

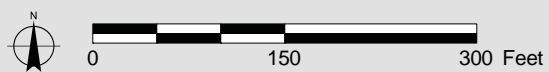
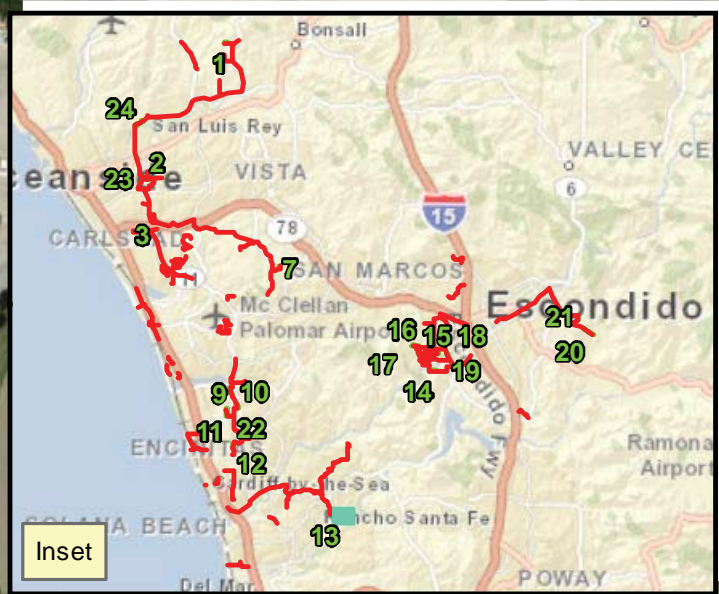


**Biological Area 12 – Alignment: Village Park to Wiegand Tank and Facility: Wiegand Tank (Group: H / WRP: Gafner WRF / Agency: Olivenhain Metropolitan Water District)**

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

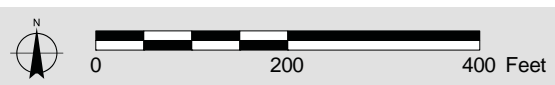
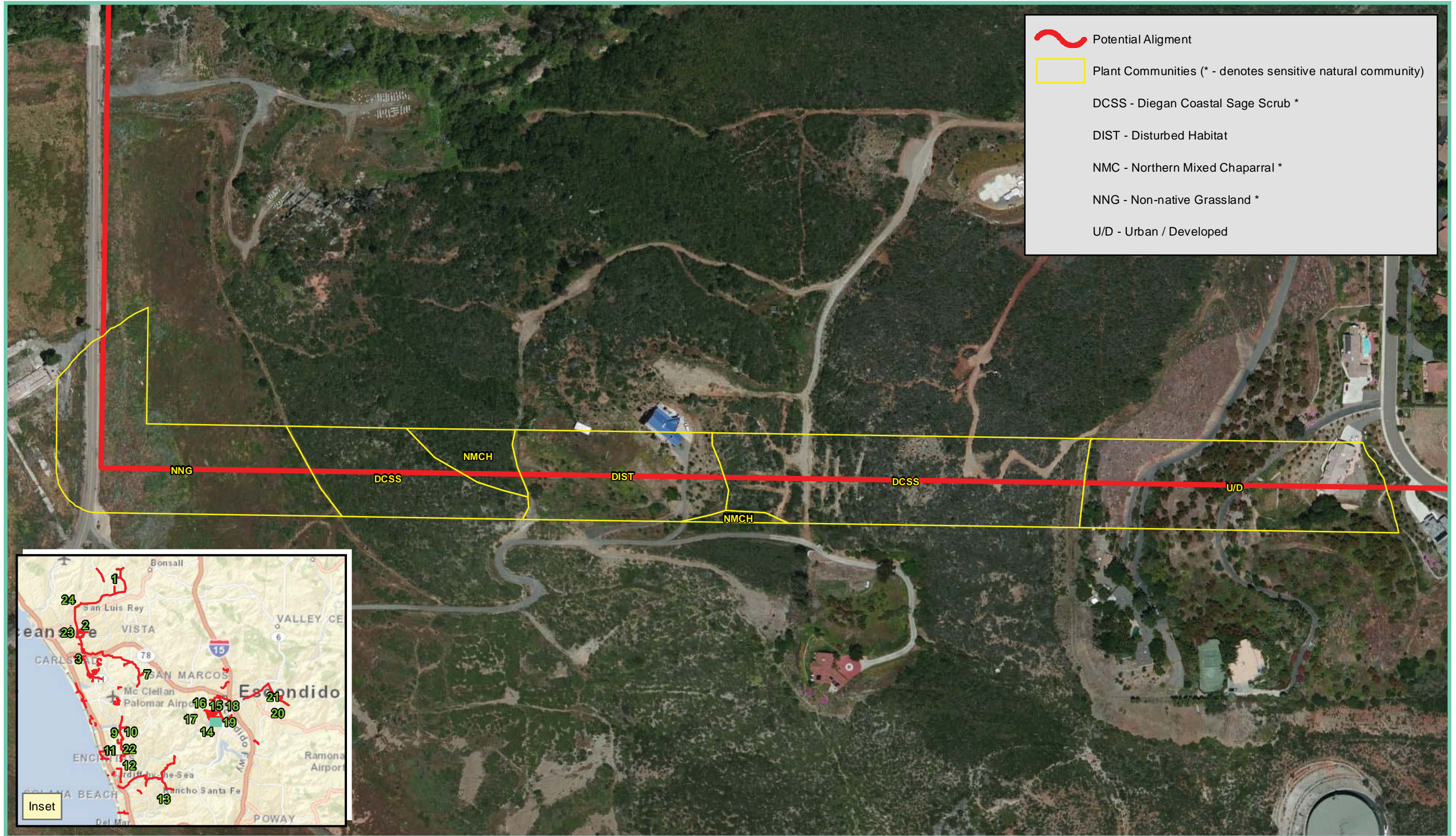


-  Potential Alignment
-  Drainage
-  Plant Communities (\* - denotes sensitive natural community)
- SWS - Southern Willow Scrub \*
- U/D - Urban / Developed






**Biological Area 13 - Alignment: Rancho Santa Fe WRP/Private Users Junction-Private Users (105 AFY)  
(Group: K / WRP: San Elijo WRF / Agency: Santa Fe ID)**

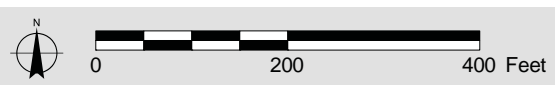
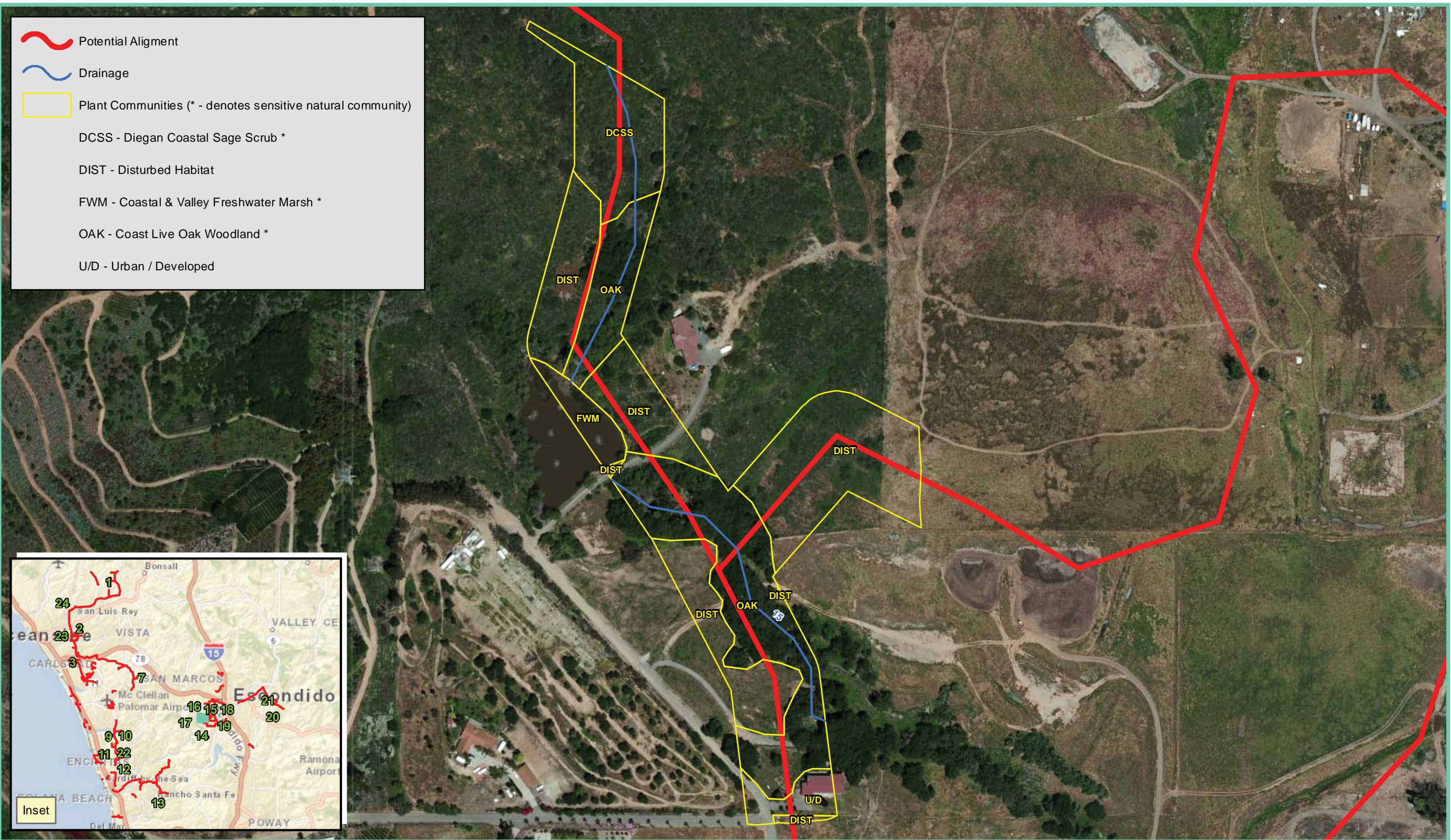
RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.



**Biological Area 14 - Alignment: Harmony Grove Area  
(Group: I / WRP: Hale Ave RRF / Agency: Rincon del Diablo Metropolitan Water District)**

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

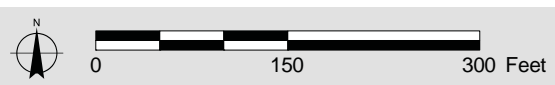
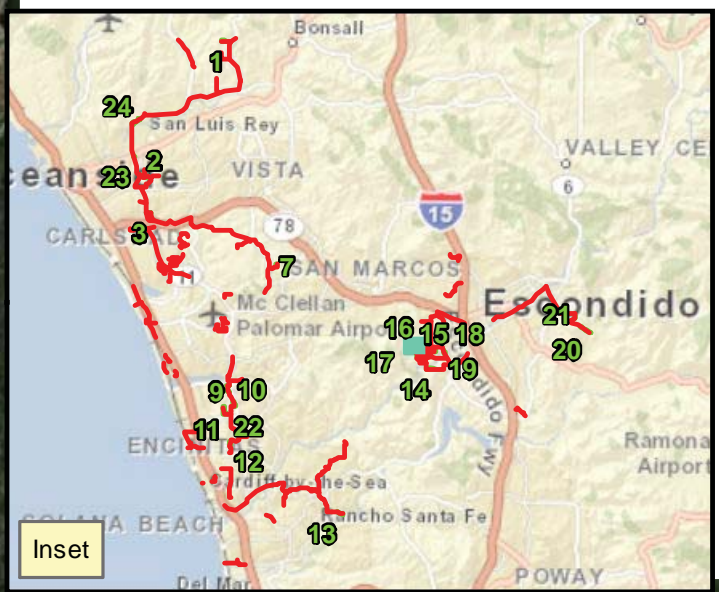
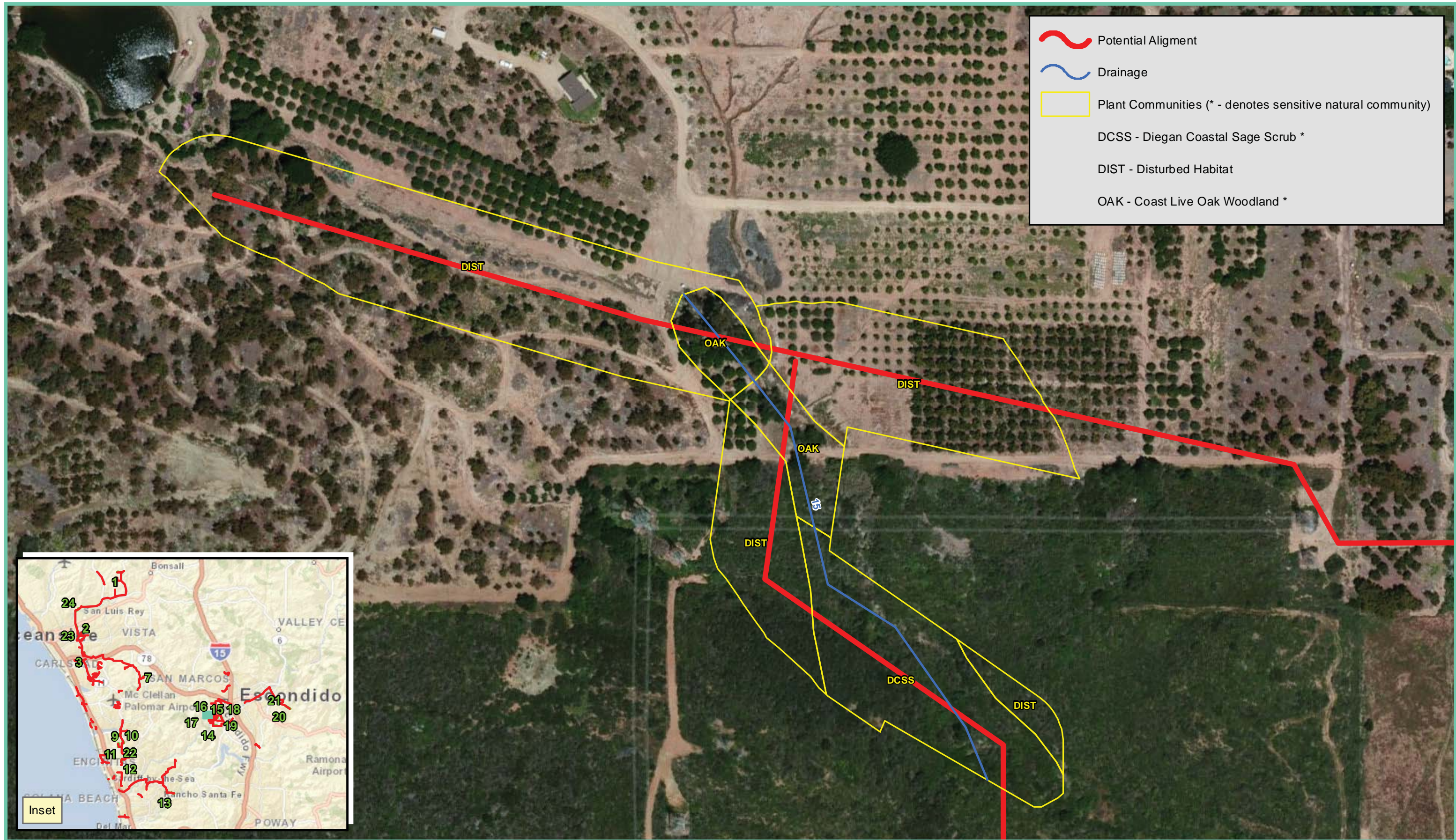
 Potential Alignment  
 Drainage  
 Plant Communities (\* - denotes sensitive natural community)  
 DCSS - Diegan Coastal Sage Scrub \*  
 DIST - Disturbed Habitat  
 FWM - Coastal & Valley Freshwater Marsh \*  
 OAK - Coast Live Oak Woodland \*  
 U/D - Urban / Developed



**Biological Area 15 - Alignment: Harmony Grove (by developer)**  
**(Group: J / WRP: Hale Ave RRF / Agency: Rincon del Diablo Metropolitan Water District)**


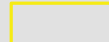
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 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

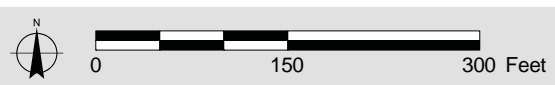
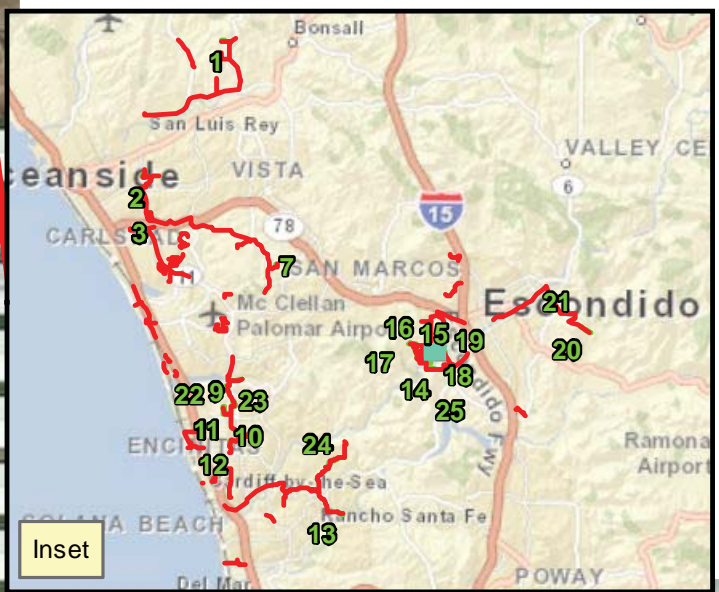
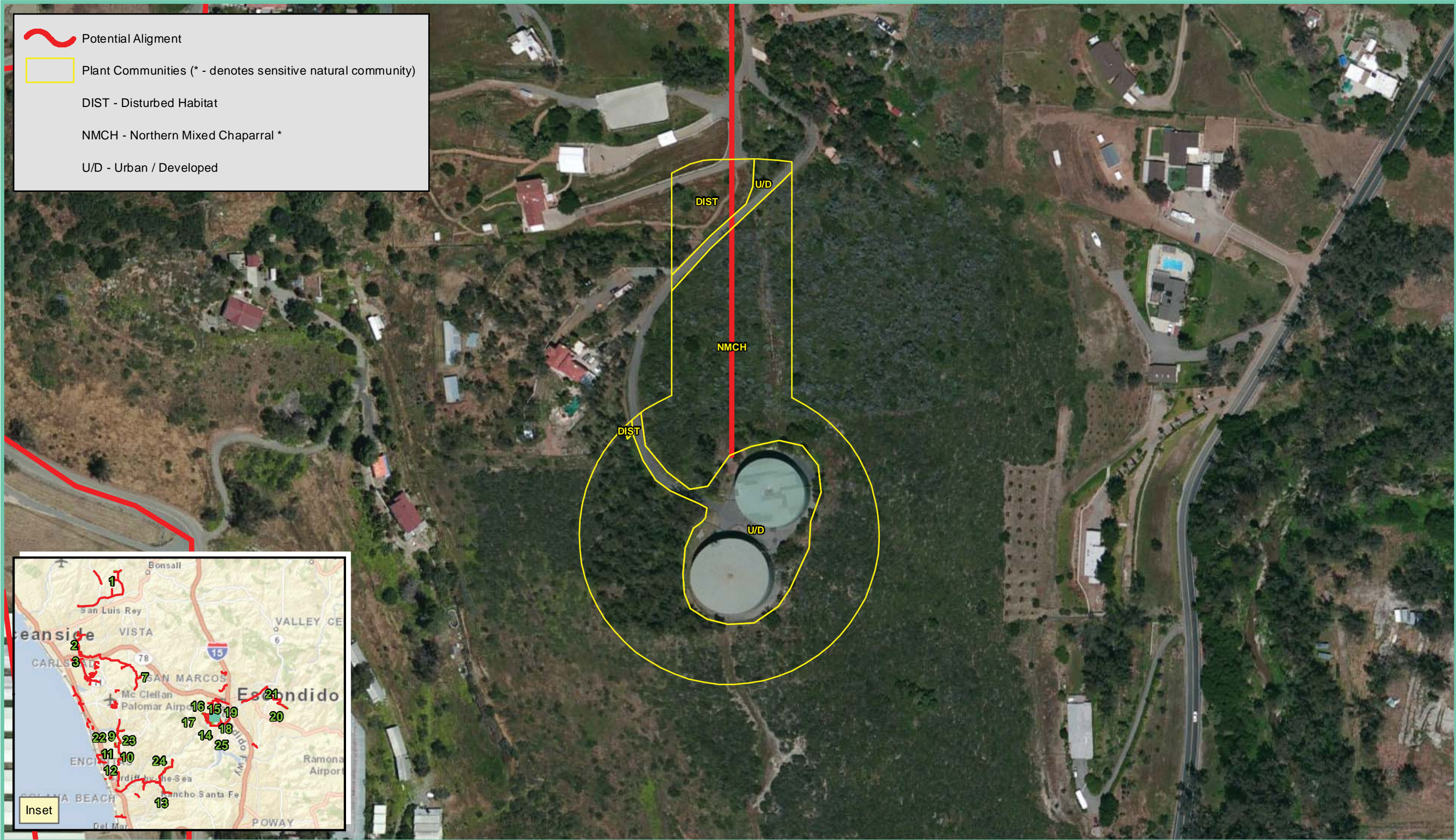




**Biological Areas 16/17 - Alignment: VWD New Development**  
 (Group: I / WRP: Hale Ave RRF / Agency: Rincon del Diablo Metropolitan Water District)




RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

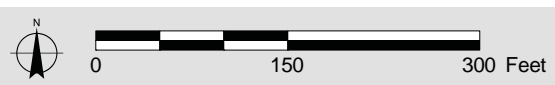
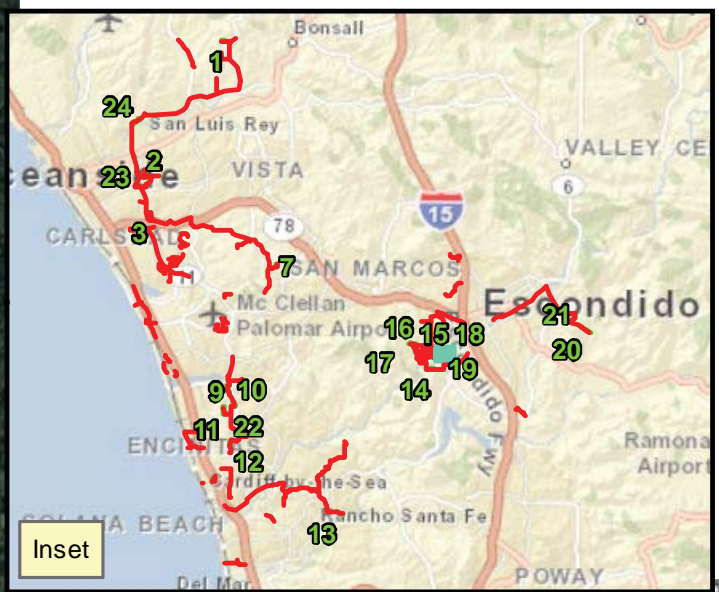
 Potential Alignment  
 Plant Communities (\* - denotes sensitive natural community)  
 DIST - Disturbed Habitat  
 NMCH - Northern Mixed Chaparral \*  
 U/D - Urban / Developed



**Biological Area 18 – Alignment: To R1 Reservoir**  
**and Facility: R1 Reservoir (Group: I / WRP: Hale Ave WRF / Agency: Rincon del Diablo Metropolitan Water District)**

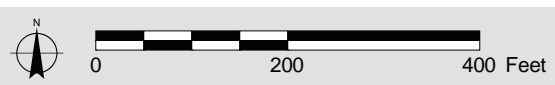
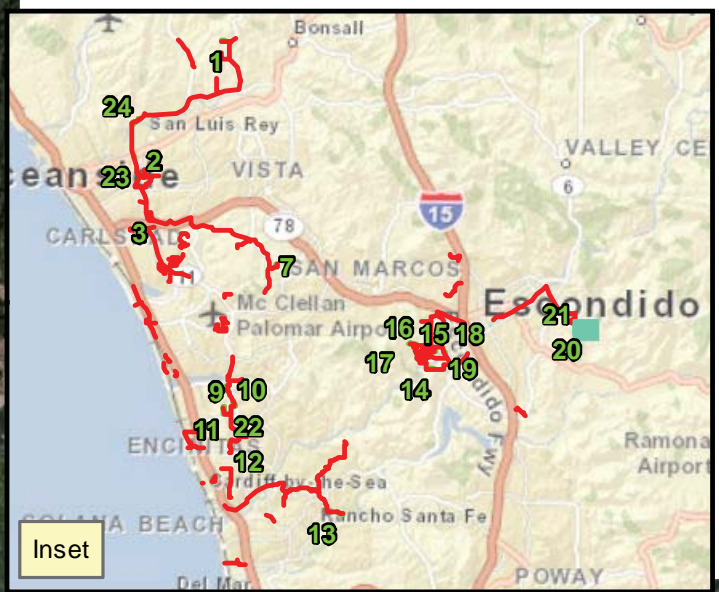
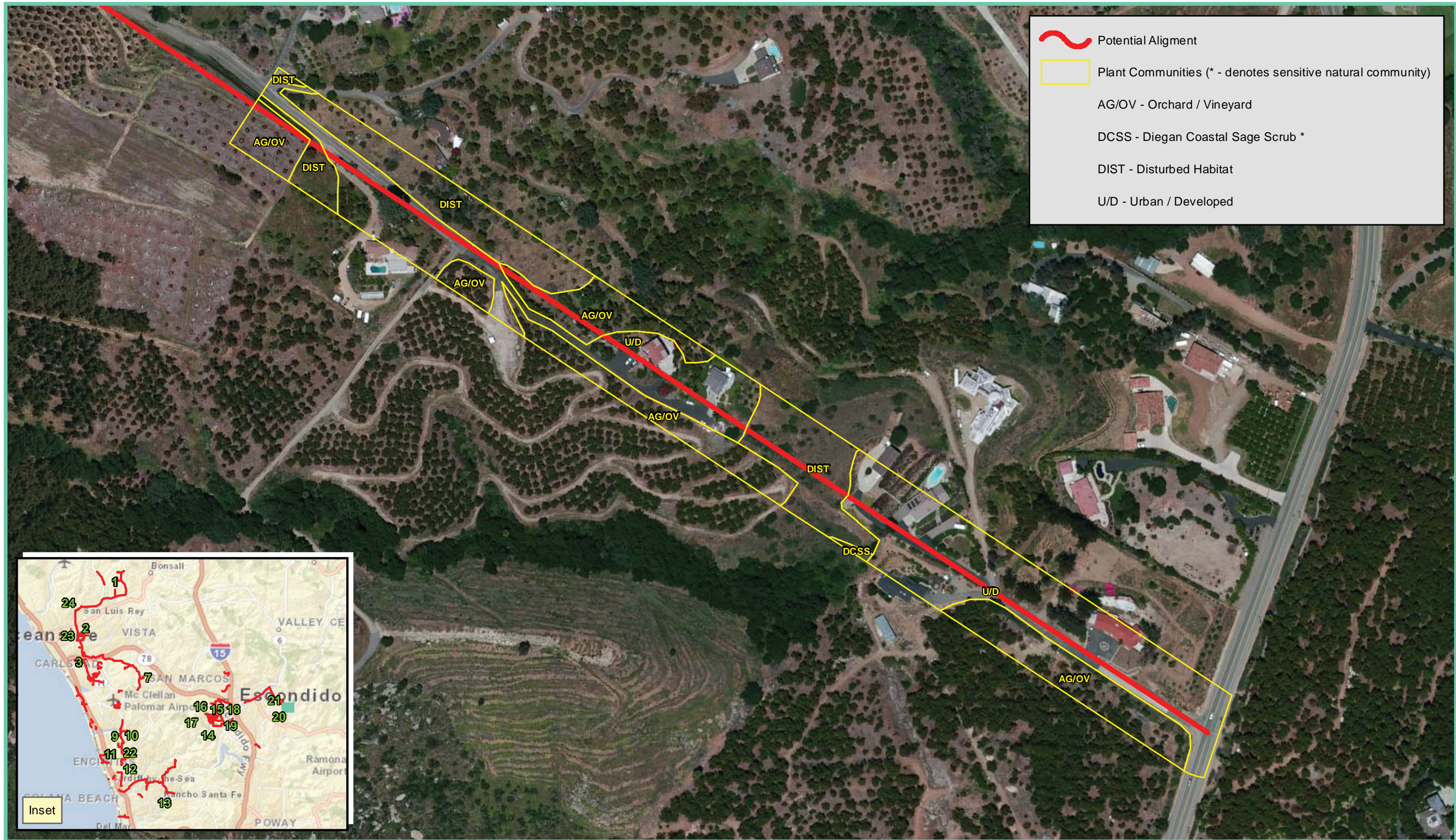
RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

 Potential Alignment  
 Drainage  
 Plant Communities (\* - denotes sensitive natural community)  
 DIST - Disturbed Habitat  
 NNG - Non-native Grassland \*  
 OAK - Coast Live Oak Woodland \*  
 SWS - Southern Willow Scrub \*  
 U/D - Urban / Developed



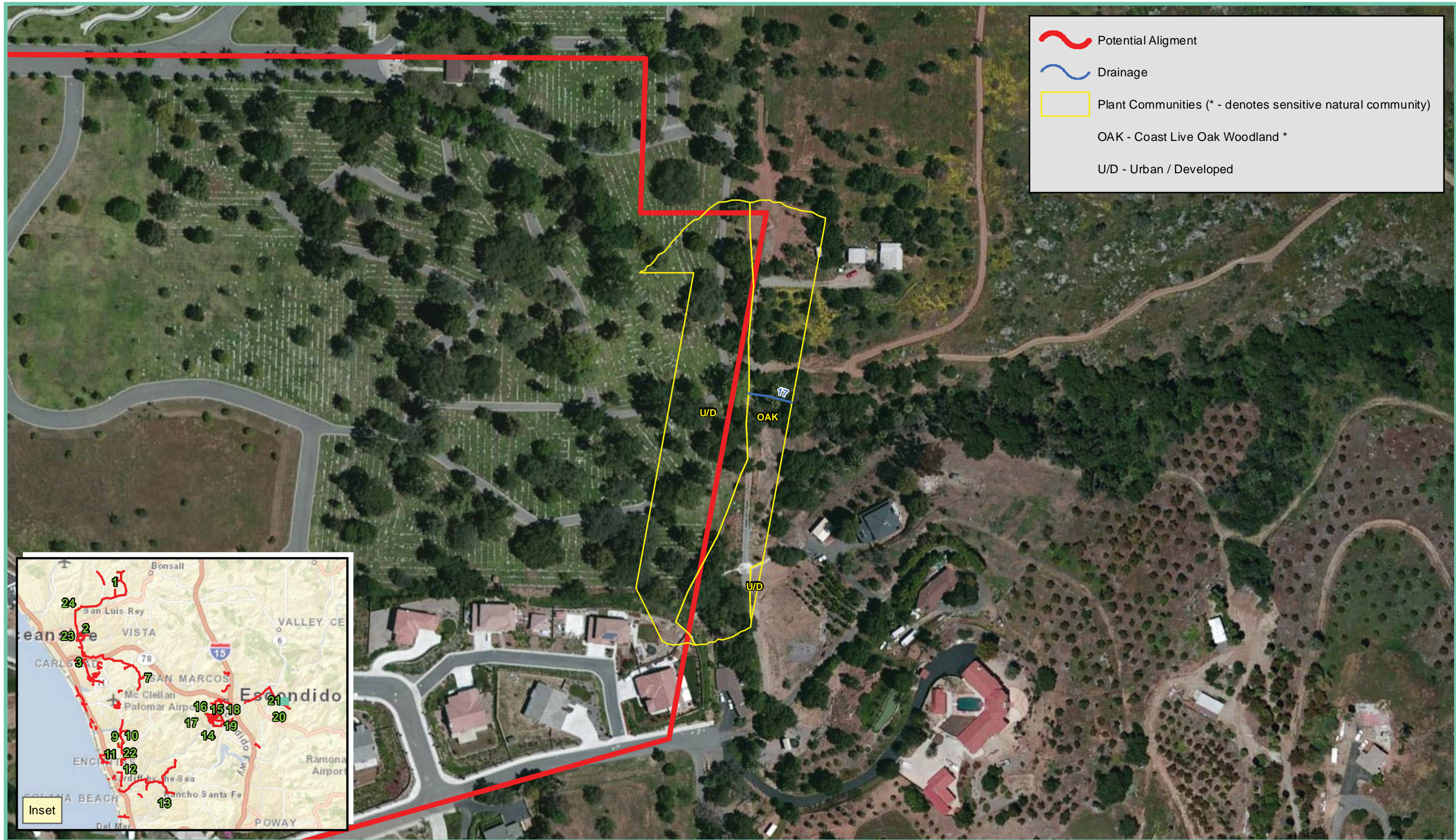
**Biological Area 19 - Alignment: Harmony Grove Area**  
 (Group: I / WRP: Hale Ave RRF / Agency: Rincon del Diablo Metropolitan Water District)




RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

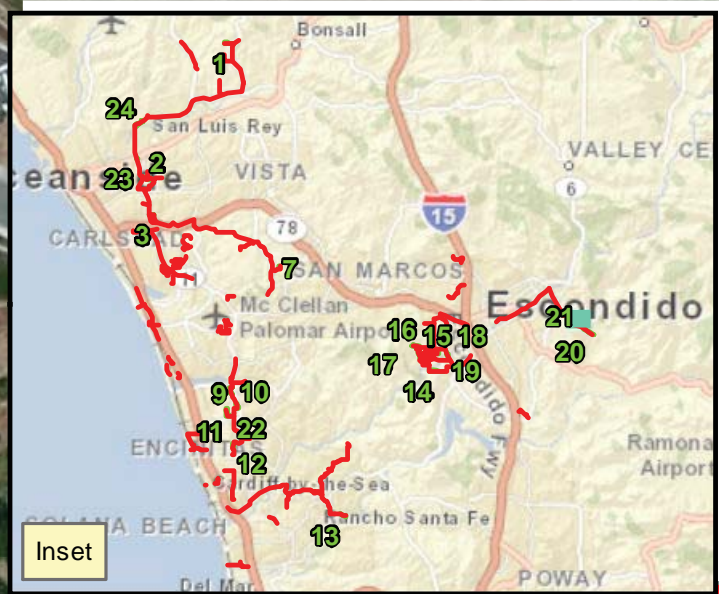




**Biological Area 20 - Alignment: Oak Memorial to East Ag Block  
(Group: C / WRP: Hale Ave RRF / Agency: City of Escondido)**

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

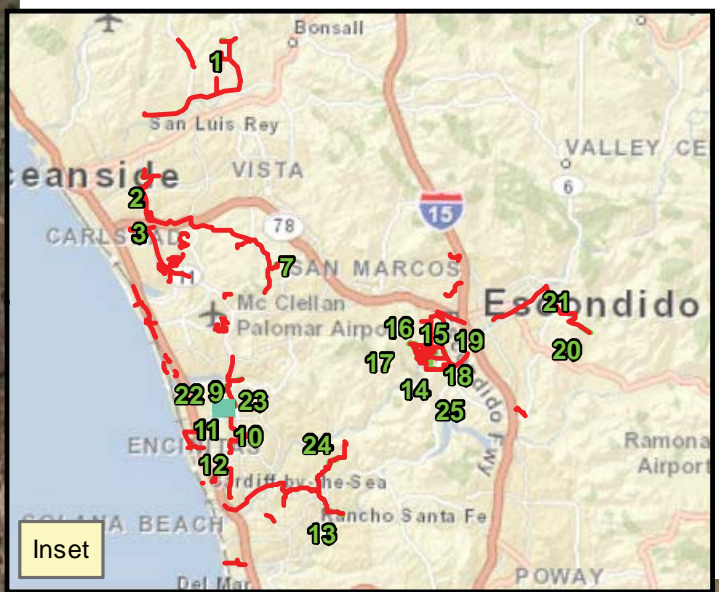
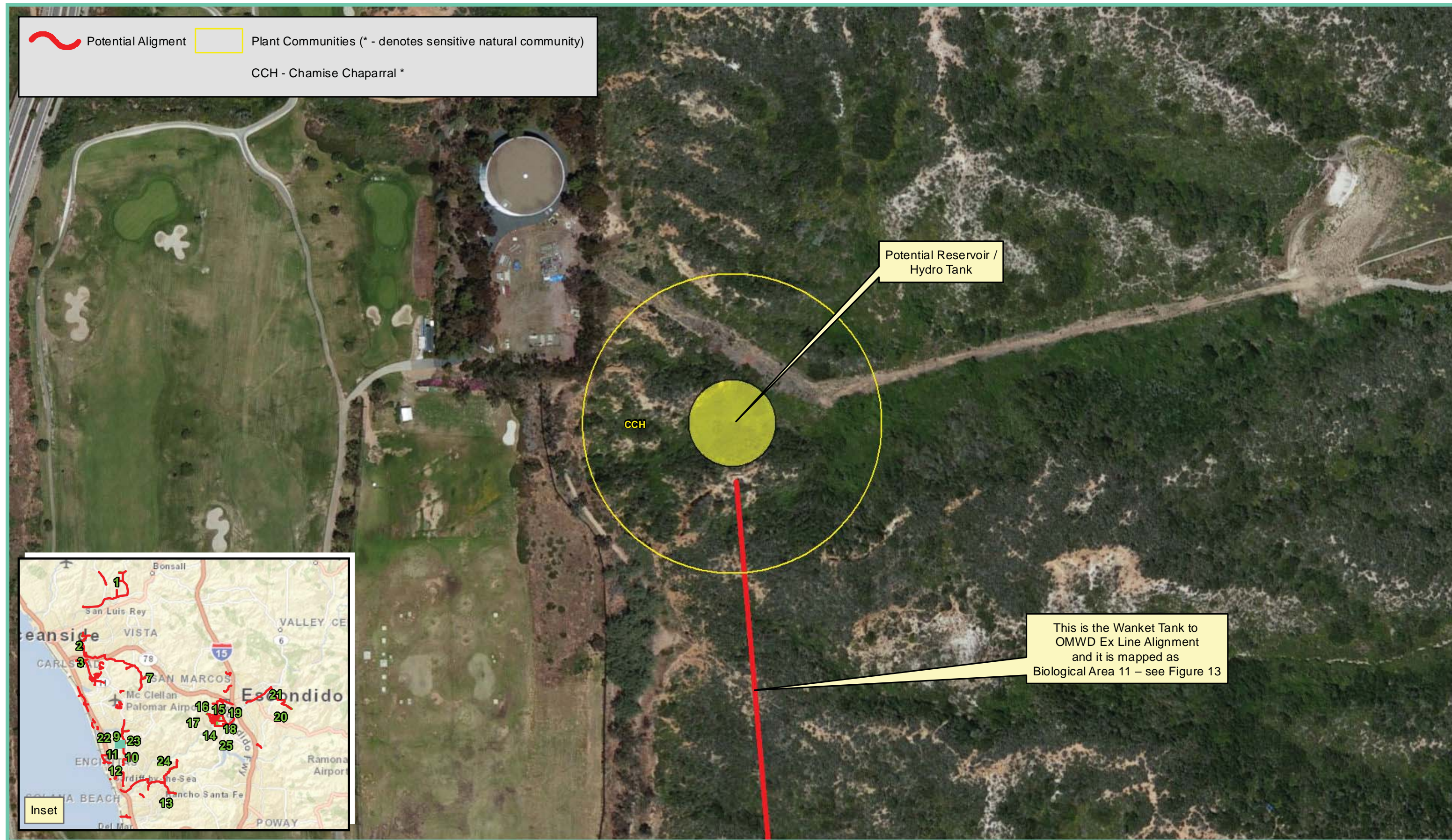


 Potential Alignment  
 Drainage  
 Plant Communities (\* - denotes sensitive natural community)  
 OAK - Coast Live Oak Woodland \*  
 U/D - Urban / Developed



 Potential Alignment
  Plant Communities (\* - denotes sensitive natural community)

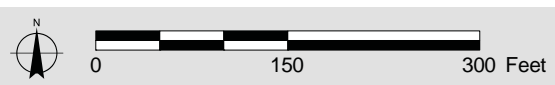
CCH - Chamise Chaparral \*



Potential Reservoir / Hydro Tank



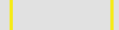
CCH

This is the Wanket Tank to OMWD Ex Line Alignment and it is mapped as Biological Area 11 – see Figure 13

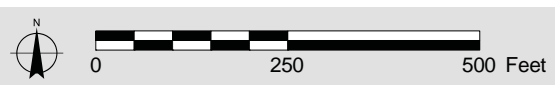
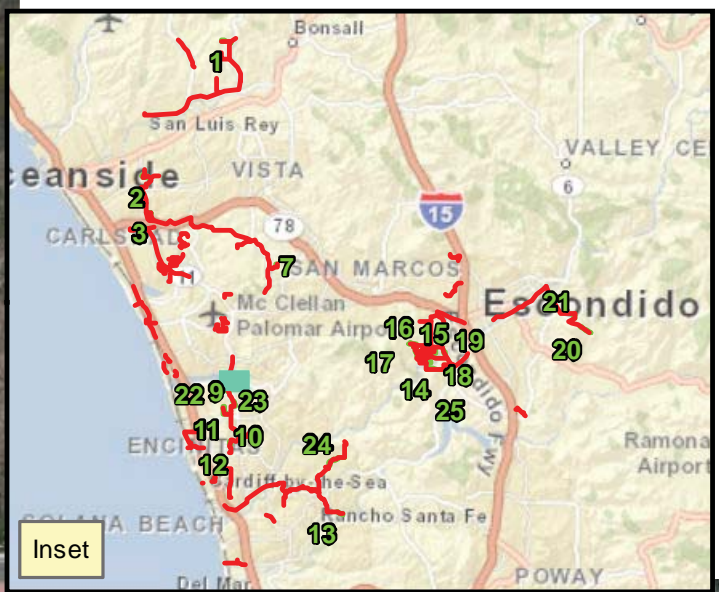


**Biological Area 22 - Wanket Tank**  
 (Group: H / WRP: Gafner WRF / Agency: Olivenhain Metropolitan Water District)

RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

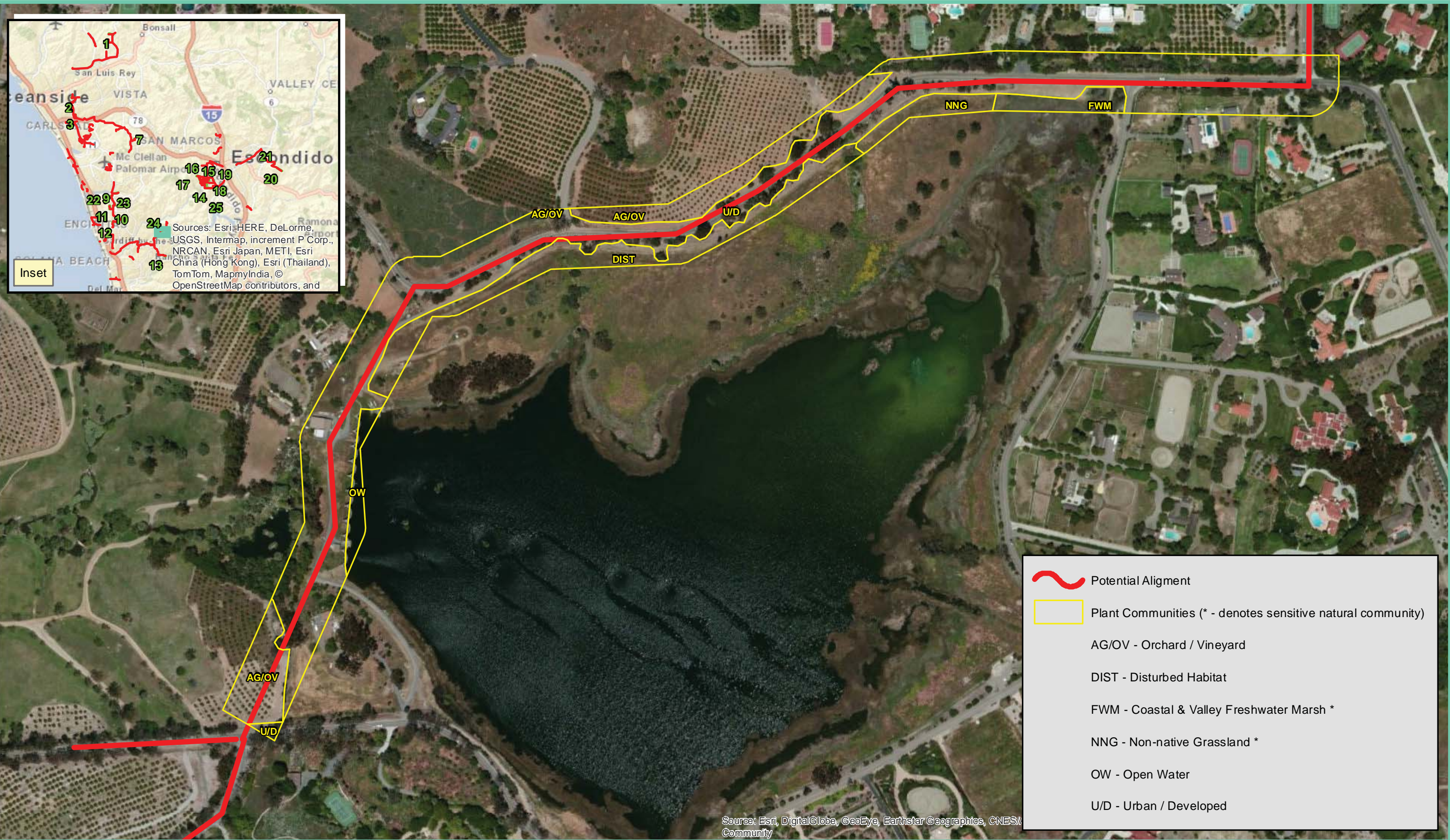
 Potential Alignment  
 Drainage  
 Plant Communities (\* - denotes sensitive natural community)

CSM - Coastal Salt Marsh \*  
 DCSS - Diegan Coastal Sage Scrub \*  
 DIST - Disturbed Habitat  
 FWM - Coastal & Valley Freshwater Marsh \*  
 MFS - Mulefat Scrub \*  
 OW - Open Water  
 U/D - Urban / Developed

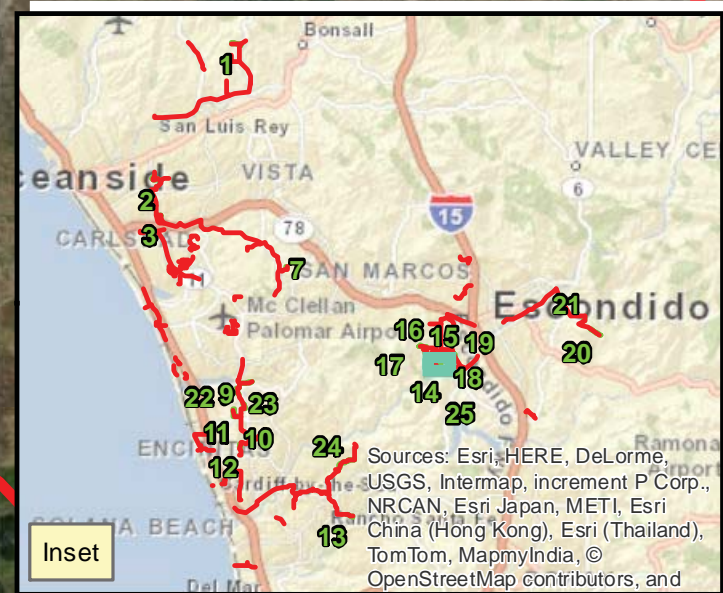




**Biological Area 23 - Alignment: Carlsbad - Phase III LVWD to CMWD demand**  
**(Group: A / WRP: Carlsbad WRF / Agency: City of Carlsbad)**

RMC NSDWRC Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

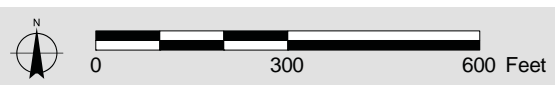






 Potential Alignment  
 Plant Communities (\* - denotes sensitive natural community)  
 CSCT - Coastal Sage-Chaparral Transition \*

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Community



**Biological Area 25 - Alignment: WWTP/WRP - Harmony Grove WRP (Group: J / WRP: Harmony Grove WRF / Agency: Rincon DD)**

RMC NSDWRC Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.

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**APPENDIX A**  
**SENSITIVE SPECIES CONSIDERED**

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**PLANTS**

<b>SCIENTIFIC NAME</b>	<b>COMMON NAME</b>
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint
<i>Acmispon prostratus</i>	Nuttall's acmispon
<i>Adolphia californica</i>	California adolphia
<i>Agave shawii</i> var. <i>shawii</i>	Shaw's agave
<i>Ambrosia pumila</i>	San Diego ambrosia
<i>Aphanisma blitoides</i>	aphanisma
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Del Mar manzanita
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita
<i>Artemisia palmeri</i>	San Diego sagewort
<i>Aspidoscelis hyperythra</i>	orangethroat whiptail
<i>Astragalus oocarpus</i>	San Diego milk-vetch
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch
<i>Atriplex coulteri</i>	Coulter's saltbush
<i>Atriplex pacifica</i>	south coast saltscale
<i>Atriplex parishii</i>	Parish's brittlescale
<i>Baccharis vanessae</i>	Encinitas baccharis
<i>Berberis nevinii</i>	Nevin's barberry
<i>Bergerocactus emoryi</i>	golden-spined cereus
<i>Bloomeria clevelandii</i>	San Diego goldenstar
<i>Brodiaea filifolia</i>	thread-leaved brodiaea
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea
<i>California macrophylla</i>	round-leaved filaree
<i>Calochortus dunni</i>	Dunn's mariposa lily
<i>Caulanthus simulans</i>	Payson's jewelflower
<i>Ceanothus cyaneus</i>	Lakeside ceanothus
<i>Ceanothus verrucosus</i>	wart-stemmed ceanothus
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion
<i>Chorizanthe orcuttiana</i>	Orcutt's spineflower
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower
<i>Clarkia delicata</i>	delicate clarkia
<i>Clinopodium chandleri</i>	San Miguel savory
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly
<i>Corethrogyne filaginifolia</i> var. <i>incana</i>	San Diego sand aster
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar Mesa sand aster
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha
<i>Cylindropuntia californica</i> var. <i>californica</i>	snake cholla
<i>Delphinium hesperium</i> ssp. <i>cuyamacae</i>	Cuyamaca larkspur
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya
<i>Dudleya brevifolia</i>	short-leaved dudleya
<i>Dudleya multicaulis</i>	many-stemmed dudleya
<i>Dudleya variegata</i>	variegated dudleya
<i>Dudleya viscida</i>	sticky dudleya
<i>Ericameria palmeri</i> var. <i>palmeri</i>	Palmer's goldenbush
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button celery

**PLANTS**

<b>SCIENTIFIC NAME</b>	<b>COMMON NAME</b>
<i>Erysimum ammophilum</i>	sand-loving wallflower
<i>Eryngium pendletonensis</i>	Pendleton button-celery
<i>Euphorbia misera</i>	cliff spurge
<i>Ferocactus viridescens</i>	San Diego barrel cactus
<i>Geothallus tuberosus</i>	Campbell's liverwort
<i>Githopsis diffusus ssp. filicaulis</i>	Mission Canyon bluecup
<i>Harpagonella palmeri</i>	Palmer's grapplinghook
<i>Hazardia orcuttii</i>	Orcutt's hazardia
<i>Heterotheca sessiliflora ssp. sessiliflora</i>	beach goldenstar
<i>Horkelia cuneata var. puberula</i>	mesa horkelia
<i>Horkelia truncata</i>	Ramona horkelia
<i>Hulsea californica</i>	San Diego sunflower
<i>Isocoma menziesii var. decumbens</i>	decumbent goldenbush
<i>Iva hayesiana</i>	San Diego marsh-elder
<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's goldfields
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage
<i>Lepidium virginicum var. robinsonii</i>	Robinson's peppergrass
<i>Leptosyne maritima</i>	sea dahlia
<i>Lilium parryi</i>	lemon lily
<i>Linanthus orcuttii</i>	Orcutt's linanthus
<i>Lotus nuttallii</i>	Nuttall's lotus
<i>Monardella hypoleuca ssp. intermedia</i>	intermediate monardella
<i>Monardella hypoleuca ssp. lanata</i>	felt-leaved monardella
<i>Monardella macrantha ssp. hallii</i>	Hall's monardella
<i>Monardella nana ssp. leptosiphon</i>	San Felipe monardella
<i>Monardella viminea</i>	willow monardella
<i>Myosurus minimus ssp. apus</i>	little mousetail
<i>Nama stenocarpum</i>	mud nama
<i>Navarretia fossalis</i>	spreading navarretia
<i>Nemacaulis denudata var. denudata</i>	coast wooly-heads
<i>Nemacaulis denudata var. gracilis</i>	slender cottonheads
<i>Nolina cismontana</i>	chaparral nolina
<i>Orcuttia californica</i>	California Orcutt grass
<i>Orobanche parishii ssp. brachyloba</i>	short-lobed broomrape
<i>Packera ganderi</i>	Gander's ragwort
<i>Phacelia stellaris</i>	Brand's star phacelia
<i>Pinus torreyana ssp. torreyana</i>	Torrey pine
<i>Pogogyne abramsii</i>	San Diego mesa mint
<i>Pogogyne nudiuscula</i>	Otay Mesa mint
<i>Quercus dumosa</i>	Nuttall's scrub oak
<i>Scutellaria bolanderi ssp. austromontana</i>	southern mountains skullcap
<i>Senecio aphanactis</i>	chaparral ragwort
<i>Sphaerocarpos drewei</i>	bottle liverwort
<i>Stemodia durantifolia</i>	purple stemodia
<i>Suaeda esteroa</i>	estuary seablite
<i>Symphyotrichum defoliatum</i>	San Bernardino aster
<i>Tetracoccus dioicus</i>	Parry's Tetracoccus
<i>Texosporium sancti-jacobi</i>	woven-spored lichen
<i>Triquetrella californica</i>	coastal triquetrella
<i>Viola purpurea ssp. aurea</i>	golden violet

## PLANTS

SCIENTIFIC NAME	COMMON NAME
<b>SPECIES LISTED ONLY IN MSCP SOUTH COUNTY SUBAREA PLAN</b>	
<i>Astragalus deanei</i>	Dean's milk vetch
<i>Calamagrostis densa</i>	Dense reed grass
<i>Calamagrostis koeleroides</i>	dense reed grass
<i>Caulanthus heterophyllus</i>	slender-pod jewelflower
<i>Caulanthus stenocarpum</i>	pod jewelflower
<i>Monardella linoides ssp. vimi</i>	Willow monardella
<i>Muilla clevelandii</i>	San Diego goldenstar
<i>Satureja chandleri</i>	San Miguel savory
<i>Senecio ganderi</i>	Gander's butterweed
<i>Solanum tenuilobatum</i>	narrow-leafed nightshade
<b>SPECIES LISTED ONLY IN MSCP NORTH COUNTY SUBAREA PLAN</b>	
<i>Calamagrostis koeleroides</i>	dense reed grass
<i>Caulanthus heterophyllus</i>	slender-pod jewelflower
<i>Solanum tenuilobatum</i> <sup>a</sup>	narrow-leafed nightshade

<sup>a</sup> This species is not recognized by most authorities, including the California Natural Diversity Database and Baldwin, as a distinct species but instead consider it as purple nightshade (*Solanum xanti*), a plant known for its many variations.

## WILDLIFE

SCIENTIFIC NAME	COMMON NAME
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Agelaius tricolor</i>	tricolored blackbird
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow
<i>Anaxyrus californicus</i>	arroyo toad
<i>Anniella pulchra pulchra</i>	silvery legless lizard
<i>Antrozous pallidus</i>	pallid bat
<i>Anaxyrus californicus</i>	arroyo toad
<i>Aquila chrysaetos</i>	golden eagle
<i>Artemisiospiza belli belli</i>	Bell's sage sparrow
<i>Aspidoscelis hyperythra</i>	Orangethroat whiptail
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail
<i>Athene cunicularia</i>	burrowing owl
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Campylorhynchus brunneicapillus sandiegonensis</i>	coastal cactus wren
<i>Catostomus santaanae</i>	Santa Ana sucker
<i>Coccyzus americanus occidentalis</i>	western yellow-bellied cuckoo
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse
<i>Charadrius alexandrinus nivosus</i>	western snowy plover
<i>Charina trivirgata</i>	rosy boa
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat

**WILDLIFE**

<b>SCIENTIFIC NAME</b>	<b>COMMON NAME</b>
<i>Crotalus ruber</i>	red-diamond rattlesnake
<i>Cypseloides niger</i>	black swift
<i>Danaus plexippus</i>	monarch butterfly
<i>Dendroica petechia brewsteri</i>	yellow warbler
<i>Diadophis punctatus similis</i>	San Diego ringneck snake
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat
<i>Elanus leucurus</i>	white-tailed kite
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher
<i>Emys marmorata</i>	western pond turtle
<i>Eremophila alpestris actia</i>	California horned lark
<i>Eumops perotis californicus</i>	western mastiff bat
<i>Eucyclogobius newberryi</i>	tidewater goby
<i>Euderma maculatum</i>	spotted bat
<i>Falco peregrinus anatum</i>	American peregrine falcon
<i>Gila orcuttii</i>	arroyo chub
<i>Icteria virens</i>	yellow-breasted chat
<i>Ixobrychus exilis</i>	least bittern
<i>Lasionycteris noctivagans</i>	silver-haired bat
<i>Lasiurus blossevillii</i>	western red bat
<i>Lasiurus cinereus</i>	hoary bat
<i>Lasiurus xanthinus</i>	western yellow bat
<i>Laterallus jamaicensis coturniculus</i>	California black rail
<i>Leptonycteris yerbabuenae</i>	lesser long-nosed bat
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit
<i>Microtus californicus stephensi</i>	south coast marsh vole
<i>Myotis ciliolabrum</i>	western small-footed myotis
<i>Myotis evotis</i>	long-eared myotis
<i>Myotis yumanensis</i>	Yuma myotis
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat
<i>Nyctinomops macrotis</i>	big free-tailed bat
<i>Onychomys torridus ramona</i>	southern grasshopper mouse
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow
<i>Perognathus longinembris pacificus</i>	Pacific pocket mouse
<i>Phrynosoma blainvillei</i>	coast horned lizard
<i>Plegadis chihi</i>	white-faced ibis
<i>Plestiodon skiltonianus interparietalis</i>	Coronado Island skink
<i>Polioptila californica californica</i>	coastal California gnatcatcher
<i>Rallus longirostris levipes</i>	light-footed clapper rail
<i>Rana muscosa</i>	Sierra Madre yellow-legged frog
<i>Rhinichthys osculus ssp. 3</i>	Santa Ana speckled dace
<i>Riparia riparia</i>	bank swallow
<i>Salvadora hexalepis virgultea</i>	coast patch-nosed snake
<i>Spea hammondii</i>	western spadefoot
<i>Sternula antillarum browni</i>	California least tern
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp
<i>Taricha torosa</i>	Coast Range newt
<i>Taxidea taxus</i>	American badger
<i>Thamnophis hammondii</i>	two-striped garter snake
<i>Thamnophis sirtalis ssp.</i>	south coast garter snake
<i>Vireo bellii pusillus</i>	least Bell's vireo

**WILDLIFE****SCIENTIFIC NAME****COMMON NAME****SPECIES LISTED ONLY IN MSCP SOUTH COUNTY SUBAREA PLAN**

<i>Aimophila ruficeps</i>	California rufous-crowned sparrow
<i>Anaxyrus californicus</i>	Arroyo southwestern toad
<i>Buteo regalis</i>	ferruginous hawk
<i>Campylorhynchus brunneicapillus</i>	coastal cactus wren
<i>Circus cyaneus</i>	northern harrier
<i>Actinemys marmorata pallida</i>	Southwestern pond turtle
<i>Euphys vestris harbisoni</i>	Dun skipper
<i>Felis concolor</i>	mountain lion
<i>Haliaeetus leucocephalus</i>	bald eagle
<i>Lycaena hermes</i>	Hermes copper butterfly
<i>Mitoura thornei</i>	Thornes hairstreak butterfly
<i>Odocoileus hemionus fuliginatus</i>	southern mule deer
<i>Rana aurora draytonii</i>	California Red-Legged frog
<i>Sialia mexicana</i>	western bluebird

## **Appendix E - Cultural Resources Analysis**

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**CULTURAL RESOURCES ASSESSMENT  
FOR THE PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER PROJECT,  
SAN DIEGO COUNTY, CALIFORNIA**

Prepared For:

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Morro, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, CA United  
States Geological Survey 7.5' Quadrangles

March 2015

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# Table of Contents

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	<u>Page</u>
<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
Archaeological Resources .....	ES-1
Historical Resources.....	ES-2
Paleontological Resources.....	ES-3
Human Remains.....	ES-4
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 Proposed Project and Location .....	1
1.2 Project Description.....	1
1.3 Scope of Study and Personnel.....	4
<b>2.0 REGULATORY SETTING .....</b>	<b>6</b>
2.1 State Level.....	6
2.1.1 California Register of Historical Resources.....	6
2.1.2 California Environmental Quality Act.....	7
2.2 Local Level .....	8
2.2.1 City of Escondido General Plan.....	8
2.2.2 City of Escondido Landmark Criteria.....	9
2.2.3 City of Escondido Historic Resources Surveys.....	10
2.2.4 City of Oceanside General Plan.....	11
2.2.5 City of Carlsbad General Plan.....	11
2.2.6 City of Encinitas General Plan.....	13
2.2.7 Solana Beach General Plan .....	14
2.2.8 City of Vista General Plan Update 2030 .....	15
2.2.9 City of San Marcos General Plan .....	16
2.2.10 San Diego County General Plan.....	17
<b>3.0 ENVIRONMENTAL SETTING.....</b>	<b>19</b>
3.1 Summary .....	19
3.2 Geology and Soils .....	19
3.2.1 Geological Units/Formations within the Project Area .....	19
<b>4.0 CULTURAL SETTING .....</b>	<b>24</b>
4.1 Prehistoric Context .....	24
4.1.1 Paleo-Indian Period (ca. 13,000-11,000 years before present [YBP]).....	24
4.1.2 Archaic Period (ca. 11,000-3,500 YBP).....	25
4.1.3 Late Prehistoric Period (ca. 3,500 YBP-A.D. 1769).....	25
4.1.4 Ethnographic Context – Luiseño and Kumeyaay .....	25
4.1.5 European Contact.....	26
4.2 Historic Context.....	27
4.2.1 San Diego County Urban Development.....	27
4.2.2 Carlsbad .....	28
4.2.3 Encinitas .....	29

# Table of Contents (Continued)

	<u>Page</u>
4.2.4 Escondido .....	30
4.2.5 Oceanside .....	31
4.2.6 Rancho Santa Fe.....	32
4.2.7 San Marcos.....	33
4.2.8 Solana Beach .....	34
4.2.9 Vista .....	35
4.2.10 San Diego County Water Development.....	35
4.2.11 San Diego County Water Authority.....	36
4.2.12 City of Escondido/Rincon del Diablo MWD.....	37
4.2.13 San Dieguito Water District.....	37
4.2.14 Santa Fe Irrigation District.....	38
4.2.15 San Elijo Joint Powers Authority.....	38
4.2.16 Vista Irrigation District.....	38
4.2.17 The First San Diego Aqueduct.....	39
<b>5.0 METHODS.....</b>	<b>42</b>
5.1 Cultural Resources Records Search.....	42
5.2 Sacred Lands File Search and Native American Consultation.....	42
5.3 Historic Background Research.....	42
5.4 Paleontological Resources records Search.....	42
<b>6.0 RESULTS .....</b>	<b>44</b>
6.1 Cultural Resources Records Search.....	44
6.1.1 Archaeological Resources.....	44
6.1.2 Historical Resources .....	48
6.2 Sacred Lands File Search and Native American Consultation.....	53
6.3 Historic Background Research.....	56
6.4 Paleontological Resources Records Search.....	56
6.4.1 General Project Region .....	56
6.4.2 Project Specific.....	57
<b>7.0 IMPACTS/EFFECTS ANALYSIS.....</b>	<b>58</b>
7.1 CEQA Significance Thresholds.....	58
7.1.1 Archaeological Resources.....	58
7.1.2 Historical Resources .....	59
7.1.3 Paleontological Resources.....	60
7.1.4 Human Remains.....	60
7.2 Potential Impacts .....	60
7.2.1 Archaeological Resources.....	60
7.2.2 Historical Resources .....	61
7.2.4 Human Remains.....	73
<b>8.0 RECOMMENDED MANAGEMENT GUIDELINES AND MITIGATION MEASURES.....</b>	<b>77</b>
8.1 Archaeological Resources.....	77
8.2 Historical Resources.....	80

# Table of Contents (Continued)

---

	<u>Page</u>
8.3 Paleontological Resources .....	82
8.4 Human Remains .....	83
<b>9.0 REFERENCES CITED .....</b>	<b>85</b>

## APPENDICES

### APPENDIX A – PERSONNEL QUALIFICATIONS

### APPENDIX B – LIST OF HISTORICAL RESOURCE PROPERTIES WITHIN A QUARTER-MILE OF PROPOSED ALIGNMENTS

### APPENDIX C – LOCAL GOVERNMENT HISTORICAL RESEARCH DOCUMENTATION

### APPENDIX D – NATIVE AMERICAN CONSULTATION DOCUMENTATION

### APPENDIX E – PALEONTOLOGICAL RESOURCES RECORDS SEARCH RESULTS

## List of Figures

---

	<u>Page</u>
Figure 1 Regional Overview Map.....	2
Figure 2 Map of Ranchos of San Diego County, Compiled from records of the Union Title Insurance and Trust Company.....	28
Figure 3 The Carlsbad Hotel and Mineral Springs, Date Unknown .....	29
Figure 4. La Paloma Theatre and S. Coast Highway 101 in Encinitas .....	30
Figure 5. View of Escondido Circa 1910 .....	31
Figure 6. View of Downtown Oceanside, Date Unknown.....	32
Figure 7. Historical Aerial of San Marcos, Date Unknown.....	33
Figure 8. The Stevens House, The Oldest House in Solana Beach, Constructed in 1887 .....	34
Figure 9. View of Downtown Vista, Date Unknown .....	35
Figure 10 Rancho Santa Fe Village Commercial District.....	52
Figure 11 The Covenant of Rancho Santa Fe .....	53
Figure 12 Potential Historical Resources Impact - San Luis Rey WWTP and AWT.....	63
Figure 13 Potential Historical Resources Impact - El Corazon Site.....	64
Figure 14 Potential Historical Resources Impact - Escondido Advanced Water Treatment Facility.....	65
Figure 15 Potential Historical Resources Impact - Harmony Grove Water Recycling .....	67
Figure 16 Potential Historical Resources Impact - Hale Avenue RFF .....	68
Figure 17 Potential Historical Resources Impact Group C – City of Escondido Extensions.....	69

# List of Tables

---

	<b><u>Page</u></b>
Table 1	Geologic Units That Underlie Project Area ..... 20
Table 2	Known Archaeological Resources Located Within or Adjacent to Group A..... 44
Table 3	Known Archaeological Resources Located Within or Adjacent to Group G..... 46
Table 4	Known Archaeological Resources Located Within or Adjacent to Group H ..... 46
Table 5	Known Archaeological Resources Located Within or Adjacent to Group I..... 47
Table 6	Known Archaeological Resources Located Within or Adjacent to Group K..... 47
Table 7	Known Archaeological Resources Located Within or Adjacent to Group O..... 48
Table 8	Summary of Native American Response Letters and Telephone Log..... 54
Table 9	Geologic Units/Formations within Project Area ..... 74

## EXECUTIVE SUMMARY

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RMC Water and Environment, Inc. (RMC) is assisting the North San Diego Water Reuse Coalition (Coalition) in preparing a Program Environmental Impact Report (PEIR) for the proposed Regional Recycled Water Project (the “Proposed Project”). The Proposed Project consists of the development of a regional recycled water infrastructure that includes interagency connections to increase the capacity and connectivity of the recycled water storage and distribution systems of the Coalition. Per RMC’s request, PCR analyzed the short-term components of the Proposed Project on a program level of detail as these project components are conceptual in nature and recognizing that subsequent more focused environmental review would occur as future project-specific development proposals are initiated. These project components include the proposed construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

PCR conducted a program-level cultural resources assessment of the Proposed Project from May through July 2014 to determine the potential impacts to archaeological, historical, and paleontological resources and to develop management guidelines and mitigation measures to avoid, reduce, or mitigate potential impacts for the purpose of complying with the California Environmental Quality Act (CEQA) and to support the PEIR. The scope of work for this assessment included a cultural resources records search through the California Historical Resources Information System-South Coastal Information Center (CHRIS-SCIC), a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC) and follow-up Native American consultation, historic background and local government records research, a paleontological resources records search through the San Diego Natural History Museum (SDNHM), impact analyses, and the recommendation of management guidelines and mitigation measures to avoid or minimize effects on cultural resources.

### ARCHAEOLOGICAL RESOURCES

The results of the cultural resources records search through the CHRIS-SCIC have indicated that 49 known archaeological resources have been recorded within or adjacent to the proposed project alignments. The current contents and condition of these 49 resource are unknown as some of these resources were recorded as early as 1958 (and as late as 2013) and therefore it is likely that at least some of the resources have been partially or completely displaced or destroyed by modern development or some other cultural (e.g., looting, road construction) or natural (e.g., erosion, flood events) process. In addition, the exact boundaries of these resources and their horizontal (across the surface) and vertical (below the surface) extent may either be unknown or inconclusive for the same reason and/or if no subsurface archaeological investigations have taken place at the resource. Moreover, the Proposed Project is conceptual at this stage and therefore the associated excavation parameters for the proposed facilities and pipelines in the specific areas of the 49 resources are currently unknown. As a result of this, PCR is not able to conduct a definitive impact analysis on any of these resources as they relate to the Proposed Project. However, it can be assumed that components of the Proposed Project that include excavations into native soils/sediments (as opposed to artificial fill or bedrock) would have the potential to impact these 49 resources.

No pedestrian survey was conducted as part of this assessment since the Proposed Project components are conceptual and PCR analyzed the project with a program level of detail. Therefore, it is possible that additional archaeological resources are present within the project area that have yet to be discovered and

would need to be evaluated for eligibility for listing in the California Register and undergo an impact analysis. Furthermore, some existing facilities were likely constructed prior to the existence of cultural resources protection laws and may have been built on archaeological resources; therefore, the current or prior existence of built environment does not preclude the possibility of underlying archaeological deposits that were protected from destruction by their depth. It is also possible that buried archaeological resources that were not visible to previous archaeological surveyors have now been brought to the surface as a result of cultural or natural processes. Therefore, as discussed later, when a project-level analysis is feasible, PCR recommends that an updated pedestrian survey be conducted to identify previously unknown archaeological resources and to verify current condition, contents, and horizontal extent (across the surface) of known archaeological resources. These surveys are recommended as management guidelines in Chapter 8.

Although a majority of the Proposed Project would be constructed in paved roadways, it is possible to encounter buried archaeological resources given the proven prehistoric and historic occupation of the region (as discussed in Chapter 3), the identification of multiple surface and subsurface archaeological resources within and in the vicinity of the proposed alignments (as discussed in Chapter 6), and the favorable natural conditions (e.g., Pacific Ocean, watersheds, vegetation communities) that would have attracted prehistoric and historic inhabitants to the area. The archaeological monitoring of numerous construction projects throughout the region in recent decades has demonstrated the existence of deeply buried archaeological deposits, especially in locations of rapid Holocene deposition such as alluvial fans.

As a result of these findings, Chapter 8 provides recommended management guidelines and mitigation measures that would reduce potentially significant impacts to archaeological resources to a less than significant level.

## **HISTORICAL RESOURCES**

Results of the records search and review of proposed plans for the project area indicate that there are several historical resources that may be impacted by the Proposed Project. These include one California State Historic Landmark, Rancho Santa Fe (#982), which also encompasses two historic districts. The First San Diego Aqueduct crosses the proposed alignment in Escondido and was previously evaluated as eligible for the National Register under Criterion C. Additionally, Enchanted Oaks (found eligible for National and California Registers based on survey evaluation) and Rancho Francisco Pio/Whelan Ranch (potential contributor to a potential National Register District that requires further evaluation) are previously identified resources that require re-evaluation by a qualified historian/architectural historian. If found eligible, potential project effects on these two latter resources would be considered significant. In addition, there are a number of unevaluated potentially eligible historical resources over 45 years in age that are located within the project area and/or vicinity of a Proposed Project (above-ground project components).

Mitigation measures are provided to address potential direct or indirect impacts on these resources. For the eligible historical resources, including Rancho Santa Fe, mitigation involves Project review by a qualified historic preservation consultant who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Building (Standards)s. Likewise, Rancho Francisco Pio/Whelan Ranch and Enchanted Oaks, are previously identified resources that may require reevaluation by qualified surveyors, if determined necessary based upon the Proposed Project and



its potential to affect these resources. The objective of this review is to verify the eligibility of identified historical resources and to help ensure that Project design and construction is carried out in a manner consistent with the preservation consultant's recommendations to ensure that the project meets the Secretary of the Interior's Standards. A project that conforms to the Secretary of the Interior's Standards is considered fully mitigated under CEQA.

Because the proposed Project has the potential to materially impair a small segment of the First San Diego Aqueduct, it is recommended the project applicant retain a qualified architectural historian to conduct construction monitoring and prepare a construction monitoring report. Any important historic fabric uncovered associated with the First San Diego Aqueduct shall be fully recorded in photographic images and written manuscript notes. With the completion of construction monitoring, impacts would remain less than significant.

As discussed in Chapter 8 of this report, in the future when project-level plans are developed, a Phase I Reconnaissance-Level Survey of unevaluated potentially eligible historical resources shall be performed for structures over 45-years in age located in proximity to proposed above-ground project components. If an identified property is found ineligible, no further evaluation would be required; however, if eligible historical resources are identified, a project-level impacts analysis shall be conducted for compliance with CEQA. If adverse impacts/effects are identified, the project may be redesigned to avoid or reduce potential impacts/effects to less than significant, in accordance with the Standards, or mitigation measures would be required.

## PALEONTOLOGICAL RESOURCES

The results of the paleontological resources records search has indicated that 185 known fossil localities from SDNHM's database have been recorded in the vicinity of the project alignments in fossiliferous geologic units/formations that currently underlie many segments of project alignments. Specifically, 31 known fossil localities have been recovered within a quarter-mile of Group A, 12 within a quarter-mile of Group G, four within a quarter-mile of Group H, and four within a quarter-mile of Group K. Of these 51 localities, 18 of them have been recorded either within the project area and/or immediately adjacent (Anderson 2014, 2015). These 18 localities have already been recovered from known fossiliferous geologic units since they are curated at SDNHM and therefore no longer exist at their former location. As a result, the Proposed Project would not cause an impact to these known paleontological resources. However, it is possible that additional unrecorded resources exist in the immediate vicinity of these known resources in similar fossiliferous geologic units.

The geologic units that underlie the project area have varying degrees of potential for retaining paleontological resources and these potentials are summarized in **Table 10, *Geologic Units/Formation within Project Area***. Excavations into native soil/sediments associated with the Proposed Project in geologic units that have a "moderate", "moderate to high", and "high" potential for retaining fossils (see **Table 10**), would have the potential to cause a significant impact to paleontological resources. As a result, recommended mitigation measures are provided in Chapter 8 to reduce potentially significant impacts to paleontological resources that are accidentally discovered during project implementation to a less than significant level.

## **HUMAN REMAINS**

No known human remains have been identified from the CHRIS-SCIC records within the project alignments or within a quarter-mile radius. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which may be encountered during construction excavations associated with the Proposed Project. Similar to the discussion regarding archaeological resources above, it is also possible to encounter buried human remains during construction given the proven prehistoric and historic occupation of the region, the identification of multiple surface and subsurface archaeological resources within a quarter-mile of the project area (including large habitation/village sites), and the favorable natural conditions that would have attracted prehistoric and historic inhabitants to the area. As a result, recommended mitigation measures are provided in Chapter 8 of this report that would reduce potentially significant impacts to previously unknown human remains that may be unexpectedly discovered during project implementation to a less than significant level.

# 1.0 INTRODUCTION

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## 1.1 PROPOSED PROJECT AND LOCATION

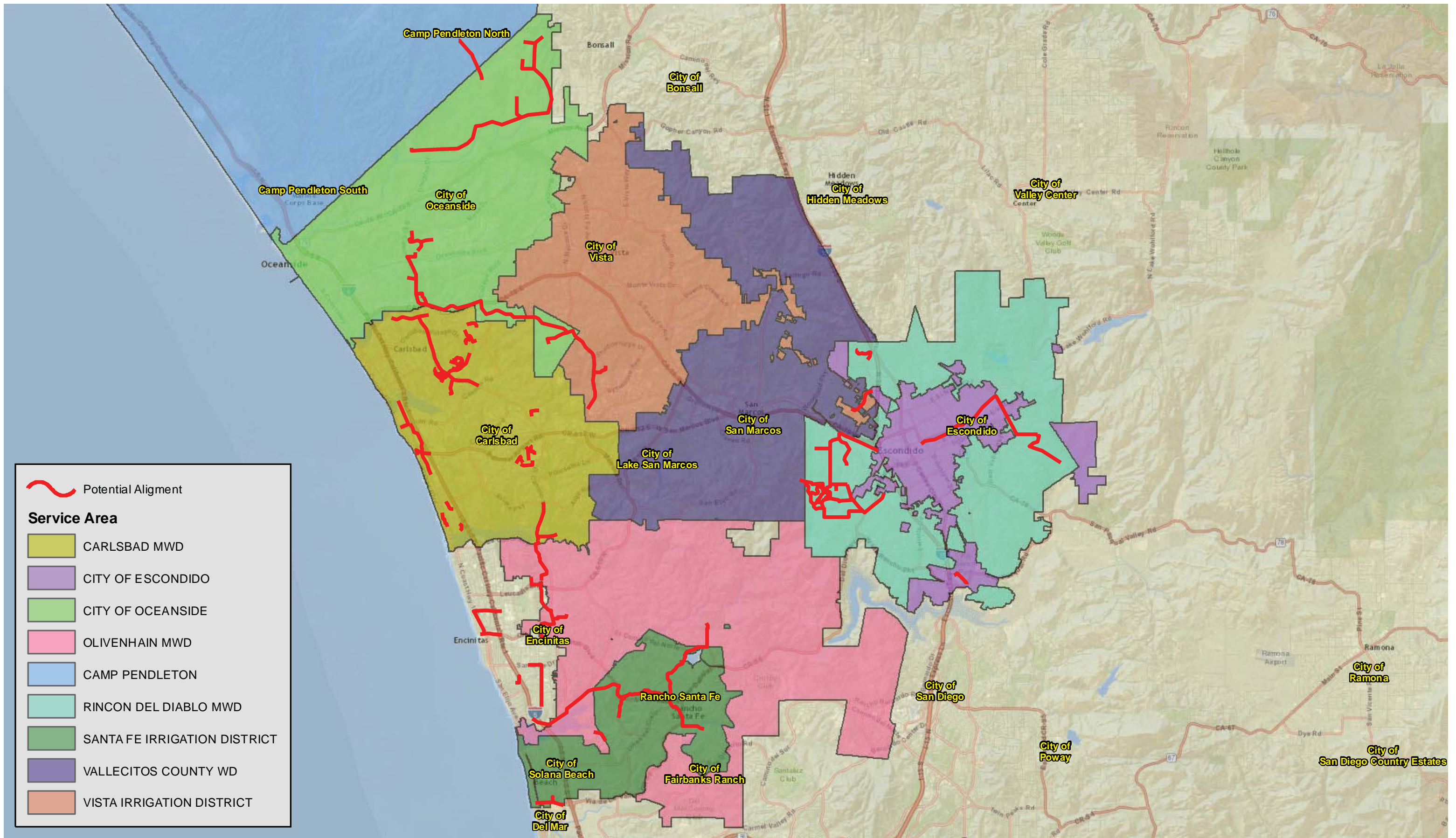
RMC is assisting the Coalition in preparing a PEIR for the proposed Regional Recycled Water Project (the “Proposed Project”). The Proposed Project consists of the development of a regional recycled water infrastructure that includes interagency connections to increase the capacity and connectivity of the recycled water storage and distribution systems of the Coalition. The Proposed Project includes replacing potable water uses with recycled water components, converting facilities to recycled water service, connecting discrete recycled water systems to one another, increasing recycled water storage capacity, distributing recycled water to effectively meet recycled water demands, and implementing advanced water treatment to produce and use water for potable reuse within northern San Diego County. Per RMC’s request, PCR analyzed the short-term components of the Proposed Project on a program level of detail as these project components are conceptual in nature and recognizing that subsequent more focused environmental review would occur as future project-specific development proposals are initiated. These project components include the proposed construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

The conveyance pipelines, water recycling plants, and storage tanks are located in north San Diego County. As shown on **Figure 1, Regional Overview Map**, the western boundary of the project area is defined by the Pacific Ocean and the northern boundary by the boundary with Camp Pendleton and the Rainbow Municipal Water District (MWD). The eastern boundary of the project area is defined as the border with Valley Center MWD, the City of Poway, and the City of San Diego. To the south, the project area is roughly bounded by the City of San Diego. The pipeline alignments and facility locations are depicted in multiple sections and Townships and Ranges of the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, and Del Mar, California United States Geological Survey (USGS) 7.5’ topographic quadrangle maps. The majority of the pipeline alignments, water recycling plants and storage tanks are located along paved roads in dense urban settings, however; a small portion of the pipeline alignments and facility locations are also located along agricultural fields, undeveloped lots and golf course.

## 1.2 PROJECT DESCRIPTION

The project description identifies four project components that were studied as part of this assessment and are summarized below. These components include both short-term and long-term project components; short-term components are considered part of the Proposed Project and were analyzed in this assessment; long-term project components are acknowledged in the project description but are not part of the Proposed Project apart from two seasonal storage sites listed below:

- 1. Proposed Recycled and Potable Reuse System Expansion:** The Proposed Project includes construction and operation of recycled water pipelines, pump stations, storage tanks, pressure reducing facilities, and all other facilities necessary to deliver recycled water to applicable end users to meet existing and future recycled water demands. The proposed recycled water pipelines are depicted on **Figure 1, Regional Overview Map**; recycled water laterals and other facilities are not mapped, as the precise length, size and capacities would be determined during the project-specific design. The pipelines analyzed are grouped by coalition member, group letter, and treatment plant(s) to provide supply, as follows:



- Carlsbad Metropolitan Water District (MWD) coalition, Group A, Carlsbad (Water Reclamation Facility (WRF)/Gafner WRF
- City of Escondido coalition, Group C, Hale Avenue Resource Recovery Facility (HARRF)
- City of Escondido coalition, Group D, Escondido Advanced Water Treatment Facility (AWT)
- San Elijo Joint Powers Authority, Group E, San Elijo WRF/Gafner WRF
- City of Escondido coalition, Group G, San Luis Rey Waste Water Treatment Plant (WWTP)/ Southern Regional Tertiary Treatment Plant (SRTTP)
- City of Oceanside coalition, Group G, San Luis Rey Waste Water Treatment Plant (WWTP)/ Southern Regional Tertiary Treatment Plant (SRTTP)
- City of Oceanside coalition, Group G, San Luis Rey WWTP - AWT
- Olivenhain MWD coalition, Group H, San Elijo WRF/Gafner WRF
- Olivenhain MWD coalition, Group H, San Elijo WRF - AWT
- Rincon del Diablo MWD coalition, Group I, HARRF
- Rincon del Diablo MWD coalition, Group I, HARRF - AWT
- Santa Fe Irrigation District coalition, Group K, San Elijo WRF/Gafner WRF
- Santa Fe Irrigation District coalition, Group K, San Elijo WRF - AWT
- Vallecitos Water District coalition, Group M, HARRF
- Vallecitos Water District coalition, Group N, Meadowlark WRF - AWT
- Vista Irrigation District coalition, Group O, San Luis Rey WWTP/Carlsbad WRF

- 2. Water Recycling Plant Expansions:** Six existing recycled water treatment plants would need to be increased in capacity as part of the Proposed Project, and three additional treatment plants would need to be constructed, as follows (mapped on Figure 3, Short-Term Projects, of the project description):

Existing Water Treatment Plants:

- Carlsbad MWD coalition, Carlsbad WRF
- Leucadia WWD, Gafner WRF
- City of Escondido, HARRF
- City of Oceanside, San Luis Rey WWTP
- Rincon del Diablo MWD (Rincon DD), Harmony Grove WRF
- San Elijo Joint Powers Authority (JPA), San Elijo WRF

Additional Treatment Plants to be constructed:

- Group G, El Corazon Site<sup>1</sup>
  - Group D, Escondido ATWF
  - Group J, Harmony Grove WRF
- 3. Potable Reuse Sites:** Potable reuse is being considered as a potential water supply in northern San Diego. Seven potential potable reuse sites have been selected as feasible for purposes of the Proposed Project as follows:
- Lake Dixon
  - Mission Basin
  - Elijo Valley Basin
  - San Dieguito Basin
  - San Dieguito Reservoir
  - Escondido Valley Basin
  - San Marcos Basin
- 4. Seasonal Storage Sites:** Two of the 12 potential long-term storage sites were selected for inclusion in the Proposed Project:
- Maerkle Dam Reservoir/Squires II Reservoir
  - South Lake

### 1.3 SCOPE OF STUDY AND PERSONNEL

PCR conducted a program-level cultural resources assessment of the Proposed Project from May 2014 through February 2015 to determine the potential impacts to archaeological, historical, and paleontological resources and to develop management guidelines and mitigation measures to avoid, reduce, or mitigate potential impacts for the purpose of complying with CEQA and to support the PEIR. The scope of work for this assessment included a cultural resources records search through the CHRIS-SCIC, a SLF search through the NAHC and follow-up Native American consultation, background historic research, a paleontological resources records search through the SDNHM, impact analyses, and the recommendation of management guidelines and mitigation measures in regards to cultural resources.

Since it is not anticipated that cultural resources would be impacted by the proposed reuse at the Potable Reuse Sites, these specific areas were not analyzed as part of this assessment. PCR focused their analysis on components of the project that would cause a potential impact to cultural resources such as the construction of a new facility or pipeline alignment. As a result, Group D, I, and N were not analyzed as part of this assessment since they would only include the reuse of an existing water source. In addition, since Group G, H, and K included Potable Reuse Sites and pipeline alignments, only the proposed pipeline alignments were analyzed by PCR for these particular groups.

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<sup>1</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.

The archaeological and paleontological resources analysis was conducted by Mr. Kyle Garcia and Mrs. Fatima Clark. Project management and quality control was overseen by Mr. Garcia. The historical resources analysis was conducted by Ms. Amanda Kainer, M.S., Ms. Virginia Harness, and Dr. Margarita J. Wuellner, Ph.D. Dr. Wuellner directed the historical resources analysis. Qualifications of key personnel are provided in Appendix A.

## 2.0 REGULATORY SETTING

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Numerous laws and regulations require federal, state, and local agencies to consider the effects of a Proposed Project on cultural resources. These laws and regulations establish a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended, CEQA, and the California Register of Historical Resources (California Register), Public Resources Code (PRC) 5024, are the primary federal and state laws governing and affecting preservation of historic resources of national, state, regional, and local significance. Relevant guidelines at the local level include the cultural resource goals and policies of city and county General Plans. A description of the applicable laws, regulations, and guidelines is provided in the following paragraphs.

### 2.1 STATE LEVEL

#### 2.1.1 California Register of Historical Resources

The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State's jurisdiction.

Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."<sup>2</sup> The criteria for eligibility for the California Register are based upon National Register criteria.<sup>3</sup> Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.<sup>4</sup>

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

- a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- b. Is associated with the lives of persons important in our past;
- c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

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<sup>2</sup> *California Public Resources Code § 5024.1(a).*

<sup>3</sup> *California Public Resources Code § 5024.1(b).*

<sup>4</sup> *California Public Resources Code § 5024.1(d).*



- d. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must also be judged with reference to the particular criteria under which it is proposed for eligibility.<sup>5</sup>

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5.<sup>6</sup>
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

### 2.1.2 California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC Sections 21000 *et seq.*). As defined in Section 21083.2 of the PRC, a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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<sup>5</sup> *Ibid.*

<sup>6</sup> *Those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register.*

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, CEQA Guidelines Section 15064.5 broadens the approach to CEQA by using the term “historical resource” instead of “unique archaeological resource.” The CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of section 21084.1 of the PRC and section 15064.5 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site is to be treated in accordance with the provisions of PRC section 21083, which is a unique archaeological resource. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (CEQA Guidelines §15064.5(c)(4)).

## 2.2 LOCAL LEVEL

### 2.2.1 City of Escondido General Plan

The City of Escondido has put forth numerous policies within the Resource Conservation section of the General Plan. These policies were created for the preservation of important cultural and paleontological resources that contribute to the unique identity and character of Escondido (City of Escondido 2012). These policies are listed below:

- **Cultural Resources Policy 5.1:** Maintain and update the Escondido Historic Sites Survey to include significant resources that meet local, state, or federal criteria.
- **Cultural Resources Policy 5.2:** Preserve significant cultural and paleontological resources listed on the national, State, or local registers through: maintenance or development of appropriate ordinances that protect, enhance, and perpetuate resources; incentive programs; and/or the development review process.
- **Cultural Resources Policy 5.3:** Consult with appropriate organizations and individuals (e.g., South Coastal Information Center of the California Historical Resources Information System, Native American Heritage Commission, Native American groups and individuals,

and San Diego Natural History Museum) early in the development process to minimize potential impacts to cultural and paleontological resources.

- **Cultural Resources Policy 5.4:** Recognize the sensitivity of locally significant cultural resources and the need for more detailed assessments through the environmental review process.
- **Cultural Resources Policy 5.5:** Preserve historic buildings, landscapes, and districts with special and recognized historic or architectural value in their original locations through preservation, rehabilitation (including adaptive reuse), and restoration where the use is compatible with the surrounding area.
- **Cultural Resources Policy 5.6:** Review proposed new development and/or remodels for compatibility with the surrounding historic context.
- **Cultural Resources Policy 5.7:** Comply with appropriate local, State, or federal regulations governing historical resources.
- **Cultural Resources Policy 5.8:** Consider providing financial incentives, and educational information on existing incentives provided by the federal government to private owners and development in order to maintain, rehabilitate, and preserve historic resources.
- **Cultural Resources Policy 5.9:** Educate the public on the City's important historic resources in increase awareness for protection (City of Escondido 2012).

### 2.2.2 City of Escondido Landmark Criteria

The City of Escondido's Municipal Code, Article 40. Historic Resources Section 33-794, establishes designation criteria (Criteria 1 to 7 below) for locally significant properties, including historical resources, historical districts, signs, landscape features, and archeological resources. Prior to granting a resource local register or historical landmark status, the city council shall consider the definitions for historical resources and historical districts and shall find that the resource conforms to one (1) or more of the criteria listed in this section. A structural resource proposed for the local register shall be evaluated against criteria number one (1) through seven (7) and must meet at least two (2) of the criteria. Signs proposed for the local register shall meet at least one (1) of the criteria numbered eight (8) through ten (10). Landscape features proposed for the local register shall meet criterion number eleven (11). Archaeological resources shall meet criterion number twelve (12). Local register resources proposed for local landmark designation shall be evaluated against criterion number thirteen (13) (City of Escondido 2012). The criteria are as follows:

- (1.) Escondido historical resources that are strongly identified with a person or persons who significantly contributed to the culture, history, prehistory, or development of the City of Escondido, region, state or nation;
- (2.) Escondido building or buildings that embody distinguishing characteristics of an architectural type, specimen, or are representative of a recognized architect's work and are not substantially altered;

- (3.) Escondido historical resources that are connected with a business or use that was once common but is now rare;
- (4.) Escondido historical resources that are the sites of significant historic events;
- (5.) Escondido historical resources that are fifty (50) years old or have achieved historical significance within the past fifty (50) years;
- (6.) Escondido historical resources that are an important key focal point in the visual quality or character of a neighborhood, street, area or district;
- (7.) Escondido historical building that is one of the few remaining examples in the city possessing distinguishing characteristics of an architectural type;
- (8.) Sign that is exemplary of technology, craftsmanship or design of the period when it was constructed, uses historical sign materials and is not significantly altered;
- (9.) Sign that is integrated into the architecture of the building, such as the sign pylons on buildings constructed in the Modern style and later styles;
- (10.) Sign that demonstrates extraordinary aesthetic quality, creativity, or innovation;
- (11.) Escondido landscape feature that is associated with an event or person of historical significance to the community or warrants special recognition due to size, condition, uniqueness or aesthetic qualities;
- (12.) Escondido archaeological site that has yielded, or may be likely to yield, information important in prehistory;
- (13.) Escondido significant historical resource that has an outstanding rating of the criteria used to evaluate local register requests. (Ord. No. 2000-23, § 4, 9-13-00; Ord. No. 2008-16, § 4, 7-16-08)

### **2.2.3 City of Escondido Historic Resources Surveys**

The City of Escondido and their consultants completed surveys of approximately 1,000 pre-1940 built environment resources in 1983. The survey was updated and refined in 1990, leading to the Escondido Historical Register (including 267 listings), historic preservation program, a residential historic district, and the adoption of the Mills Act Incentive Program. The 2001 survey focused on updating the 1990 survey information, and incorporating built environment resources attaining an age of 50 years since the previous survey. This study placed particular emphasis on resources dating between 1940 and 1955. Further, the 2001 survey proposed eight potential Historic Districts for consideration as City of Escondido Historic Districts. As of April 2012, none of the potential districts have been formally designated. However, an area

known as the Old Escondido Historic District has been formally established as a Historic District, and is the only designated Historic District in North County San Diego.<sup>7</sup>

#### 2.2.4 City of Oceanside General Plan

Under the City of Oceanside's General Plan, the Environmental Resource Management Element (Element) has a goal to "evaluate the state of the environment and formulate a program of planned management, wise utilization, and preservation of natural resources to ensure the health, safety, and welfare of present and future generations" (City of Oceanside 2002:7). The Element also has an objective for the City's cultural sites that emphasize the conservation and protection of cultural resources for scientific, historic, and educational purposes in the future. The Element also recommends an action program for the City to: 1) encourage the use of "O" zoning and open space easements for the preservation of cultural sites; 2) encourage private organizations to acquire, restore and maintain historical sites; and 3) encourage research by groups (including museums and university students) to find and record archaeological sites and for the purpose of sending this information to the appropriate County of San Diego agencies for inclusion in the San Diego County Natural Resource Inventory. The Element mentions that the Oceanside area is rich in historical sites. Among these are three prominent sites, including the Mission San Luis Rey de Francia, Rancho Guajome and the Grave of Francisco de Ulloa. Archaeological sites have been identified by the Museum of Man in the Fire Mountain area, near San Francisco Peak and in the Guajome Lake Region. The Element indicates that surveys to identify cultural sites in the City are incomplete and therefore the identification and excavation of present and future sites should be conducted by qualified scientific personnel (City of Oceanside 2002).

#### 2.2.5 City of Carlsbad General Plan

The Open Space and Conservation Element for the City of Carlsbad establishes policies for an open space system and for the protection and conservation of the City's historic resources. The Element has several objectives, policies and action programs for the preservation of historic and cultural resources (City of Carlsbad 2006).

- **Objective B.1** To encourage property owners to utilize all available incentives for the preservation of historic resources.
- **Objective B.2** To promote the use of historic resources for the education, pleasure and welfare of the people of the City.
- **Objective B.3** To cooperate with historic societies, schools, libraries and citizens to stimulate public interest in historic preservation.
- **Objective B.4** To enhance the community's recognition that objects of historic importance increase both fiscal and community value.
- **Objective B.5** To enhance the City's appeal to tourists and visitors in order to support and stimulate business and industry.

<sup>7</sup> Atkins. Chapter 4.5 Cultural and Paleontological Resources. Escondido General Plan Update. Prepared for City of Escondido. April 23, 2012.

- **Policy C.1:** Prepare and maintain a Cultural Resource Survey.
- **Policy C.2:** Create and maintain a local registry of cultural resources.
- **Policy C.3:** Provide landmark identification of designated cultural resources.
- **Policy C.4:** Encourage the use of tax incentives, regional, state and federal programs which promote cultural preservation to upgrade and redevelop property vitality.
- **Policy C.5:** Encourage the formation of historic districts for the protection of resources and promotion of tourism.
- **Policy C.6:** Encourage the rehabilitation of historic structures through adoption of the Historical Building Code.
- **Policy C.7:** Incorporate the Cultural Resource Guidelines in the environmental review of development applications.
- **Policy C.8:** Maintain historical reference materials on file in the main branch of the Carlsbad City Library.
- **Policy C.9:** Implement the following measures for paleontological sites:
  1. Phase 1 - Phase 1 shall consist of a qualified paleontologist doing a literature and records search, surface study, subsurface testing if necessary, the recordation of any sites, and a recommendation regarding the need for further work.
  2. Phase 2 - If it is determined during Phase 1 that further work is necessary it shall consist of the following:
    - a. A qualified paleontological monitor shall be present at a pre-grading conference with the developer, grading contractor, and the environmental review coordinator. The purpose of this meeting would be to consult and coordinate the role of the paleontologist in the grading of the site. A qualified paleontologist is an individual with adequate knowledge and experience with fossilized remains likely to be present to identify them in the field and is adequately experienced to remove the resources for further study. No grading permits shall be issued until the monitoring plan has been approved by the Planning Director.
    - b. A paleontologist or designate shall be present during those relative phases of grading as determined at the pregrading conference. The monitor shall have the authority to temporarily direct, divert or halt grading to allow recovery of fossil remains. At the discretion of the monitor, recovery may include washing and picking of soil samples for micro-vertebrate bone and teeth. The developer shall authorize the deposit of any resources found on the project site in an institution staffed by qualified paleontologists as may be determined by the Planning Director. The

contractor shall be aware of the random nature of fossil occurrences and the possibility of a discovery of remains of such scientific and/or educational importance which might warrant a long term salvage operation or preservation. Any conflicts regarding the role of the paleontologist and/or recovery times shall be resolved by the Planning Director.

3. Phase 3 - Prior to occupancy of any buildings a paleontological monitoring report shall be submitted to the Planning Director and the Carlsbad Historic Preservation Commission. This report shall describe all the materials recovered and provide a tabulation of the number of hours spent by paleontological monitors on the site.
  - **Policy C.10:** Prohibit the alteration of properties of state or national significance, unless reviewed under requirements of the California Environmental Quality Act.

### 2.2.6 City of Encinitas General Plan

The Resource Management Element (Element) of the Draft General Plan (Plan) indicates that the majority of the City of Encinitas has been developed and that the majority of the historic and prehistoric archaeological resources have also been discovered within the City's boundaries. There are a few undeveloped areas within the City and especially within eastern Cardiff and Olivenhain where there is potential for archaeological resources to exist. There is also the possibility that historic and prehistoric resources could exist in some developed areas. If these deposits do exist, they would probably be found within areas of previously undisturbed soil. The Plan has a main goal which consists of preserving cultural resources in the City for future generations (City of Encinitas 2011). The Plan also includes several policies for the preservation of cultural resources, see below:

- **Policy 20.1 - Cultural Resource Preservation:** Require that paleontological, historical, and archaeological in the Planning Area are documented, preserved or salvaged if threatened by new development. To the extent feasible, maintain an inventory of archaeological and cultural resource areas (Coastal Act/30250).
- **Policy 20.2 - Historic Resources Program:** Develop a historic resources program to assist in the identification, preservation and restoration of those buildings, structures and places within the city that have historic significance.
- **Policy 20.3 - Archaeological Resource Preservation:** Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.
- **Policy 20.4 - Development Review:** Require review of development projects located within or generally near areas with high sensitivity ratings, identified in Figure RM-2 of this Element, to determine the extent of significant cultural resources on the property and the potential impacts that new development will have on these resources.
- **Policy 20.5 - Grading:** Require that proposed projects that involve a significant amount of grading shall have an archaeological survey conducted prior to construction.

- **Policy 20.6 - Mitigation and Preservation of Cultural Resources:** Require development to avoid archaeological resources, whenever possible. If complete avoidance is not possible, require development to minimize and fully mitigate impacts to archaeological resources.
- **Policy 20.7 - Treatment and Preservation of Resources:** Require the appropriate treatment and preservation of archaeological collections in a culturally appropriate manner.
- **Policy 20.8 - Treatment of Cultural Resources:** Require consultation with affected communities, including local tribes, to determine the appropriate treatment of cultural resources if identified.
- **Policy 20.9 - Tribal Consultation:** Require consultation with affected communities including local tribes prior to projects that may result in major land use decisions, including General Plan updates and amendments and specific plans and specific plan amendments, pursuant to Senate Bill 18 Protection of Traditional Tribal Cultural Places.
- **Policy 20.10 - Treatment of Human Remains:** Require that human remains be treated with dignity and respect and that the disposition and handling of human remains be performed in consultation with the Most Likely Descendant (MLD) and in conformance with federal and state regulations.
- **Policy 20.11 - Interpretive Programs:** Encourage and promote the development of educational interpretive programs that focus on the rich heritage of the individual, unique communities within the city.
- **Policy 20.12 - Historical Resources Inventory:** Prepare and regularly update an inventory of all of the historically significant sites and/or structures.
- **Policy 20.13 - Historic Preservation:** Enhance historic policies through design. Incorporate, to the extent feasible and when appropriate, the historic resources into the design of buildings and public improvements. Balance seismic retrofit efforts and historic preservation consistent with seismic safety related policies of the Public Safety Element.

### 2.2.7 Solana Beach General Plan

The goals of the Conservation and Open Space Element of the General Plan (Plan) focus on protecting and conserving the City (City) of Solana Beach's natural and cultural resources. The Plan indicates that according to a cultural resource records search conducted in 1987, six archaeological/historical sites are located within the City and 45 sites within one mile of the City. The Plan also recognizes that the Gonzales House is the oldest remaining structure in the city and is considered an important local historic resource because it is a link to the earliest days of Solana Beach. The Plan also indicates that no fossil localities have been identified within the City and that the closest localities to Solana Beach are located along the coast between Del Mar and La Jolla (City of Solana Beach 2011). The Plan has the objective to prevent the loss of historical, archaeological, and paleontological resources, and includes the following policies:



- **Policy 6.a:** The City shall complete an inventory of historic resources and cultural landmarks and shall establish a list of significant resources to be preserved.
- **Policy 6.b:** The city shall require that sites proposed for future development are to be evaluated by certified archaeologists and/or paleontologists in accordance with the California Environmental Quality Act. Where potentially significant adverse impacts are identified, the city shall require appropriate mitigation measures such as in situ preservation or professional retrieval. **Policy 6.c:** The city shall implement the objectives and policies established in the community design element of the general plan which promote the preservation of historic landmarks, focal points, and special features.
- **Policy 6.d:** The city shall encourage and support the acquisition of significant cultural resources by private and/or public entities interested in preserving such resources.
- **Policy 6.e:** The city shall establish a historic preservation section within its zoning ordinance.

### 2.2.8 City of Vista General Plan Update 2030

The Vista Vision 2030 is a guide to the preparation and implementation of a General Plan update (Plan update), and serves as a reminder of the image the City of Vista would like to achieve by 2030. The Resource Conservation and Sustainability (RCS) Element of the Plan update has several goals and policies for the preservation of cultural, historical, and paleontological resources (City of Vista 2011).

**RCS Goal 11:** Continue to preserve and protect places, buildings, and objects that embody the City's social, cultural, commercial, architectural, and agricultural history.

- **RCS Policy 11.1:** Continue to utilize historical resources, such as the Rancho Buena Vista Adobe, for school programs, community education, and events; and coordinate programming with other historic sites.
- **RCS Policy 11.2:** Continue to preserve Vista's historic adobes and nationally registered and significant historic buildings, such as the Rancho Guajome Adobe and the Braun House. Consider national and local historic designations for eligible City-owned properties.
- **RCS Policy 11.3:** Support preservation of historical resources, including providing for adaptive reuse and tax incentives where appropriate.
- **RCS Policy 11.4:** Consider discretionary review of any demolition permits for properties identified on the City's historic resources inventories, as applicable.
- **RCS Policy 11.5:** Conduct historic resource inventories to identify important historical resources and establish a Register of Historic Properties in Vista. Pursue grants and funding for inventories and preservation through the State Office of Historic Preservation.
- **RCS Policy 11.6:** Educate property owners as to the economic and other benefits of preserving and properly maintaining historical and culturally significant properties.

- **RCS Policy 11.7:** Maintain a program for the establishment of Mills Act contracts with property owners with historic properties to revitalize older areas of the City, support cultural tourism, bolster community identity, and retain the connection with the community's past.

**RCS Goal 12:** Acknowledge, preserve, and protect the City's Native American heritage.

- **RCS Policy 12.1:** Develop a map identifying existing and potential archaeologically sensitive districts in Vista.
- **RCS Policy 12.2:** In collaboration with NAHC and the San Luis Rey Band of Mission Indians, adopt procedures for protecting significant archeological features, and apply to projects requiring discretionary City approval.
- **RCS Policy 12.3:** Ensure that the San Luis Rey Band of Mission Indians is notified of any proposed discretionary planning or grading applications affecting lands with potential archaeological resources.
- **RCS Policy 12.4:** If significant Native American artifacts are discovered during pre-construction or construction phases of a discretionary project or during the implementation a grading permit, the first priority shall be a) to avoid any further disturbance of those areas by re-designing the proposed development or project, and b) to have those areas placed into protected open space via an open space easement or similar protective measure. If avoidance is not feasible based on consultation with the Most Likely Descendant of such artifacts, appropriate mitigation shall be required. Any discovered Native American artifacts shall be returned to their Most Likely Descendant and repatriated at the earliest opportunity.
- **RCS Policy 12.5:** If Native American human remains and/or associated grave goods are found during any of the activities identified in RCS Policy 12.4, the first priority shall be a) to avoid any further disturbance (i.e., grading, development) of those areas in which they are found, and b) to have the remains and/or associated grave goods preserved in place via an open space easement or similar protective land use measure. The second priority shall be that the Most Likely Descendant of the remains and/or associated grave goods, as determined by NAHC, must also have the opportunity to recommend other culturally appropriate treatment.

**RCS Goal 13:** Recognize the potential for paleontological resources and provide for mitigation programs to ensure collection and salvage of fossil materials.

- **RCS Policy 13.1:** Adopt procedures to provide pre-construction mitigation.
- **RCS Policy 13.2:** Adopt procedures to mitigate impacts during construction, including requiring monitoring of excavation operations and salvage programs.

### 2.2.9 City of San Marcos General Plan

The City (City) of San Marcos indicates in its General Plan that cultural resources within the City's boundaries include archaeological and historical sites and districts, historic buildings and structures, cultural

landscapes, and sites and resources that are of concern to local Native American and other ethnic groups. The City has one main goal and several policies for the protection of cultural, historic, archaeological, paleontological, and architectural resources (City of San Marcos 2013).

**Goal COS-1:** Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.

- **Policy COS-11.1:** Identify and protect historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) in compliance with CEQA.
- **Policy COS-11.2:** Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of alternatives to preservation in place including but not limited to relocation, or reconstruction offsite, and/or photo-preservation.
- **Policy COS-11.3:** Identify opportunities for adaptive reuse of historic sites and buildings to preserve and maintain their viability.

### 2.2.10 San Diego County General Plan

Unincorporated areas in the project area, including the community of Rancho Santa Fe, are subject to the policies of the San Diego County General Plan. The main purpose of the Conservation and Open Space Element is to provide direction for the future growth and the development in the County of San Diego (San Diego County General Plan 2011). The Element includes goals and policies for cultural resources and paleontological resources which are provided below:

**GOAL COS-7:** Protection and Preservation of Archaeological Resources

- **Policy COS-7.1:** Archaeological Protection. Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.
- **Policy COS-7.2:** Open Space Easements. Require development to avoid archeological resources whenever possible. If complete avoidance is not possible, require development to fully mitigate impacts to archaeological resources.
- **Policy COS-7.3:** Archaeological Collections. Require the appropriate treatment and preservation of archaeological collections in a culturally appropriate manner.
- **Policy COS-7.4:** Consultation with Affected Communities. Require consultation with affected communities, including local tribes to determine the appropriate treatment of cultural resources.
- **Policy COS-7.5:** Treatment of Human Remains. Require human remains be treated with the utmost dignity and respect and that the disposition and handling of human remains will be done in consultation with the Most Likely Descendant (MLD) and under the requirements of Federal, State and County Regulations.

- **Policy COS-7.6:** Cultural Resource Data Management. Coordinate with public agencies, tribes, and institutions in order to build and maintain a central database that includes a notation whether collections from each site are being curated, and if so, where, along with the nature and location of cultural resources throughout the County of San Diego.

**GOAL COS-8:** Protection and Conservation of the Historical Built Environment

- **Policy COS-8.1:** Preservation and Adaptive Reuse. Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process.
- **Policy COS-8.2:** Education and Interpretation. Encourage and promote the development of educational and interpretive programs that focus on the rich multicultural heritage of the County of San Diego.

**GOAL COS-9:** Protection of Paleontological Resources

- **Policy COS-9.1:** Preservation. Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.
- **Policy COS-9.2:** Impacts of Development. Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.

## 3.0 ENVIRONMENTAL SETTING

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### 3.1 SUMMARY

The study area lies within a region that encompasses nearly 200 square miles. Elevations on the study area range from sea level to approximately 960 feet above mean sea level (MSL) in the east. The majority of the study area follows linear alignments, with the addition of other components such as storage tanks and treatment facilities. The alignments for the most part follow existing roadways surrounded by a variety of residential, commercial, industrial developments, and urban parks. Non-linear components, with the exception of the proposed Wanket Tank in Group H, are all located in existing water treatment facilities, urban developed areas, or were under development at the time of the survey. Undeveloped portions of the alignments were comprised of a wide variety of habitat conditions. For a detailed description of the plant communities, wildlife, and other biological resources associated with the environmental setting of the project, see Huttar and Williams-Dodd (2014).

### 3.2 GEOLOGY AND SOILS

According to Kennedy and Tan (2007, 2008) and as discussed in the paleontological resources record search results from the SDNHM (see Anderson 2014, 2015), the proposed project alignments are located in areas underlain primarily by Cenozoic sedimentary rocks and Mesozoic sedimentary, igneous, and metamorphic rocks. Exposed sedimentary rocks underlying the project are mapped as the late Holocene-age (less than 10,000 years old) alluvial flood plain deposits (Qa) and landslide deposits (Qls); the late Pleistocene to Holocene-age (less than 150,000 years old) young colluvial deposits (Qyc) and young alluvial flood plain deposits (Qya); the middle to late Pleistocene-age (150,000 to 780,000 years old) old paralic deposits (Qop2-4 and Qop6-7) and old alluvial flood plain deposits (Qoa); the early to middle Pleistocene-age (780,000 years to 2.5 million years old) very old alluvial deposits (Qvoa) and very old paralic deposits (Qvop10-13); the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation (Tsa); the middle Eocene-age (approximately 45 to 47 million years old) Friars Formation (Tf); the middle Eocene-age (approximately 48 to 49 million years old) Torrey Sandstone (Tt); the middle Eocene-age (approximately 49 to 50 million years old) Delmar Formation (Td); Mesozoic-age (65 to 250 million years old) undivided meta-sedimentary and meta-volcanic rocks (Mzu); the late Cretaceous-age (approximately 75 million years old) Point Loma Formation (Kp); and the late Cretaceous-age (approximately 80 million years old) Lusardi Formation (Kl).

Mesozoic igneous rocks underlying the project alignments include middle Cretaceous age (approximately 120 million years old) generic rocks of the Peninsular Ranges Batholith (a large emplacement of igneous intrusive rock): tonalite, undivided (Kt); granodiorite, undivided (Kgd); and gabbro, undivided (Kgb); and nongeneric, middle Cretaceous-age formations which include: Leucogranodiorite of Lake Hodges (Klh), Monzogranite of Merriam Mountain (Kmm), Granite of Dixon Lake (Kdl), and Granodiorite of Woodson Mountain (Kwm).

#### 3.2.1 Geological Units/Formations within the Project Area

**Table 1**, *Geologic Units That Underlie Project Area*, summarizes the geologic units/formation that underlie the project area by Group. The units/formations are subsequently described in detail in terms of their age and lithology.

Table 1

## Geologic Units That Underlie Project Area

Group	Geologic Unit
A	Qyls, Tsa, Qa, Qoa, Qop2-4, Qop6-7, Qya, Kt, Mzu, Kp, KI
C	Qoa, Kwm, Qya
E	Kt, Tsa, Tt, Qvop2-4, Qvop6-7 Qvop10-11
G	Kt, Qa, Qoa, Kgd, Tsa Qyls
H	Qya, Tsa, Tt, Qvop10
I	Kmm, Mzu, Qaf, Kt, Qya, Kgb
J	Mzu, Qya, Kt, Kgb
K	Td, Tt, Kl, Qya, Qpe, Qvoa, Qvop2-4
M	Mzu
O	Kt, Qa, Tsa

Source: Kennedy and Tan (2007, 2008), PCR Services Corporation 2014

### Modern Surficial Deposits

Sediment that recently has been transported and deposited in channels and washes, on surfaces of alluvial fans and alluvial plains, and on hill slopes and in artificial fills. Soil-profile development is non-existent.

- **Qa - Alluvial flood plain deposits (late Holocene)** – Active and recently active flood-plain deposits. Consists of unconsolidated sandy, silty, or clay-bearing alluvium. Does not include alluvial fan deposits at distal ends of channels.
- **Qaf - Artificial fill (late Holocene)** - Sand, gravel, and bedrock from pits and quarries; mapped primarily where used for construction of highways and water catchment basins.
- **Qpe - Paralic estuarine deposits (late Holocene)** – Unconsolidated estuarine deposits. Composed mostly of fine-grained sand and clay.

### Young Surficial Deposits

Sedimentary units that are slightly consolidated to cemented and slightly to moderately dissected. Alluvial fan deposits typically have high coarse-fine clast (fragments broken off from other rocks) ratios. Young surficial units have upper surfaces that are capped by slight to moderately developed soil profiles.

- **Qya - Young alluvial flood-plain deposits (Holocene and late Pleistocene)** – Poorly consolidated, poorly sorted, permeable flood- plain deposits of sandy, silty or clay-bearing alluvium
- **Qyls - Young landslide deposits (Holocene and late Pleistocene)** - Relatively stabilized slope-failure deposits that consist of displaced bedrock blocks and (or) chaotically mixed rubble. Slightly dissected. Deposits are probably inactive under current climatic conditions.
- **Qoa - Old alluvial flood-plain deposits, un-divided (late to middle Pleistocene)** – Fluvial sediments deposited on canyon floors. Consists of moderately well consolidated, poorly sorted, permeable, commonly slightly dissected gravel, sand, silt, and clay-bearing alluvium. Where more than one number is shown (e.g., Qoa2-6) those deposits are undivided

## Old Surficial Deposits

Sediments that are moderately consolidated and slightly to moderately dissected. Older surficial deposits have upper surfaces that are capped by moderate to well-developed pedogenic soils.

- **Qop2-4 - Old paralic deposits, Unit 3 (late to middle Pleistocene)** – Poorly sorted, moderately permeable, reddish-brown, interfingering strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate. These deposits rest on the 45-46 m Guy Fleming terrace.
- **Qop2-4 - Old paralic deposits, Unit 4 (late to middle Pleistocene)** – Poorly sorted, moderately permeable, reddish-brown, interfingering strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate. These deposits rest on the 34-37 m Stuart Mesa terrace.
- **Qop6-7 - Old paralic deposits, Unit 6 (late to middle Pleistocene)** – Poorly sorted, moderately permeable, reddish-brown, interfingering strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate. These deposits rest on the 22-23 m Nestor terrace.
- **Qop6-7 - Old paralic deposits, Unit 7 (late to middle Pleistocene)** – Poorly sorted, moderately permeable, reddish-brown, interfingering strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate. These deposits rest on the 9-11 m Bird Rock terrace (Plate 2).

## Very Old Surficial Units

Sediments that are slightly to well-consolidated to indurated (hardened), and moderately to well-dissected. Upper surfaces are capped by moderate to well-developed soils.

- **Qvoa - Very old alluvial flood-plain deposits, undivided (middle to early Pleistocene)** – Fluvial sediments deposited on canyon floors. Consists of moderately to well-indurated, reddish-brown, mostly very dissected gravel, sand, silt, and clay-bearing alluvium.
- **Qvop10-11 - Very old paralic deposits, Unit 10 (middle to early Pleistocene)** – Poorly sorted, moderately permeable, reddish-brown, interfingering strand-line, beach, estuarine and colluvial deposits composed of siltstone, sandstone and conglomerate.

## Sedimentary and Volcanic Bedrock Units

- **Kp - Point Loma Formation (Upper Cretaceous)** – Interbedded, fine-grained, dusky-yellow sandstone and olive-gray siltstone. Contains calcareous nanoplankton of Upper Cretaceous (Campanian and Maestrichtian) age. Named for exposures in the sea cliffs along the west side of the Point Loma Peninsula and assigned to the intermediate part of the Rosario Group. The Point Loma Formation is correlative in part to the Williams Formation in the Santa Ana Mountains.
- **Tt - Torrey Sandstone (middle Eocene)** – White to light-brown, medium- to coarse-grained, moderately well indurated, massive and broadly cross-bedded, arkosic (feldspar-rich) sandstone. This unit is the Torrey Sand Member of Hanna (1926) and was named for exposures at Torrey Pines State Park. It is now considered a formation of the La Jolla Group.

- **Td - Delmar Formation (middle Eocene)** – Dusky yellowish-green, sandy clay-stone interbedded with medium-gray, coarse-grained sandstone. This unit is the Delmar Sand Member of Hanna and was named for exposures in the sea cliffs at Del Mar. It is now considered a formation of the La Jolla Group.
- **Tsa - Santiago Formation (middle Eocene)** – There are three distinctive parts. A basal member consisting of buff and brownish-gray, massive, coarse-grained, poorly sorted arkosic sandstone and conglomerate (sandstone generally predominating). In some areas the basal member is overlain by a central member that consists of gray and brownish-gray (salt and pepper) soft, medium-grained, moderately well sorted arkosic sandstone. The upper member consists of gray, coarse-grained arkosic sandstone and grit. Vertically and laterally throughout the formation there exists greenish-brown, massive claystone interbeds, tongues and lenses of often fossiliferous, lagoonal claystone and siltstone. The lower part of the Santiago Formation interfingers with the Delmar Formation and Torrey Sandstone in the Encinitas quadrangle. Named by Woodring and Popenoe for Eocene deposits of northwestern Santa Ana Mountains.
- **Kl - Lusardi Formation (Upper Cretaceous)** – Reddish-brown, cobble and boulder conglomerate with occasional thin lenses of medium-grained sandstone. Named by Nordstrom for exposures in Lusardi Creek in the Rancho Santa Fe quadrangle and later assigned to the basal part of the Rosario Group by Kennedy and Moore. At one location, near Olivenhain, the Lusardi Formation contains a tongue of Point Loma Formation. The Lusardi Formation is correlated to the Trabuco Formation in the Santa Ana Mountains.

#### Unnamed Cretaceous Rocks of the Peninsular Ranges Batholith

- **Kgd - Granodiorite, undivided (mid-Cretaceous)** – Medium- to coarse-grained hornblende-biotite granodiorite
- **Kt - Tonalite, undivided (mid-Cretaceous)** – Massive, coarse-grained, light-gray hornblende-biotite tonalite.
- **Kgb - Gabbro, undivided (mid-Cretaceous)** – Massive, coarse-grained, dark-gray and black biotite-hornblende-hypersthene gabbro.

#### Named Cretaceous Rocks of the Peninsular Ranges Batholith

- **Kmm - Monzogranite of Merriam Mountain (mid-Cretaceous)** – Massive, medium- to coarse-grained, leucocratic hornblende-biotite monzo-granite.
- **Kwm - Granodiorite of Woodson Mountain (mid-Cretaceous)** – Massive, coarse-grained, leucocratic horn-blende gran`odiorite. Part of the Woodson Mountain Granodiorite of Larsen.

#### Prebatholithic and Synbatholithic Metamorphic Rocks

- **Mzu - Metamorphosed and unmetamorphosed volcanic and sedimentary rocks, undivided (Mesozoic)** – Wide variety of unmetamorphosed and low- to high-metamorphic grade volcanic and sedimentary rocks. They include prebatholithic (metamorphosed) and synbatholithic (un-metamorphosed) rocks including metavolcanic rocks (Santiago Peak Volcanics) of Larsen, metasedimentary rocks (Bedford Canyon Formation) of Larsen, volcanic, metavolcanic, sedimentary and metasedimentary rocks (Black Mountain Volcanics) of Hanna. These rocks include a Cretaceous subaerial island-arc volcanic sequence consisting of basaltic andesite,



andesite, dacite, rhyolite, volcaniclastic breccia, welded tuff and epiclastic rocks. They are comagmatic (from a common parent magma) with the oldest Cretaceous plutons (bodies of intrusive igneous rock) of the Peninsular Ranges batholith (a large emplacement of igneous intrusive rock).

## 4.0 CULTURAL SETTING

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### 4.1 PREHISTORIC CONTEXT

Prehistory is most easily discussed chronologically, in terms of environmental change and recognized cultural developments. Several chronologies have been proposed for inland Southern California, the most widely accepted of which is Wallace's four-part Horizon format (1955), which was later updated and revised by Claude Warren (1968). The advantages and weaknesses of Southern California chronological sequences are reviewed by Warren (in Moratto 1984), Chartkoff and Chartkoff (1984), and Heizer (1978). The following discussion is based on Warren's (1968) sequence, but the time frames have been adjusted to reflect more recent archaeological findings, interpretations, and advances in radiocarbon dating.

#### 4.1.1 Paleo-Indian Period (ca. 13,000-11,000 years before present [YBP])

Little is known of Paleo-Indian peoples in inland southern California, and the cultural history of this period follows that of North America in general. Recent discoveries in the Americas have challenged the theory that the first Americans migrated from Siberia, following a route from the Bering Strait into Canada and the Northwest Coast sometime after the Wisconsin Ice Sheet receded (ca. 14,000 YBP), and before the Bering Land Bridge was submerged (ca. 12,000 YBP). Based on new research from the Pacific Rim, it has been proposed that modern humans settled islands of the eastern Pacific between 40,000 and 15,000 years ago. Evidence of coastal migration has also come from sites on islands off Alta and Baja California. As a result, these sites are contemporary with Clovis and Folsom points found in North America's interior regions. All of these new findings have made the coastal migration theory gain credibility in recent times (Erlandson et al. 2007).

The timing, manner, and location of the Bering Strait crossing are a matter of debate among archaeologists, but the initial migration probably occurred as the Laurentide Ice Sheet melted along the Alaskan Coast and interior Yukon. The earliest radiocarbon dates from the Paleo-Indian Period in North America come from the Arlington Springs Woman site on Santa Rosa Island located approximately 150 miles west-northwest of the Study Area. These human remains date to approximately 13,000 YBP (Johnson, et al. 2002). Other early Paleo-Indian sites include the Monte Verde Creek site in Chile (Meltzer, et al. 1997) and the controversial Meadowcroft Rockshelter in Pennsylvania. Both sites have early levels dated roughly at 12,000 YBP. Lifeways during the Paleo-Indian Period were characterized by highly mobile hunting and gathering. Prey included megafauna such as mammoth and technology included a distinctive flaked stone toolkit that has been identified across much of North America and into Central America. They likely used some plant foods, but the Paleo-Indian toolkit recovered archaeologically does not include many tools that can be identified as designed specifically for plant processing.

The megafauna that appear to have been the focus of Paleo-Indian life went extinct during a warming trend that began approximately 10,000 years ago, and both the extinction and climatic change (which included warmer temperatures in desert valleys and reduced precipitation in mountain areas) were factors in widespread cultural change. Subsistence and social practices continued to be organized around hunting and gathering, but the resource base was expanded to include a wider range of plant and game resources. Technological traditions also became more localized and included tools specifically for the processing of plants and other materials. This constellation of characteristics has been given the name "Archaic" and it was the most enduring of cultural adaptations to the North American environment.

### 4.1.2 Archaic Period (ca. 11,000-3,500 YBP)

The earliest Archaic Period life in inland southern California has been given the name San Dieguito tradition, after the San Diego area where it was first identified and studied (Warren 1968). Characteristic artifacts include stemmed projectile points, crescents and leaf-shaped knives, which suggest a continued subsistence, focus on large game, although not megafauna of the earlier Paleo-Indian period. Milling equipment appears in the archaeological record at approximately 7,500 years ago (Moratto 1984:158). Artifact assemblages with this equipment include basin milling stones and unshaped manos, projectile points, flexed burials under cairns, and cogged stones, and have been given the name La Jolla Complex (7,500–3,000 YBP). The transition from San Dieguito life to La Jolla life appears to have been an adaptation to drying of the climate after 8,000 YBP, which may have stimulated movements of desert peoples to the coastal regions, bringing milling stone technology with them. Groups in the coastal regions focused on mollusks, while inland groups relied on wild-seed gathering and acorn collecting.

### 4.1.3 Late Prehistoric Period (ca. 3,500 YBP-A.D. 1769)

Cultural responses to environmental changes around 4,000–3,000 YBP included a shift to more land-based gathering practices. This period was characterized by the increasing importance of acorn processing, which supplemented the resources from hunting and gathering. Meighan (1954) identified the period after A.D. 1400 as the San Luis Rey complex. San Luis Rey I (A.D. 1400–1750) is associated with bedrock mortars and milling stones, cremations, small triangular projectile points with concave bases and Olivella beads. The San Luis Rey II (A.D. 1750–1850) period is marked by the addition of pottery, red and black pictographs, cremation urns, steatite arrow straighteners and non-aboriginal materials (Meighan 1954:223, Keller and McCarthy 1989:6). Work at Cole Canyon and other sites in southern California suggests that this complex, and the ethnographically described life of the native people of the region, were well established by at least 1,000 YBP (Keller and McCarthy 1989:80).

### 4.1.4 Ethnographic Context – Luiseño and Kumeyaay

Information presented in the California volume of the Handbook of North American Indians (Heizer 1978:575) shows that the Study Area is in the Luiseño territory and neighboring portions of the Kumeyaay (formerly known as the Tipai-Ipai and Diegueño). It is believed that the Luiseño and Kumeyaay interacted with one another through marriage, trade, war and ritual. They exhibited similar lifeways in regard to material cultural, philosophy, settlement patterns, and religion. Each group is discussed below.

#### Luiseño

The term Luiseño derives from the mission named San Luis Rey and has been used in the region to refer to those Takic-speaking people associated with Mission San Luis Rey (Bean and Shippek 1978:550). The Luiseño shared boundaries with the Cahuilla, Cupeño, Gabrielino, and Kummeyaay groups on the east, north, and south, respectively. These different bands shared cultural and language traditions with the Luiseño. The Luiseño territory extended from the coast to Agua Hedionda Creek on the south to near Aliso Creek on the northwest. The boundary extended inland to Santiago Peak, then across to the eastern side of Elsinore Valley, then southward to the east of Palomar Mountain, then around the southern slope above the valley of San Jose (*ibid.*:550). Their habitat covered every ecological zone from the ocean, sandy beaches, shallow inlets, coastal chaparral, grassy valleys oak groves, among various other niches. The primary food source consisted of game animals such as deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, and

various species of birds. Next to game animals, acorns were the single most important staple, and six different species were utilized (*ibid.*:552). The Luiseño social structure is unclear; however, each village was a clan-triblet: a group of people patrilineally related who owned an area in common and who were politically and economically autonomous from neighboring groups. The Luiseño were not organized into exogamous moieties such as were their neighbors, Cahuilla, Cupeño, and Serrano (Strong 1929:291). The hereditary village chief held an administrative position that combined and controlled religious, economic, and warfare powers (Boscana 1933:43). Marriage was arranged by the parents of children and important lineages were allied through marriage. Reciprocally useful alliances were arranged between groups in different ecological niches, and became springboards of territorial expansion, especially following warfare and truces (White 1963:130).

### **Kumeyaay**

The territory of the Kumeyaay extended from the mouth of the San Luis Rey River (near Agua Hedionda) on the north to the Todos Santos Bay on the south, near Ensenada Mexico. From the Pacific Ocean, the Kumeyaay extended east through San Diego and Imperial Counties all the way to Sand Hills. The Kumeyaay lived in settlements that were only campsites, and were occupied by a band during a year. A campsite was selected for water, abundant flora and fauna, boulder outcrops, drainage, and natural protection from weather and ambush. Their structures varied depending on location, need, choice and raw materials. The political organization of the Kumeyaay consisted of a band with an autonomous tribelet, made up by a clan chief and at least one assistant chief. Positions were inherited and passed on to the eldest sons, or to brothers and rarely to widows. Subsistence was mainly dependent on a band's seasonal travel following the ripening of major plants. For instance, some families would arrive to a campsite to gather, process and cache seasonal vegetal food, while at the same time they would obtain meat, from either permanent residents in that location or from other migrants like themselves. When winter approached, people would return to a sheltered foothill or valley. The months of March through May provided welcome buds, blossoms and potherbs from canyons and foothills. Early June was the time for drying cactus fruit which was stored in foothill caves. During the months of June through August, wild seeds, plums and other fruits ripened. People inhabiting the Imperial Valley would gather mesquite pods in July. In other parts, women and children worked from the months of September through November, in higher altitudes to gather acorns and piñon nuts. Marriage was arranged by the parents during the young couple's puberty years. Young people married outside of their father's clan and families preferred mates from clans they knew, although this created disagreements. The bride's and groom's parents would enter a special relationship with frequent exchange of gifts and concern for the couple's marriage (Luomala 1978).

The Luiseño and Kumeyaay developed a varied material culture that included an array of tools that were made from stone, wood, bone, and shell, and which served to procure and process the region's resources. Needs for shelter and clothing were minimal in the region's forgiving climate, but considerable attention was devoted to personal decoration in ornaments, painting, and tattooing. The local pottery was well made, although it was not elaborately decorated (Laylander and Pham 2012).

#### **4.1.5 European Contact**

European contact with the Native American groups that likely inhabited the Study Area and surrounding region began in 1542 when Spanish explorer Juan Rodriguez Cabrillo arrived by sea during his navigation of the California coast. Sebastian Vizcaino arrived in 1602 during his expedition to explore and map the western coast that Cabrillo visited 60 years earlier. In 1769, another Spanish explorer, Gaspar de Portola,

passed through Luiseño/Kumeyaay territory and interacted with the local indigenous groups. In 1798, Mission San Luis Rey was established by the Spanish approximately 13 miles west of the Study Area and it likely integrated the Native Americans from the surrounding region. Multiple epidemics took a great toll on Native American populations between approximately 1800 and the early 1860s (Porretta 1983), along with the cultural and political upheavals that came with European, Mexican, and American settlement (Goldberg 2001:50-52). It is likely that Spanish soldiers and missionaries continued to travel through the Study Area on their way to visit various missions and outposts in the vicinity. In the beginning of the nineteenth century, some Spaniards who had worked at the missions began to set up what would later be known as the “Ranchos.” The Rancho era in California history was a period when the entire state was divided into large parcels of land equaling thousands of acres apiece. These large estates were ruled over in a semi-feudal manner by men who had been deeded the land by first the Spanish crown, and later the Mexican government. In 1821 Mexico won independence from Spain and began to dismantle the mission system in California. As the missions began to secularize, they were transformed into small towns and most Native Americans would later be marginalized into reservations or into American society. It was during this time that “Americans” began to enter California. Many of the American Californians married into the Rancho families, a development that would transform land ownership in Mexican California. By the time the United States annexed California after the Mexican-American War in 1850, much of the Rancho lands were already in the hands of Americans.

## 4.2 HISTORIC CONTEXT

### 4.2.1 San Diego County Urban Development

After the Mexican-American War ended in 1848, California came under the control of the United States. In 1850 California was admitted to the Union. The same year, the City of San Diego was incorporated, and San Diego County was established (at the time the county included all of what is now Imperial County and large sections of present day San Bernardino and Riverside Counties). By 1860 the population of San Diego County had risen to almost 4,500 people. However, a series of disasters hit Southern California and San Diego County in the 1860s. The area was ravaged by a smallpox epidemic and experienced severe flooding followed by the Great Drought. The region’s cattle industry suffered mightily. Gold fever struck the county after the valuable metal was found near what is now Julian, but the mines were largely tapped out within a few years. However, tourmaline was discovered in 1872 and continues to heavily dominate gem production in Southern California.

By 1885, the Transcontinental Railroad finally reached San Diego. One year later, the first streetcars started operation in San Diego and construction began on the Cuyamaca Dam, which was completed in 1888 and increased the county’s water supply. This was a desperately needed resource as the late 1880s were the time of San Diego’s Great Boom. The population of the city jumped from less than 3,000 in 1880 to an estimated 30,000 in 1887, largely due to railroad speculation. The boom was over by the end of the decade, and the city’s population quickly dropped to around 16,000 by 1890. Still, the growth was substantial, as San Diego County’s population increased from under 9,000 in 1880 to nearly 35,000 in 1890. The tail end of the 1880s also saw the construction of the Sweetwater Dam, a major engineering feat, and the San Diego Flume before economic depression in the 1890s slowed the county’s growth. Shown in **Figure 2**, *Map of Ranchos of San Diego County, Compiled from records of the Union Title Insurance and Trust Company*, is a map of the Ranchos of San Diego along with the historical routes and points of interest, including the Sweetwater Dam.

At the start of the 20<sup>th</sup> century, many local Native American tribes were removed to the Pala Indian Reservation. In 1907, Imperial County seceded from San Diego County, but despite this the population of the county increased to 61,665 by 1910. The Panama-California Exposition was held in San Diego in 1915 and four years later the United States Navy made the city the home base of the Pacific Fleet. Growth was substantial in the 1920s as San Diego County grew from 112,248 to 209,659 between 1920 and 1930. Camp Pendleton was created in 1942, part of a long history of military establishments in the region. To support growth of the region, the San Diego aqueduct brought water from the Colorado River in 1947 and by 1950 the population of San Diego County had hit 556,808. Ten years later it had nearly doubled to 1,033,011 residents (San Diego History Center 2014).



Figure 2 Map of Ranchos of San Diego County, Compiled from records of the Union Title Insurance and Trust Company (Carlsbad Historical Society)

### 4.2.2 Carlsbad

The first inhabitants of the area where Carlsbad is now located were Luiseno and Dieguenos Indians who populated the area near the lagoon. In 1769 the Spanish came to Alta California. Don Gaspar de Portola and Juan Crespi, a Franciscan priest, were early explorers of the Carlsbad area, which they called Agua Hedionda (Stinking Water). Mission San Luis Rey was established in 1798 about 10 miles north of the lagoon. The land passed from Spain to Mexico after 1821 and in 1833 mission lands were taken over by the government and redistributed through land grants. A decade after the mission was secularized, Juan Maria Romouldo Marron

staked a claim on 13,000 acres around the lagoon, establishing Rancho Agua Hedionda. Marron died in 1853 and the ranch passed into the hands of Francis J. Hinton, an American, in 1860. Ten years later Hinton died and the ranch was left to Robert Kelly, an Irish immigrant and the ranch foreman under Hinton. When Kelly passed away in 1890 the ranch was handed down to his nieces and nephews, who already held 10,000 adjacent acres at Rancho Los Kiotes, which they had claimed in 1868.

The Arizona Eastern Railway came through in 1883. Northwest of Rancho Agua Hedionda, Gerhard Schutte and Samuel Church Smith purchased the homestead of John Frazier in 1886. Frazier had discovered a mineral spring on the property which became Frazier's Station, a tourist destination and popular railway stop. When Schutte and Smith took over they planned to start a town on the land, which they named Carlsbad after the health spa in Karlsbad, Bohemia, where the water had similar properties to Frazier's mineral spring. In 1914 the South Coast Land Company purchased water rights from Oceanside, allowing Carlsbad to begin to grow flowers and fruit. Tourism also began to grow in the early 20<sup>th</sup> century. By the end of the 1920s Carlsbad had a Chamber of Commerce, a school district, several churches, a movie theater, and a newspaper. In 1930, the Carlsbad Mineral Springs Hotel (**Figure 3**, *The Carlsbad Hotel and Mineral Springs, Date Unknown*) was constructed across from the mineral spring and became widely popular with celebrities for its mineral water baths. The town experienced a boom after World War II due to its proximity to Camp Pendleton and the town was incorporated in 1952 (City of Carlsbad 2014).



Figure 3 *The Carlsbad Hotel and Mineral Springs, Date Unknown*  
(San Diego History Center)

### 4.2.3 Encinitas

The area that includes present-day Encinitas was originally populated by Native American groups including the San Dieguitos, the La Jollans, and the Diegueños. In 1769, Gaspar de Portola, who was then serving as Governor of Baja California, visited the area and gave it the name Encina Canada (Hill of live oaks), which led to the present name: Encinitas. After 1821 Encinitas passed from Spanish control to the Mexican government. Jabez Pitcher took a land grant of 160 acres in the area in 1881 and is widely considered the father of Encinitas. The city is made up of several distinct communities, including Leucadia, Cardiff-by-the-sea, and Olivenhain. In 1870, English settlers landed in the area and founded the settlement of Leucadia. The community of Cardiff began when the McKinnon family settled near the San Elijo Lagoon in 1875, though

the name Cardiff didn't come into use until 1909 when J. Frank Cullen bought a portion of the land and founded the town of "Cardiff-by-the-sea" in 1914. Olivenhain was started in 1884 by German immigrants (Encinitas Preservation Society 2014). Encinitas was incorporated as a city encompassing all of these communities in 1986 (City of Encinitas 2014 a, b).



Figure 4. La Paloma Theatre and S. Coast Highway 101 in Encinitas  
(La Paloma Theatre)

#### 4.2.4 Escondido

The land where Escondido is now located was discovered by Juan Bautista de Anza of Spain in 1776 (City of Escondido 2014 a, b). In 1834, Juan Bautista Alvarado of San Diego was given a land grant for El Rincon del Diablo Rancho (Corner of the Devil Ranch) encompassing the area including present-day Escondido. Alvarado's children sold the property after their father's death in the 1850s to a San Diego judge named Oliver S. Witherby. In the 1860s Witherby began to mine for gold on the property and he also built a mill to grind ore for his business venture, the Rincon del Diablo and Escondido Mining Company. The name of Witherby's mining company is the first recorded use of the name Escondido. The rancho was sold in 1868 to Edward McGeary and three brothers, John, Matthew, and Josiah Wolfskill. Additional land was purchased over the next 15 years, increasing the size of the property to 12,814 acres. In 1883 the Stockton Company purchased the land and in 1884 transferred their interest in the valley to the Escondido Company. In 1886 the property was deeded to the Escondido Land & Town Company which subdivided the land and continued the planting of vineyards and citrus trees. The Escondido Hotel was constructed by the Escondido Land & Town Company in 1886. Several churches and a seminary for the University of Southern California soon followed. Escondido was incorporated as a city in 1888. Grand Avenue ran through the main commercial area and was 100 feet wide with board sidewalks. The street was paved by 1913 and palm trees were planted a year later to beautify the city. The population of Escondido more than doubled between 1890 and 1910, increasing from 541 to 1,334 (Escondido History Center 2014). A historical aerial of the growing city is shown in **Figure 5**, *View of Escondido Circa 1910*.

A railway from Oceanside to Escondido was under construction by 1887 with the help of investment from the Escondido Land & Town Company. The Santa Fe Depot was constructed and by 1888 freight was running through the town and continues to do so to the present day. Passenger service on the line continued until 1945. The depot was relocated to Grape Day Park in 1984. Wells were drilled by the Escondido Land &



Town Company in 1886 to help irrigate local agriculture. In 1887 the Escondido Irrigation District was formed and charged with building a reservoir to serve the community. A ditch line and dam were under construction by 1890 and the gate was opened in 1895. The system brought water from the San Luis Rey River to the Bear Valley watershed. As water became available, grape vineyards were replaced with citrus and avocado groves, which were more profitable (Escondido History Center 2014).



*Figure 5. View of Escondido Circa 1910  
(Escondido History Center, Escondido.org)*

#### 4.2.5 Oceanside

Mission San Luis Rey de Francia was founded by the Spanish about 3.5 miles from present-day Oceanside in 1769. The mission came into being under the recommendation of Father Juan Crespi, one of the first Europeans to explore the area. In 1841, brothers Pio and Andreas Pico were granted 133,441 acres by Governor Alvarado. They divided the land into Rancho Margarita and Las Flores. Eventually the land passed into the hands of Pio Pico's English brother-in-law, John Forster. When Forster died in 1882 the land was purchased by Richard O'Neill of San Francisco, who sold half the estate to James C. Flood. The O'Neill and Flood families sold the land to the United States Navy in 1942 and it became Camp Pendleton Marine Corps Base (City of Oceanside 2014).

The town of Oceanside has its origins in the Township of San Luis Rey, settled in the valley in the 1870s. Andrew Jackson Meyers received a Homestead Grant in 1883 which would soon become the City of Oceanside. The first church went up in 1886, and the Bank of Oceanside and the South Pacific Hotel followed a year later. The City of Oceanside was incorporated in 1888, and in the same year the first pier and the first train depot were constructed. In 1904, Oceanside Electric was built and provided electricity to downtown Oceanside (**Figure 6**, *View of Downtown Oceanside, Date Unknown*) (Oceanside Historical Society 2014, "History"). The railroad was the primary means of travel to and from Oceanside, but around 1920 a paved highway running between Los Angeles and San Diego opened up the city to further development and tourism. The population of the city continued to grow throughout the first half of the 20<sup>th</sup> century, even through the Great Depression era until the population reached over 4,500 just before World War II. In the ten years between 1940 and 1950 the population jumped to nearly 13,000, largely due to the construction of

Camp Pendleton so close to the city's border. By 1952 the population had increased to 18,000, an addition of 5,000 people in two years (City of Oceanside 2014).



*Figure 6. View of Downtown Oceanside, Date Unknown  
(San Diego History Center)*

#### 4.2.6 Rancho Santa Fe

Don Juan Maria Osuna was given a land grant of over 8,824 acres in 1840 by Mexican Governor Pio Pico. Osuna's immediate ancestors were some of the first people to venture into Alta California. At this time the area was called Rancho San Dieguito. The land remained in the Osuna family for many years and the Mexican land grant was recognized in 1871 despite the new governance of the United States. The land was purchased by the Santa Fe Land Improvement Company (SFLIC), a subsidiary of the Santa Fe Railway, in 1906. They planned to grow eucalyptus trees which would then be logged to produce railroad ties, and planted 3.5 million trees in the area by 1912. In 1921 the SFLIC renamed the area Rancho Santa Fe. The plan morphed into a planned community enterprise after the railroad discovered they could purchase cheaper timber from Oregon. Engineers, architects, agronomists, horticulturists, and naturalists were brought in to create a unique community (May 2006).

In 1917 the construction of a dam at Carroll Reservoir (later Lake Hodges) provided water needed for farming, and a paved highway was constructed to connect the community to Escondido. Additional improvements were made to help make the land more marketable to potential future residents. Developer L.G. Sinnard created the first plans for the proposed community at Rancho Santa Fe in 1921, with the Civic Center as the centerpiece of the plan. The architecture firm of Requa and Jackson in San Diego was hired for the project, and the principals of the firm gave the project to architect Lilian Rice. Rice ultimately ended up planning and supervising the development of the core commercial and residential community at Rancho Santa Fe. The general plan was to turn the failed eucalyptus timber lands into an oasis for gentleman farmers in the form of a Spanish style village, drawing on the architectural traditions of the old missions in Southern California. Mission Revival was very popular during this period, largely due to noted architect Bertram Goodhue's use of the style at the 1915 Panama California Exposition. The exposition marked San Diego's architectural transition from Victorian to Spanish Mission Revival and the influence of this change was felt throughout the region. Lilian Rice became Rancho Santa Fe's resident architect, building her own home within the community. In 1928 the Rancho Santa Fe Association was formed to protect the community and the property owners who lived there. The association created the Rancho Santa Fe Protective Covenant, which included an Art Jury to approve any architectural or landscape changes (Brandes 1991).

Development continued over the next two decades but was slowed due to the Great Depression and World War II. The Rancho Santa Fe Covenant community was designated as a State Historic Landmark by the State of California in 1989 and in 2004 a Cultural Landscape Amendment was added to include the vernacular landscape of the community. The community noted as an example of an early planned community and for the continued integrity of the original plan from the 1920s. It is the oldest planned community in California, and the Protective Covenant is still in place to the present day (Covenant of Rancho Santa Fe 2014).

#### 4.2.7 San Marcos

The Spanish first discovered the valley where San Marcos is now located in 1797. They named the valley Los Vallecitos de San Marcos. The land encompassing the valley was granted by Governor Juan Bautista Alvarado to Jose Mario Alvarado, a member of his family, in 1840. After his death his wife sold the land to Lorenzo Soto, who in turn sold part of the parcel to Cave Coutts in the 1850s. The first permanent European settlement was in the North Twin Oaks Valley and was established by Major Gustavus French Merriam of Topeka, Kansas. German and Dutch immigrants began to settle there in the 1880s and the first town was formed just south of the settlement in 1883. The town, founded by John H. Barham, named the new community “Barham Township” after himself. A year later the town had a post office, blacksmith, feed store, and a newspaper. The San Marcos Land Company purchased much of the Coutts family’s land in 1887 and divided into tracts for sale. Barham, Richland, and Twin Oaks Valley, were the three settlement areas in the valley.

The town of San Marcos was originally located at Grand Avenue and Rancho Santa Fe Road, but moved closer to the railroad tracks in 1903 to the intersection at what is now Mission Road and Pico Avenue. San Marcos continued as a farming community for the first half of the 20<sup>th</sup> century, as shown in **Figure 7**, *Historical Aerial of San Marcos, Date Unknown*, below. In 1956 San Marcos gained access to water from the Colorado River, which changed the town’s development. Small businesses began to do well and the population rose to 2,500 and by 1961 construction had started on Highway 78. In 1963 the City of San Marcos was incorporated. By the 1970s the population had swelled to nearly 17,500 and in the next decade it nearly doubled to 33,800. The growth has continued and the current population stands just shy of 84,000 (City of San Marcos 2014).



Figure 7. *Historical Aerial of San Marcos, Date Unknown*  
(San Marcos Historical Society)

### 4.2.8 Solana Beach

Spanish explorers led by Don Gaspar de Portola arrived in what is now Solana Beach in 1769. The areas came under the control of the Mexican government following Mexico's independence from Spain in 1821. Don Juan Maria Osuna claimed nearly 9,000 acres known as Rancho San Dieguito, encompassing the area of present day Solana Beach. This area became part of the State of California and therefore the United States in 1850. The first American homesteader in the area was William A. Ewing, who established his claim on 180 acres in the San Dieguito River Valley in 1862. Twenty-five years later, Henry and Belle Stanford of Del Mar established a ten-acre ranch on the south slopes of Solana Beach where they constructed their homestead (**Figure 8**, *The Stevens House, The Oldest House in Solana Beach, Constructed in 1887*) now known as the oldest house in the city. Solana Beach, then known as Lockwood Mesa, was uninhabited until two ranches were established there in 1908 by the Jones family.



*Figure 8. The Stevens House, The Oldest House in Solana Beach, Constructed in 1887  
(Solana Beach Civic and Historical Society)*

Growth of Solana Beach took off after the Lake Hodges Dam was completed in 1918. The town was developed by Colonel Ed Fletcher in 1922 on 201 acres purchased from farmer George Jones. The town grew quickly, as did the entire county, during the 1920s. Access to the beach, previously made impossible by the steep bluffs, was created by making a notch in the bluffs in 1924. A bank, train station, mechanic, grocery store, and hotel were early business developed by Fletcher that spurred further commercial growth in the town. La Colonia, an adjacent community later absorbed by Solana Beach when the city was incorporated, was created in the 1920s. Originally its purpose was to house Mexican workers from the citrus groves in nearby Rancho Santa Fe, and an additional subdivision, called Eden Gardens, was created in 1923. Today the area is known as La Colonia de Eden Gardens.

The Great Depression hit hard in Solana Beach and the community didn't recover until after World War II when it began to grow once again. Between 1950 and 1960 the town boomed, brought on in part by the construction of the Bill Jack plant, which brought industry to Solana Beach. In the late sixties, a real estate boom started, which has continued (with brief interruptions) to the present day. The community also underwent city beautification efforts during the second half of the 20<sup>th</sup> century, including the renovation of the central plaza. The City of Solana Beach, including La Colonia de Eden Gardens, was incorporated in 1986. The city is 4-square-miles in size and has a population of approximately 13,000 (Solana Beach Civic and Historical Society 2014).

### 4.2.9 Vista

Vista was first inhabited by Luiseno Indians, who occupied the area until the coming of the Spanish and the founding of San Luis Rey Mission in 1798. With Mexico's independence from Spain in the early decades of the 19<sup>th</sup> century, three land grants were given in the vicinity of what is now Vista. These grants were Rancho Guajome, Rancho Buena Vista, and Agua Hedionda y los Manos. Ranch Guajome was a 2,200 acre land grant given to two Native Americans in 1845 and then sold to a merchant from Los Angeles. The merchant subsequently sold it to his sister-in-law, Ysidora Bandini, in celebration of her marriage to American Army lieutenant Cave Johnson Coutts. Coutts built an enormous 7,000-square-foot ranch house on the property and focused on planting orchards and vineyards, including an orange grove. He used irrigation to keep his ranch running. Rancho Buena Vista was granted to Felipe Subria, a Native American who had converted to Christianity. The property was later deeded to his daughter, Maria La Garcia Dunn, before changing hands several times and ultimately being purchased by Cave Coutts in 1866. Coutts eventually owned 20,000 acres in the area.

Early settler John Frazier applied to open the first post office in 1882, and it was then that the name Vista was settled on. In 1886 the Vista Land Company purchased a section of the Coutts land and laid out the community that would one day become the City of Vista. By 1910 less than 1,000 people lived in Vista, but in 1923 funds became available to supply water to the area from Lake Henshaw and agriculture improved drastically. By 1948 Vista had earned a reputation as the avocado capital of the world and as a result of the industry had a burgeoning downtown (**Figure 9**, *View of Downtown Vista, Date Unknown*). In 1963, Vista was incorporated as a city with a population of 19,000 and by 2006 the population had grown to more than 94,000 (City of Vista 2014).



*Figure 9. View of Downtown Vista, Date Unknown  
(San Diego History Center)*

### 4.2.10 San Diego County Water Development

Successful settlement in California as a rancho owner, squatter, or homesteader depended on accessibility to water. Securing a dependable water supply laid the foundation for growing cities such as Los Angeles, with outlying agricultural communities. For San Diego, while earlier waterworks brought water to various

communities around the county, a dependable and consistent water supply came in the form of the First San Diego Aqueduct (1945-1954). As a semiarid region, San Diego County typifies water reclamation in the West in its struggle against insufficient local water resources and in its early efforts to transform the land into agricultural communities in the late nineteenth and early twentieth centuries. Average annual rainfall at San Diego only amounts to 10 inches per year, yet some early settlers dry-farmed their properties. Others organized into local water associations and districts, which typified water development trends in California. In San Diego County, these water collectives constructed wells and water infrastructure projects, such as dams and canals, in an effort to capture limited seasonal water flows and develop agriculture and domestic water supplies. However, this limited and fluctuating resource could not meet growing demands during World War II, when San Diego solidified its importance as a military hub. The importation of Colorado River water provided a permanent, reliable supply for San Diego County and played a significant role in the city's transition from a "sleepy" port town into a large city with suburban communities during and after World War II (Burkholder 1948:6-10; Engstrand 2005; Etulain and Malone 1989; Fraser 2007; Nash 1999; San Diego County Water Authority 1946; Sholders 2002; Shrage 1994).

Precipitation in San Diego County is so variable from one year to the next and from one season to the next, that substantial water storage facilities were necessary to capture and store sufficient water for domestic and agricultural use (Pryde 1976:103-120). The rapid increase in population during the 1880s severely strained the capacity of the existing water supply. In the 10 years between 1887 and 1897, six major dams were built in San Diego County. By 1900, the population of the city of San Diego had reached 18,000, and the population of the county had topped 35,000. The county's largest population boom to date occurred between 1910 and 1920, an effect of World War I and an increased military attraction to San Diego (Census 1900, 1910, 1920; City of San Diego 1947; Shrage 1994). As the population of the city and county grew, so did demand for its scarce water resources, and this spurred a greater interest in establishing long-term water supplies to augment limited natural resources.

#### **4.2.11 San Diego County Water Authority**

The first efforts at water development in San Diego County were made by the Spanish, who constructed Old Mission Dam across the San Diego River, creating a reservoir and transporting the water via aqueduct. Old Mission Dam still exists and is located in Mission Trails Regional Park. When the county began to grow rapidly in the later years of the 19<sup>th</sup> century, private water companies were formed and began to build dams. Six major dams were erected in the ten years between 1887 and 1897, all of which still stand. By 1923 each major drainage system in San Diego County had at least one reservoir. The reservoirs, created by damming local rivers, provided San Diego County residents with water until the 1940s. Then, with the coming of World War II and a tremendous increase of military activity in the county, the population increased at an incredibly high rate. In response, the San Diego County Water Authority (SDCWA) was created by the State Legislature in 1944. Its purpose was to administer water rights to the Colorado River for San Diego County. Water became available from the Colorado River via the San Vicente Reservoir in 1947. Pipelines were built to link the county with the Colorado River Aqueduct of the Metropolitan Water District of Southern California. There are currently five pipelines running north-south through the county to bring water from Northern California and the Colorado River to the region (San Diego County Water Authority 1946, 1948, 1950, 1952, 1953, 1954, 1955, 2011a, 2011b).

#### **4.2.12 City of Escondido/Rincon del Diablo MWD**

In the early 19<sup>th</sup> century all water in Escondido was procured from wells either owned by individuals or shared between neighbors. Escondido Creek provided an inconsistent supply of water and some groundwater was available in a basin fed by the creek. The Escondido Irrigation District was formed in 1889. Between 1894 and 1895 the Escondido Canal was built to supply the community with water from the San Luis Rey River basin. Lake Wohlford Dam was built to provide a place to store the water brought in by the canal. In 1904 the Escondido Mutual Water Company was created and improved the canal and enlarged Lake Wohlford. In 1914 the City of Escondido constructed six public wells as well as a reservoir on Park Hill. They distributed water through 12 miles of new pipe. The San Diego County Water Company dammed the San Luis Rey River and created Lake Henshaw in 1923 and worked in partnership with the Escondido Mutual Water Company to bring water from Lake Henshaw to Lake Wohlford. The Vista Irrigation District acquired the interest of the San Diego County Water Company in 1945.

In the 1940s the Colorado River Aqueduct was constructed by the Metropolitan Water District and the San Diego County Water Authority and was bringing the imported water to San Diego County by 1947. However, only public agencies could receive water from this source, and thus the Rincon del Diablo Municipal Water District was formed to gain access to this new water supply. The City of Escondido acquired the Escondido Mutual Water Company in 1970 and the city water system was joined with the Escondido Mutual system. The City of Escondido shares the local water supply delivery system with the Vista Irrigation District while the Rincon District only provides water from the San Diego County Water Authority. Ownership of water from the San Luis River has been under dispute since 1969 due to a federal court suit by Rincon and La Jolla Native Americans (City of Escondido 2014).

#### **4.2.13 San Dieguito Water District**

Encinitas was originally supplied with water pumped from Cottonwood Creek by a windmill and housed in a wooden tank near the railroad line. The water system was meant to serve the railroad but it was also used by local residents. A barrel was filled and then rolled to the hotel for distribution. This system continued until 1918 when the San Dieguito Mutual Water Company finished construction on Hodges Dam, San Dieguito Dam, and Hodges Flume. The San Dieguito Dam created the San Dieguito Reservoir, which received water from Lake Hodges and connected by the open flume. The San Dieguito Irrigation District (SDID) was formed in 1922 and soon grew to include the town of Encinitas and the Cardiff Irrigation District. A year later a distribution system was in place. The Lake Hodges Dam was purchased by the City of San Diego in 1925. During the Great Depression, the Works Progress Administration did repair work on the redwood mainline. Until WPA repairs began in 1938 the water went untreated since most of it was used to irrigate farmland, but as the population grew the need for treated water arose. A chlorine ammonia treatment facility was constructed in 1940 and a new pumping plant and high tank were also built to increase water storage capacity. The San Dieguito Irrigation District became part of the San Diego County Water Authority in 1948, enabling the district to a share of water imported by the Metropolitan Water District.

The original redwood line was replaced by a 30-inch main line in 1950 and a million-gallon storage tank was installed in 1956. Reservoirs replaced most storage tanks by the late 1960s. A filtration plant and 13-million gallon storage tank were completed in Rancho Santa Fe in 1969. Also in 1969, the SDID and Santa Fe Irrigation District bought the San Dieguito Reservoir, dam, and the flume connecting it to Lake Hodges. A filtration plant, the R.E. Badger Filtration Plant, was constructed in 1970, and treats water from Lake Skinner, Lake Hodges, and the San Dieguito Reservoir. The San Dieguito Irrigation District became the San

Dieguito Water District in 1975. A 36-inch water main was installed in 1983 to accommodate continued growth in the area. A new reservoir at Encinitas Ranch Golf Course was completed in 1998. The district began to receive recycled water from the San Elijo Water Reclamation Plant in 2000. In 2005 the Hodges flume was replaced by a 36-inch underground pipeline (City of Encinitas 2014).

#### **4.2.14 Santa Fe Irrigation District**

The Santa Fe Irrigation District was formed as part of the California Irrigation District Act. The goal of the district was to provide water to area residents, primarily for agricultural purposes. The district was officially created in January 1923. Initially, since the main water needs were agricultural in nature, water was supplied from the Lake Hodges Dam, but later on the district began to distribute potable water for residential uses. The district serves the communities of Rancho Santa Fe, Fairbanks Ranch, and Solana Beach. The Lake Hodges Dam that supplied the district with its water was constructed in 1918 as a joint venture of the San Dieguito Mutual Water Company and the Santa Fe Land Improvement Company. The dam and the lake were purchased by the City of San Diego in 1925. The Santa Fe Irrigation District joined the San Diego Water Authority in 1948 in order to access imported water from Northern California and the Colorado River. Larrick Reservoir, a treated water reservoir located in Solana Beach, was constructed in 1965. Water from Lake Hodges arrived in the district via the Lake Hodges Dam Flume until the flume was replaced in 2003 by a 36-inch transmission pipeline (Santa Fe Irrigation District 2014).

#### **4.2.15 San Elijo Joint Powers Authority**

The San Elijo Joint Powers Authority operates in the communities of Cardiff and Solana Beach. Prior to the construction of collection systems in 1950, wastewater was collected in private septic tanks or discharged into the Pacific Ocean. The poor water quality in the San Elijo Lagoon led to the creation of the San Elijo Water Pollution Control Facility (now known as the San Elijo Water Reclamation Facility) in 1965. This facility was operated by San Diego County. The plant became an advanced primary treatment plant in 1981, partly due to the imminent passage of the Clean Water Act. When Solana Beach and Encinitas were incorporated as cities in 1986 they took over the facility from the county. Improvements were made in 1992 and a tertiary treatment system was completed in 2000 (San Elijo Joint Power Authority 2014).

#### **4.2.16 Vista Irrigation District**

The Vista Irrigation District was created in 1923 in direct response to a water crisis following the installation of new water tanks. When the water tanks were built, planting of citrus and avocados, which require irrigation, rose exponentially. As the number of groves increased so did the need for water and soon the area could no longer rely solely on wells. Fortunately, 1923 was also the year the Henshaw Dam, a project of the San Diego Water Company, was completed. The dam created an opportunity for Vista to have a consistent supply of water for the first time. The Vista Irrigation District was created in order to obtain outside water from Lake Henshaw. Water began to be distributed in Vista from Lake Henshaw in 1926. This outside water source enabled Vista to become the “Avocado Capital of the World.” The Vista Irrigation District bought the San Diego County Water Company in 1946, which included Lake Henshaw and its dam. In 1954 the Vista Irrigation District joined the San Diego County Water Authority in order to obtain water imported from Northern California and the Colorado River (Vista Irrigation District 2014).



#### 4.2.17 The First San Diego Aqueduct

Securing and developing the Colorado River as a reliable, long-term water supply became a reality when the Colorado River Compact in 1922 made water allocations possible and the Boulder Canyon Project Act of 1928 authorized projects for development of the river. Los Angeles filed a water rights claim in 1924, and the city of San Diego followed suit with an application in 1926 (San Diego County Water Authority 1946; Weymouth 1939). In 1931, the Seven-Party Water Agreement allocated Colorado River water that would be controlled with the construction of Boulder Dam (1931-1935), diverted to growing Los Angeles via Parker Dam (1938) and the Colorado River Aqueduct (1932-1941), and distributed to desert communities in Southern California through the All American Canal (1934-1939) and Coachella Canal (1938 1948) (Gruen 1998; San Diego County Water Authority 1946; Stene 2009; Stringer-Bowsher et al. 2009). A February 1933 contract secured permanent water diversion from the river for the city and county of San Diego above present-day Imperial Dam (San Diego County Water Authority 1946:31). San Diego remained interested in tapping the Colorado River for a permanent water source, yet funding to build a conveyance structure from the river remained an obstacle (Shrage 1994).

Two important economic developments in the 1930s laid the foundation for increased military use of San Diego and foreshadowed federal funding for a permanent water supply: dredging the San Diego Harbor, and establishing Consolidated Aircraft Company in San Diego. An accessible harbor, mild climate, large expanses of land, and three major aeronautical manufacturers in San Diego made the county an ideal military hub during World War II (Shrage 1994:341). While mobilization catapulted San Diego to metropolis status, the expansion of Navy and Army bases in the region coupled with the rapid expansion of the city's population due to the influx of civilian war industry workers led to dramatic water shortages during the 1940s. Drought, nearly depleted ground water and reservoirs, and increased demands for wartime mobilization placed San Diego in jeopardy. It was estimated that military bases were monopolizing 45 percent of all water consumed in the county, and water usage exceeded the capacity of the existing system and strained the reservoirs (Cooper 1968:104; U.S. Department of the Interior 1984:1110). Constructing additional storage dams and associated facilities would have required too much time to fill the reservoirs, and even then, it would not have provided a long-term solution. President Franklin D. Roosevelt ordered a study of the critical water situation in San Diego, and the resultant report, Senate Document 249 (October 21, 1944), predicted that the water supply of San Diego County would be depleted by July 1947. Because of the strategic importance of the military installations in San Diego, the President authorized the construction of an aqueduct as an emergency waterway to bring water to the region on November 29, 1944, which Congress ratified on April 15, 1948 (Autobee n.d.; United States Congress 1948; U.S. Department of the Interior 1984:1110). The Senate Committee charged with the study considered building a supply line from the All-American Canal or tapping into the MWD's Colorado River Aqueduct, and opted for the aqueduct at San Jacinto tunnel in Riverside, California (City of San Diego 1947; Fraser 2007:56; Nash 1985:56-74; San Diego County Water Authority 1946:1-4, 40-45; Shrage 1994).

The emergency water shortage threatened San Diego, and tapping into the Colorado River Aqueduct was the quickest resolution (*Western Construction* 1944). The SDCWA had been established in 1944 for the explicit purpose of purchasing water from MWD and importing it to San Diego County. The Navy oversaw construction of the First San Diego Aqueduct as part of MWD's system after the first contracts were awarded in May 1945. However, with the Japanese surrender on September 1945, the military began to demobilize, and on October 6, 1945, the Secretary of the Navy canceled the San Diego aqueduct project. The SDCWA sent a delegation to Washington to negotiate with the government for continued construction of the aqueduct project. An agreement was reached whereby the government would complete the construction of the

aqueduct and would then lease it back to the SDCWA at an annual rate of \$500,000 a year for 30 years (Fraser 2007). On October 4, 1946, the SDCWA assigned its Colorado River water rights to MWD for delivery through its aqueduct from Parker Dam (U.S. Department of the Interior 1984:1110). The SDCWA made its first deliveries on November 24, 1947 (San Diego County Water Authority 1948:5). After the first full year of operation, 85 percent of all water consumed in San Diego was Colorado River water (Fraser 2007; Pryde 1976; United States Congress 1951; U.S. Department of the Interior 1984:1111). It has been estimated that “by the following spring the reservoir serving Chula Vista and National City would have been absolutely dry without that rescuing Colorado water. There would have been a mass exodus from San Diego County, in contrast to the unexpected influx that had hastened the water crisis” (Nadeau 1950:270).

After seven years of drought between 1945 and 1951, San Diego’s reservoirs were almost depleted. It quickly became clear that additional water resources would be needed to serve the county’s growing population and expanding industries, such as manufacturing, agriculture, the military, and tourism (Fraser 2007; Pryde 1976; San Diego County Water Authority 1950:7, 1952:1). Congress authorized construction of the second pipeline in October 1951 (San Diego County Water Authority 1953:36, 1955:11; United States Congress 1951). Reclamation recommended a second pipeline with the same capacity as Pipeline 1, and SDCWA selected an alignment parallel to the first (United States Congress 1951; United States Department of the Interior 1984:1111). Construction began in September 1952, and Reclamation contractors completed Pipeline 2 in October 1954 (United States Department of the Interior 1984:1111). The First San Diego Aqueduct made it possible for SDCWA to deliver 142,000 acre-ft. of water to supplement local supplies and provided the first permanent water supply for San Diego County (San Diego County Water Authority 1955:11).

Rapid growth in the city and county in the 1950s necessitated the construction of a second aqueduct (1957-1960), and its alignment was closer to the coast. A new reservoir, Miramar, stored the water. Additional pipelines were constructed for the Second San Diego Aqueduct in 1960, terminating in Lower Otay Reservoir and in 1972, terminating in Miramar (Fraser 2007; Pryde 1976; United States Congress 1951; United States Department of the Interior 1984:1111). Today, San Diego imports 80 percent of its water supply, comprised of allotments from the Colorado River (50 percent), State Water Project (SWP) (30 percent), and local supplies/conservation (20 percent). Imported water is conveyed to San Diego via the MWD system, and the San Diego aqueducts convey water from the SWP and the Colorado River (San Diego County Water Authority 2011a, 2011b).

The First San Diego Aqueduct is a gravity-flow system comprised of an earthfill reservoir (San Jacinto Reservoir) located 1.9 miles from the San Jacinto Tunnel; 71.1 miles of two adjacent pipelines, Pipeline 1 (1945-1947), and Pipeline 2 (1952-1954) that fed the San Vicente Reservoir (1943). These pipelines were constructed of welded steel pipe and precast reinforced concrete segments ranging in diameter from 48 to 96 inches. The majority of pipeline is reinforced concrete pipe with 3.6 miles of steel pipeline. There are 9.7 miles of concrete-lined tunnels and single pipeline or siphons. The designed capacity for the two pipelines is 165 feet per second (cfs).

The Chief Engineer at the Bureau of Reclamation managed the design of Pipeline 1. The Chief of the Navy Bureau of Yards and Dock oversaw the project, and the Public Works office of the Eleventh Naval District directed construction (City of San Diego 1947; U.S. Department of the Interior 1984:1110, 1113). The prefabricated 12-foot and 16-foot pipe segments were standard lock-joint type that were interconnected and sealed with synthetic rubber gaskets. Haddock-Engineers of Oceanside, California completed the 4,868-foot

steel pipe section in the San Luis Rey Valley between December 1945 and November 1946 as part of contract number NOy13215. The welded steel pipe varied in thickness from 7/16 to 13/16 inches. Coal-tar enamel protected the interior and exterior of the pipe with an additional cement mortar encasing the exterior (San Diego County Water Authority 1948:17-37). The design capacity of Pipeline 1 is 85 cfs with tunnels designed at 165 cfs (San Diego County Water Authority 1952:13). The SDCWA had authority over the operations and maintenance of the pipeline on December 11, 1947 (San Diego County Water Authority 1948:24).

During fiscal year 1951-1952, SDCWA studied the possibility of increasing capacity by installing booster pumping units; however, the proposal required the expensive and potentially threatening option of shutting down the system during construction. Instead, SDCWA opted for Reclamation's design and recommendation to construct Pipeline 2 with the same capacity as Pipeline 1 as an adjacent linear structure. Construction began in 1952 with funding from the Navy, yet Reclamation was the federal agency that designed and constructed Pipeline 2. The entire pipeline was constructed under three Reclamation specifications. The design capacity for the pipeline north of Rainbow Tunnel was 95 cfs and the rest was 80 cfs (San Diego County Water Authority 1952, 1953, 1954; U.S. Department of the Interior 1984:1111-1113).

Contractors bid on the northerly portion of the project from the San Jacinto Reservoir to San Luis Rey in August 1952. Several of those contractors had also worked on the Coachella Branch of the All-American Canal. The reinforced concrete pipe constructed was part of Specification No. DC-3754, Schedule No. 3, and included the 16,672-foot stretch from Murrieta to the San Luis Rey siphon. Johnson Western Constructors of San Pedro, California won the contract on September 8, 1953. United Concrete Pipe Corporation in Baldwin Park, California manufactured the 48-inch reinforced concrete pipe. Construction of the steel siphon segment across the San Luis Rey Valley was completed under Specification No. DC-3807. Contractors P. & J. Artukovich and M. Miller Company won the contract on October 30, 1952. Construction began on January 6, 1953 and ended on November 9, 1953. The 6,874 feet of prefabricated 16-foot segments of 48-inch steel pipe that comprised the siphon varied in thickness from 5/16 to 13/16 inches. An internal coating of coal tar protected the steel from erosion with an exterior protection of Gunite concrete. Specification No. DC-3822 outlined work on the reinforced concrete segment from the end of the San Luis Rey siphon to the northern end of the San Vicente Tunnel. S. A. Healy Company of Chicago, Illinois won that contract on December 15, 1953. Basalt Rock Company in Fontana, California manufactured the reinforced concrete pipe. Work began on March 23, 1953, and all construction work on Pipeline 2 had been completed in October 1954 (San Diego County Water Authority 1952:1, 29-32, 1953:36-37, 1954:13-14; Stringer-Bowsher et al. 2009; U.S. Department of the Interior 1984:1111-1113). The Navy had released the authority for operations and maintenance of the second pipeline incrementally as portions of the projects were finished. On January 14, 1954, the Navy turned over operations and maintenance of the remaining segments to the SDCWA (San Diego County Water Authority 1954:14).

Today, San Diego receives deliveries from Lake Skinner and the Colorado River via the First San Diego Aqueduct and the Second San Diego Aqueduct. Beginning October 24, 1974, the San Jacinto Regulating Reservoir of the First San Diego Aqueduct no longer regulated water deliveries, as safety concerns forced its removal from service. Thereafter, Pipeline 1 received blended SWP and Colorado River water directly from the San Diego Canal near San Jacinto. Diversions from Pipeline 1 at Rainbow Pass fed Pipeline 2 (Bureau of Reclamation 2011).

The San Diego Aqueduct has not been landmarked by the ASCE, and the ASCE did not publish any materials on the aqueduct from 1930 to 1959 (American Society of Civil Engineers 1961; Rogers et al. 2004).

## **5.0 METHODS**

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### **5.1 CULTURAL RESOURCES RECORDS SEARCH**

On June 5, 2014, Mrs. Clark commissioned a cultural resources records search of the project through the CHRIS-SCIC. On February 9, 2015, Mr. Garcia commissioned a supplemental records search through the CHRIS-SCIC to include new project alignments. The records searches included a review of all recorded archaeological and historical resources within the proposed alignments and within a quarter-mile radius. In addition, PCR reviewed the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the CRHR, the NRHP, and the California State Historic Resources Inventory (HRI) listings. The purpose of the record search is to determine whether or not there are previously recorded archaeological or historical resources within the project area that require evaluation and treatment and to characterize the presence or absence of recorded resources within the general project region. These results also provide a basis for assessing the sensitivity of the project area in regards to the potential to identify additional and buried cultural resources.

### **5.2 SACRED LANDS FILE SEARCH AND NATIVE AMERICAN CONSULTATION**

On June 3, 2014, Mrs. Clark commissioned a SLF records search of the project area through the NAHC and conducted follow-up consultation with the 21 Native American groups and/or individuals identified by the NAHC as having affiliation with the project area vicinity. Each Native American group and/or individual listed was sent a project notification letter and map and was asked to convey any knowledge regarding prehistoric or Native American resources (archaeological sites, sacred lands, or artifacts) located within the project area or surrounding vicinity. The letter included information such as project area location and a brief description of the Proposed Project. Results of the search and follow-up consultation provided information as to the nature and location of additional prehistoric or Native American resources to be incorporated in the assessment whose records may not be available at the CHRIS-SCIC.

### **5.3 HISTORIC BACKGROUND RESEARCH**

PCR's architectural historians reviewed the CHRIS-SCIC archival records search and conducted follow-up research with local governments and historical societies for information on previously surveyed resources in the project vicinity. PCR contacted and/or visited the websites of the following historical societies, cities, and communities: Carlsbad Historical Society, Encinitas Historical Society, Escondido History Center, Oceanside Historical Society, Rancho Santa Fe Historical Society, San Diego History Center, Carlsbad, Escondido, Oceanside, Rancho Santa Fe, San Marcos, Solana Beach, Vista, Rancho Santa Fe, and San Diego County. Site-specific research on the project area and vicinity for the preparation of the historic context included review of historic aerials and histories of communities and water districts available online.

### **5.4 PALEONTOLOGICAL RESOURCES RECORDS SEARCH**

On June 3, 2014, Mrs. Clark commissioned a paleontological resources records search through the Department of Paleontology at the SDNHM in San Diego, California. On February 9, 2015, Mr. Garcia commissioned a supplemental records search through the SDNHM to include new project alignments. This institution maintains files of regional paleontological site records as well as supporting maps and documents. This record search entailed an examination of current geologic maps and known fossil localities inside and within the general vicinity of the project area. The objective of the record search was to determine the geological formations underlying the project area, whether any paleontological localities have previously

been identified within the project area or in the same or similar formations near the project area, and the potential for excavations associated with the project area to encounter paleontological resources. The results also provide a basis for assessing the sensitivity of the project area for additional buried paleontological resources.

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## 6.0 RESULTS

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### 6.1 CULTURAL RESOURCES RECORDS SEARCH

Results of the cultural resources records search from the CHRIS-SCIC revealed that more than 600 cultural resource studies have been conducted within the one-quarter mile radius of the proposed project alignments.

#### 6.1.1 Archaeological Resources

A total of 361 archaeological resources have been recorded within the one-quarter mile radius of the project alignments. Fifty-eight known archaeological resources have been recorded within or adjacent to the proposed project alignments. These resources include prehistoric archaeological resources such as temporary and permanent occupation sites (e.g., lithic/groundstone/shell scatters, midden deposits, large habitation sites, and bedrock milling stations) and trails. They also include historic archaeological resources such as remnants of historic period homesteads and refuse dumps and scatters. A description of these resources by Group is provided below.

##### **Group A: Carlsbad MWD Extensions—Carlsbad WRF/Gafner WRF**

A total of 107 cultural resources are located within the one-quarter mile radius from Group A. Of these 107 resources, 14 resources are located along or adjacent to the extensions. These 14 resources are summarized below in **Table 2**, *Known Archaeological Resources Located Within or Adjacent to Group A*.

##### **Group C: City of Escondido Extensions—HARRF**

Five cultural resources have been recorded within the one-quarter mile radius of Group C. None of these resources are located along or immediately adjacent to the group.

##### **Group E: San Elijo Joint Powers Authority Extensions—San Elijo WRF/Gafner WRF**

A total of 25 cultural resources have been recorded within the one-quarter mile radius of Group E. Of these 25 resources, four are located within or adjacent to the group. These four resources are summarized in **Table 3**, *Known Archaeological Resources Located Within or Adjacent to Group E*.

##### **Group G: City of Oceanside Extensions—San Luis Rey WWTP/SRTTP**

A total of 57 cultural resources have been recorded within the one-quarter mile radius of Group G. Of these 57 resources, 11 are located within or adjacent to the group. These 11 resources are summarized in **Table 4**, *Known Archaeological Resources Located Within or Adjacent to Group G*.

Table 2

Known Archaeological Resources Located Within or Adjacent to Group A

Designation	Description
SDI-608	Midden on a knoll with some shell that has been mostly destroyed by a road; manos, metate fragment, and a scraper

**Table 2****Known Archaeological Resources Located Within or Adjacent to Group A**

<b>Designation</b>	<b>Description</b>
SDI-609	Midden with a few shells and a few surface artifacts on a terrace that is badly eroded; core tools and manos
SDI-610	Small midden consisting of a few shells, core tools, a scraper, a mano, and a metate
SDI-634	Large campsite where the majority of artifacts were found in erosion channels; the artifacts identified include 23 manos, six hammerstones, four polishing pebbles, and "broken stone and quartzite spread all over the site"
SDI-696	Midden that is located on a small knoll between two drainage channels; artifacts include a core, a cobble hammer, a mano, and three potsherds
SDI-5213	Prehistoric habitation site comprising of three loci; includes hearths, groundstone, flake stone tools and debitage, ceramics, bone tools, shell beads, animal bone, fishbone and a shell midden deposit
SDI-5601	Four concentrations of shell remains and lithic artifacts
SDI-6139	Possible village site with a large shell, bone, ceramic, and lithic scatter; contains historic period porcelain; possibly a historical-ethnographic village encountered by Portola in 1769
SDI-6751	Shell midden located on a small knoll overlooking the railroad tracks
SDI-8348	"San Dieguito" type lithic and tool scatter site located on a marine-cut terrace formation
SDI-10609	Temporary camp/shell processing site that includes split cobble tools, a possible mano fragment, and flakes
SDI-12670	Abundant marine shellfish remains, fire-affected rock, groundstone and flaked stone tools, debitage, cores and other cultural materials near Batiquitos Lagoon
SDI-13124	La Jolla highland midden with four loci; surface scatter of shell, flaked stone and fire-cracked rock with a dense midden deposit in the northwest corner; surface scatter with a high density of flaked stone and fire-cracked rock in southeast portion; flakes, cores, flake scrapers, mano fragments were also identified
37-015325	No records were obtained from the SCIC regarding resource P-37-015325

Source: PCR Services Corporation, CHRIS-SCIC, July 2014

**Table 3****Known Archaeological Resources Located Within or Adjacent to Group E**

<b>Designation</b>	<b>Description</b>
SDI-4551	Shell midden, hearth, and pits
SDI-5792	Native American trail from Mission San Luis Rey to the Cuyamaca Mountains
SDI-5793	Horseback trail known as the traditional Rancho de los Quiotes to Mission San Luis Rey
SDI-17402	Prehistoric encampment consisting of a lithic artifact scatter, pottery fragments, hearth cobbles and fire affected rocks

Source: PCR Services Corporation, CHRIS-SCIC, July 2014, February 2015

Table 4

## Known Archaeological Resources Located Within or Adjacent to Group G

Designation	Description
SDI-4929	Prehistoric encampment consisting of a bedrock milling station and a lithic artifact scatter
SDI-4930(E)	Slab metate
SDI-4930(G)	Flake
SDI-5792	Native American trail from Mission San Luis Rey to the Cuyamaca Mountains
SDI-9472	Marine shell and basalt flakes
SDI-9473	Marine shell and basalt flakes, possible fire-affected rocks
SDI-10236	Marine shell, core, two flakes, fire-affected rocks
SDI-11970	Historic component includes a barn, a large house, and outbuildings; prehistoric component consists of two bedrock outcrops with milling features and a small cultural deposit located adjacent to the outcrops
SDI-12241	Flake and groundstone scatter with a possible subsurface deposit
SDI-13744	Marine shell and lithic artifact scatter
SDI-17549	Historic artifact scatter containing approximately 150 artifacts made up of glass, ceramics, metal, bricks, and building materials (i.e. cement and mortar)

Source: PCR Services Corporation, CHRIS-SCIC, July 2014, February 2015

## Group H: Olivenhain MWD Extensions—San Elijo WRF/Gafner WRF

A total of 31 cultural resources have been recorded within the one-quarter-mile radius of Group H. Of these 31, five resources have been recorded within or adjacent to the group. These five resources are summarized in **Table 5**, *Known Archaeological Resources Located Within or Adjacent to Group H*.

Table 5

## Known Archaeological Resources Located Within or Adjacent to Group H

Designation	Description
SDI-6868	Historic period farmstead dating to as least the 1890s
SDI-13169	Small surface scatter of shell and small amount of lithics
SDI-13170	Small surface scatter of shell and small amount of lithics
SDI-13171	Large and dispersed surface scatter of shell and lithic artifacts with some pockets of dark soil which could be midden
SDI-13172	Prehistoric camp deposit that is buried under approximately 35 centimeters of modern fill; a broad light shell and lithic scatter is located on the surface measuring 130 meters north-south by 40 meters east-west

Source: PCR Services Corporation, CHRIS-SCIC, July 2014



### Group I: Rincon del Diablo MWD Extensions—HARRF

A total of 54 cultural resources have been recorded within the one-quarter-mile radius of Group I. Of these 54 resources, eight have been recorded within or adjacent to this group. These eight resources are summarized in **Table 6**, *Known Archaeological Resources Located Within or Adjacent to Group I*.

**Table 6**

#### Known Archaeological Resources Located Within or Adjacent to Group I

Designation	Description
SDI-8280	Extensive distribution of prehistoric and historic artifacts on and adjacent to two knolls; prehistoric component consists of about 94 bedrock milling features with at least three midden deposits and a light scatter of prehistoric artifacts; historic component consists of two concrete structures, a scatter of concrete rubble, fenceposts, and debris
SDI-12209	Bedrock milling features with multiple artifacts within and adjacent to access roads; artifacts include an obsidian flake, an obsidian debitage and quartzite flakes
SDI-12460	One slick on a boulder on a granite outcrop located at the outer edge of a mobile home park
SDI-17838	Single bedrock milling feature with four mortars, six milling slicks and a single flake
SDI-17839	Bedrock milling feature with five milling slicks and one basin, and two metavolcanic flakes
SDI-20941	Flake tools, projectile points, debitage and groundstone
SDI-24458	Two pieces of abandoned farming equipment; one piece is a possible hay rake and the other piece is a spring harrow
37-030889	Gunitite bench flumes that run along various ridges. The flumes are connected by steel and concrete pipe siphons that carry water across canyons and valleys between the ridges where the flumes are located

Source: PCR Services Corporation, CHRIS-SCIC, July 2014

### Group J: Rincon del Diablo MWD Extensions—Harmony Grove WRF

A total of 11 resources are located within the one-quarter-mile radius of Group J. Of these 11 resources, none have been recorded within or adjacent to the group.

### Group K: Santa Fe ID Extensions—San Elijo WRF/Gafner WRF

A total of 50 resources have been recorded within the one-quarter-mile radius of Group K. Of these 50 resources, 13 are located within or adjacent to the group. These 13 resources are summarized in **Table 7**, *Known Archaeological Resources Located Within or Adjacent to Group K*.

**Table 7**

#### Known Archaeological Resources Located Within or Adjacent to Group K

Designation	Description
SDI-191	8-acre area with hearths scattered throughout and a thin shell distribution
SDI-4576	Shell scatter and tools with waste flakes located on top of a knoll
SDI-5602	Midden site on the edge of a coastal lagoon
SDI-5615	Two small shell middens located on adjacent knolls with a slight shell scatter
SDI-6849	Lithic scatter, shell scatter, and fire-affected rocks

Table 7

## Known Archaeological Resources Located Within or Adjacent to Group K

Designation	Description
SDI-6931	Two shell lens located on a small knoll and a processing area consisting of flakes, a core scraper and a metate fragment
SDI-10220	Temporary camp with three loci and artifacts including groundstone, flaked stone tools, debitage, and associated shell midden
SDI-10238	Two prehistoric loci; locus B was tested as part of a data recovery program and it revealed the presence of a partially undisturbed prehistoric shell midden
SDI-14148	Marine shell scatter
SDI-14149	Historic period stem-wall foundation and cistern
SDI-14796	Residence built in 1914 and includes a half basement, a cement stem-wall foundation, a privy, a cistern, and a sparse historic deposit focused around the rear entrance
37-025105	Isolated cluster (1x1.5 meters) of shell intermixed with modern debris
37-025109	Isolated shell specimen

Source: PCR Services Corporation, CHRIS-SCIC, July 2014

### Group M: Vallecitos WD Extensions—HARRF

No resources have been identified within a one-quarter mile radius of Group M.

### Group O: Vista ID Extensions—Carlsbad WRF

A total of 26 cultural resources have been recorded within the one-quarter mile radius of Group O. Of these 26 resources, three resources are located within or adjacent to the group. These three resources are summarized in **Table 8**, *Known Archaeological Resources Located Within or Adjacent to Group O*.

Table 8

## Known Archaeological Resources Located Within or Adjacent to Group O

Designation	Description
SDI-5788	Traditional homestead of the Brearley family
SDI-5792	Traditional Indian trail from Mission San Luis Rey to the Cuyamaca Mountains
SDI-5793	Traditional Rancho de los Quiotes to Mission San Luis Rey trail

Source: PCR Services Corporation, CHRIS-SCIC, July 2014

## 6.1.2 Historical Resources

The results of PCR's cultural resources records search through the CHRIS-SCIC revealed that there are 190 known historic resources located within a quarter-mile of the proposed alignments and proposed above ground infrastructure. A full list of these resources is provided in Appendix B of this report. Local records searches revealed two additional resources within a quarter-mile of the proposed alignments not identified by the CHRIS-SCIC records search. These two resources include the First San Diego Aqueduct which crosses Group C and the Rancho Santa Fe Land Improvement Co. Spec House #1, located at 6107 Mimulus, Rancho

Santa Fe, California. The records obtained from the local government research are provided in Appendix C of this report.

The results below indicate the number of resources located within a quarter-mile of the proposed alignments for each group and includes additional information on those resources that may be impacted by the Proposed Project. Resources were organized by group to maintain consistency with the project description.

#### **Group A: Carlsbad MWD Extensions—Carlsbad WRF/Gafner WRF**

No historical resources from the CHRIS-SCIC's archives were recorded with a quarter-mile of Group A.

One potential resource within the group is the existing Maerle Dam reservoir (previously called Squires Dam reservoir). The potential resource is located in the project area and was built in 1963 (City Municipal Water District, "Agenda Bill City of Carlsbad, California AB# 645," 2007). The dam and reservoir may be a historic resource and should be evaluated further for possible impact from the proposed project.

#### **Group C: City of Escondido Extensions—HARRF**

The records search identified a total of 116 known historic resources located within the one-quarter mile radius from Group C. Of these resources, one resource, the First San Diego Aqueduct, is located within or adjacent to Group C. The resource is described below.

The First San Diego Aqueduct intersects with the proposed alignment near the intersection of Hardy Street and the Escondido Creek Channel. The aqueduct was previously identified as eligible for listing on the National Register of Historic Places under criterion A in 2012 (Department of the Army 2012). The First San Diego Aqueduct was evaluated in the "Cultural Resources Assessment for the Gregory Canyon Landfill Project, Northern San Diego County, California" prepared in January 2012 by ASM Affiliates. ASM found the Gregory Canyon Project would impact the First San Diego Aqueduct and recommended a Historic American Engineering Report (HAER) Level II be prepared to completely document the entire length of the First San Diego Aqueduct.

#### **Group D: City of Escondido Extensions—Escondido AWTF**

Group D overlaps with Group C in the vicinity of the Escondido AWTF. Multiple resources are located in the vicinity of this overlap, but only one resource was clearly in the area covered by Group D. The resources near the borderline were included in the Group C results.

The records search identified one known historic resource located within the one-quarter mile radius from Group D. Based on historic and current aerials, it appears this resource has been demolished. The resource was a 1930s bungalow located at 2421 E. Washington Avenue (APN 231-030-23)<sup>8</sup>.

A number of unevaluated potential resources are located in the vicinity of the project area. The residence at 2439 E. Washington was built in or before 1964, making it at least 50 years of age and a possible resource.

<sup>8</sup> Project Reference Number 2025-0976-0000, Property Number 42411

Additionally, based on historic aerials of the area, a number of buildings in the block bounded by N. Citrus Avenue, E. Washington Avenue, E. George Washington Avenue, and Escondido Creek were built in or before 1964 and therefore may be historic resources. The housing development bounded by N. Citrus Avenue, Washington Avenue, and Pitman Street (including Scott Way and Hillward Street), was also built by 1964 and may contain historic resources.

#### **Group E: San Elijo Joint Powers Authority Extensions—San Elijo WRF/Gafner WRF**

A total of 12 resources have been recorded within the one-quarter mile radius of Group E. Of these resources, two are located within or adjacent to the group. These resources are summarized below.

One potential historic resource, a ranch residence, is located at 1450 Mackinnon Avenue and was constructed in 1948. The other potential historic resource, the Holiday Pet Hotel, is located at 551 Union Street and was constructed in 1951.

#### **Group G: City of Oceanside Extensions—San Luis Rey WWTP/SRTTP**

The [SJ1] records search identified two known historic resource located within the one-quarter mile radius from Group G, one of which is within or adjacent to Group G - the Rancho Francisco Pio/Whelan Ranch, described below:

The Rancho Francisco Pio/Whelan Ranch is located at 3850 North River Road (APN 158-010-02,158-101-03&0).<sup>9</sup> The resource was constructed c.1880 and is listed under National Register Status Code 4D2, “a contributor to a fully documented district that may become eligible for listing when more historical or architectural research is performed on the district”.

One potential historic resource, the City of Oceanside Fire Station 3, is located immediately southwest of the intersection of the proposed project site of the El Corazon Site. The station was constructed in 1962 and requires further evaluation to determine if it is a historic resource.

#### **Group H: Olivenhain MWD Extensions—San Elijo WRF/Gafner WRF**

No historical resources from the CHRIS-SCIC’s archives were recorded within a quarter-mile of Group H.

#### **Group I: Rincon del Diablo MWD Extensions—HARRF**

A total of 19 resources have been recorded within the one-quarter mile radius of Group I. Of these resources, one is located within or adjacent to the group. The resource is described below:

Enchanted Oaks, located at 1555 Hale Avenue (APN 235-051-11) in Escondido, has been previously surveyed and assigned a California Historical Resource Status Code of 4, “appears eligible for the National Register or

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<sup>9</sup> *Project Reference Number N/A, Property Number 0*

California Register through other evaluation.”<sup>10</sup> Enchanted Oaks is developed with a Victorian residence constructed in 1890. This resource may be impacted by the Hale Avenue RRF.

#### **Group J: Rincon del Diablo MWD Extensions—Harmony Grove WRF**

No historical resources from the CHRIS-SCIC’s archives were recorded with a quarter-mile of Group J.

#### **Group K: Santa Fe ID Extensions—San Elijo WRF/Gafner WRF**

A total of 41 resources have been recorded within the one-quarter mile radius of Group K. Of these 41 resources, one is located within or adjacent to the group. The resource is described below:

On February 17, 1989, the historic planned community of Rancho Santa Fe was registered as a California State Historical Landmark #982. Developed during the 1920s, Rancho Santa Fe was one of the state’s first planned communities unified by a single architectural theme, Spanish Colonial Revival, and the development and design was supervised by one of California’s first successful women architect’s, Lilian Rice (California State Parks Office of Historic Preservation, “Listed Resources: Historic Planned Community of Rancho Santa Fe”). Additionally, the Village Commercial District (**Figure 10, Rancho Santa Fe Village Commercial District**), which includes the Civic Center, is believed to be eligible for listing as a historic district on the National Register of Historic Places. A Multiple Property Listing is already in place on the National Register for Lilian Rice Designed Buildings in Rancho Santa Fe, California. Furthermore, it should be noted that the larger community at Rancho Santa Fe is under a Protective Covenant (**Figure 11, The Covenant of Rancho Santa Fe**), in place since 1928, which heavily regulates development and construction within its boundaries and may require further review of the Proposed Project.

#### **Group M: Vallecitos WD Extensions—HARRF**

No historical resources from the CHRIS-SCIC’s archives were recorded with a quarter-mile of Group M. The South Lake reservoir, located adjacent to Group M, is in an isolated area with no known or potential historic resources located within a quarter mile radius.

#### **Group N: Vallecitos WD Extensions—Meadowlark WRF—AWT**

No historical resources from the CHRIS-SCIC’s archives were recorded with a quarter-mile of Group N.

#### **Group O: Vista ID Extensions—Carlsbad WRF**

No historical resources from the CHRIS-SCIC’s archives were recorded with a quarter-mile of Group O.

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<sup>10</sup> Project Reference Number 2025-0702-0000, Property Number 42137.

### Rancho Santa Fe Village Commercial District

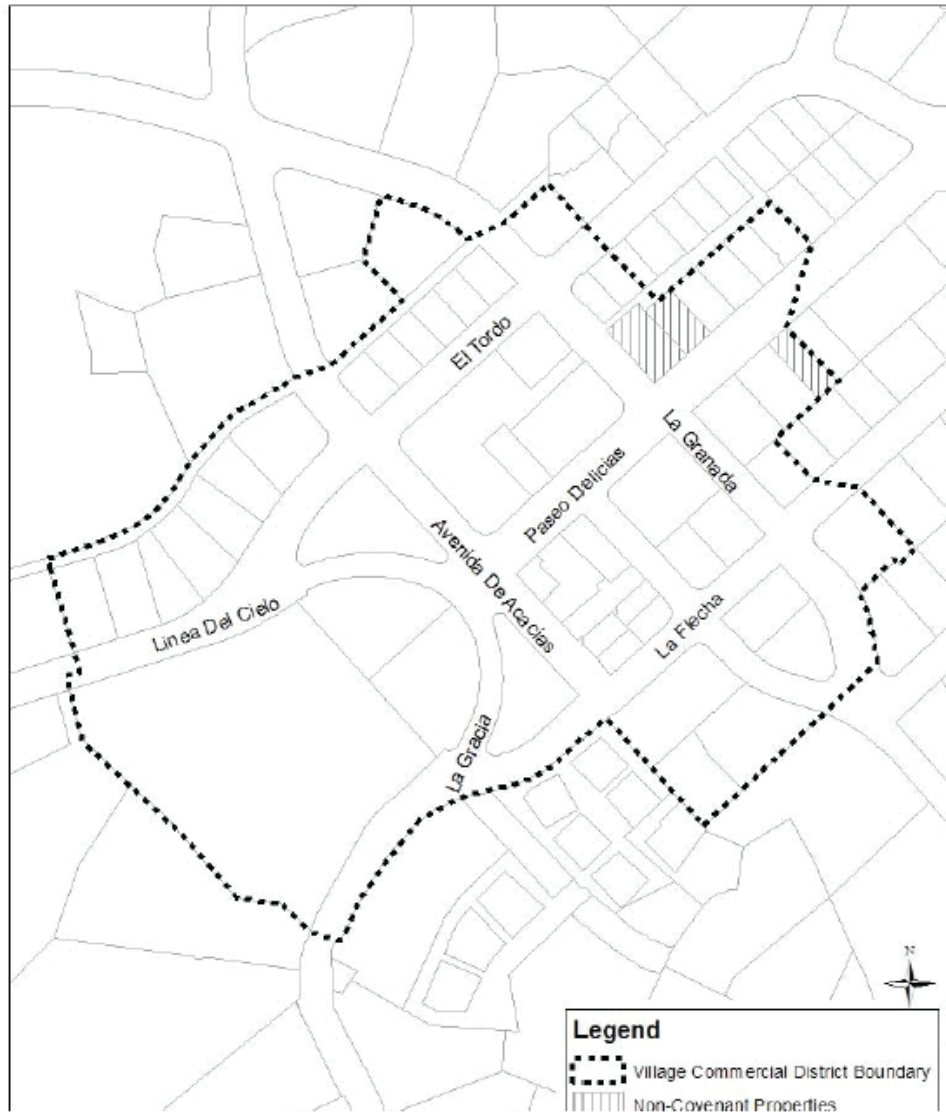


Figure 10 Rancho Santa Fe Village Commercial District  
(Rancho Santa Fe Regulatory Code 2008)

### The Covenant of Rancho Santa Fe

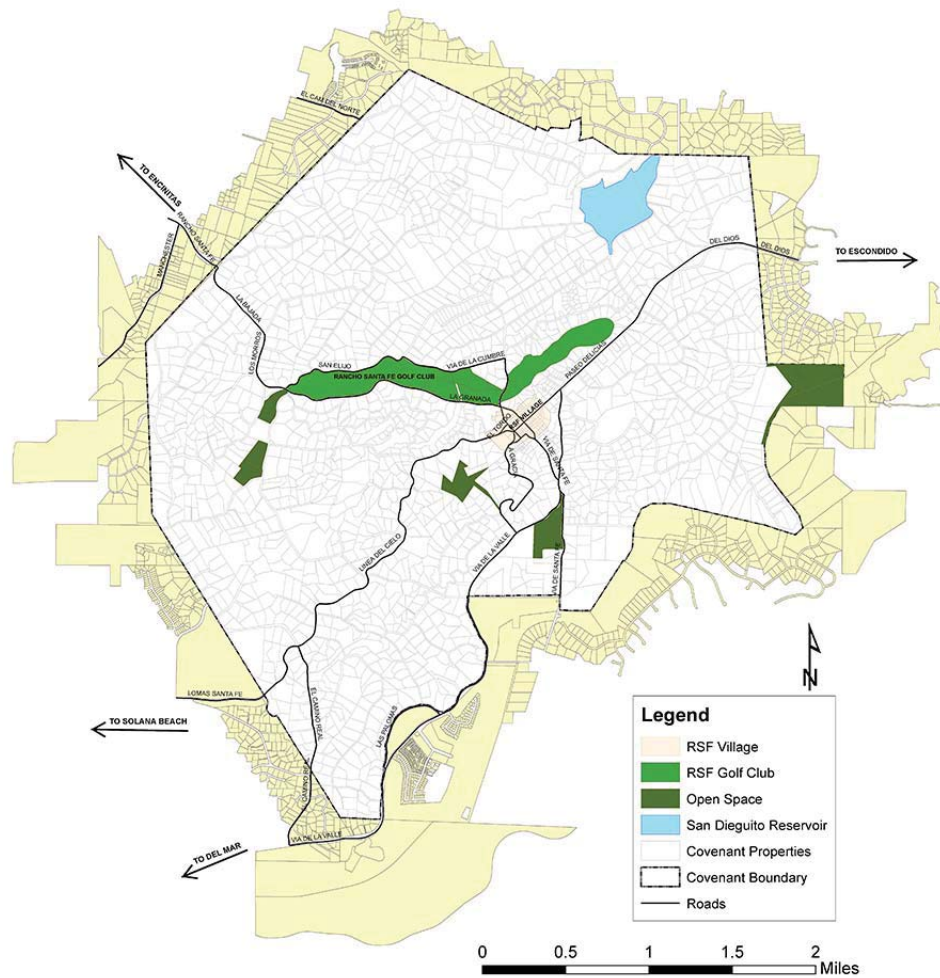


Figure 11 The Covenant of Rancho Santa Fe  
 (<http://www.rsfassociation.org/our-community/community-map/>)

## 6.2 SACRED LANDS FILE SEARCH AND NATIVE AMERICAN CONSULTATION

The NAHC SLF records search results (received June 19, 2014) revealed that there are no known Native American cultural resources in the SLF database within a one-quarter mile radius of the pipeline alignments. As per NAHC suggested procedure, follow-up letters were sent via certified mail on June 24, 2014 to the 21 Native American individuals and organizations identified by the NAHC as being affiliated with the vicinity of the project area to request any additional information they may have about Native American cultural resources that may be affected by the Proposed Project. As of September 11, 2014, PCR has received responses from five Native American groups. The results of the Native American consultation effort are summarized in **Table 8, Summary of Native American Response Letters**. PCR will keep RMC apprised with the progress of this on-going Native American consultation. The NAHC SLF records search results, the Native American contact list, and the Native American responses are provided in Appendix D of this report.

Table 8

## Summary of Native American Response Letters and Telephone Log

Name, Title/Affiliation	Phone/Letter	Response
Kim Bactad , Executive Director <i>Kumeyaay Diegueno Land Conservancy</i>	Letter sent June 24, 2014	No response to date.
Steve Banegas , Spokesperson <i>Kumeyaay Cultural Repatriation Committee</i>	Letter sent June 24, 2014	No response to date.
Frank Brown , Coordinator <i>Inter-Tribal Cultural Resource Protection Council</i>	Letter sent June 24, 2014	No response to date.
Bennae Calac <i>Pauma Valley Band of Luiseno Indians</i>	Letter sent June 24, 2014	No response to date.
Ron Christman <i>Kumeyaay Cultural Historic Committee</i>	Letter sent June 24, 2014	No response to date.
Shasta Gaughen, Historic Preservation Office <i>Pala Band of Mission Indians</i>	Letter sent June 24, 2014	(1) In a letter to PCR dated July 31, 2014, Ms. Shasta Gaughen on behalf of Robert Smith mentioned that the project is located within the boundaries of the tribe's Traditional Use Area. As the project is in the conceptual stages of development, the tribe: a) would like to consult with PCR on project components as they move toward the construction phase, b) would at a minimum require Native American monitoring and the development of a plan for the treatment and disposition of unanticipated discoveries, c) in some cases require changes in project plans to avoid areas of sensitivity and cultural significance, d) would like PCR to continue consultation as the project develops (see response letter in Appendix D of this report for additional comments).
Clifford LaChappa, Chairperson <i>Barona Group of the Capitan Grande</i>	Letter sent June 24, 2014	No response to date.
Allen E. Lawson, Chairperson <i>San Pasqual Band of Mission Indians</i>	Letter sent June 24, 2014	No response to date.
Clint Linton, Director of Cultural Resources <i>Ipay Nation of Santa Ysabel</i>	Letter sent June 24, 2014	No response to date.
Carmen Lucas <i>Kwaaymii Laguna Band of Mission Indians</i>	Letter sent June 24, 2014	No response to date.
Mark Macarro, Chairperson <i>Pechanga Band of Mission Indians</i>	Letter sent June 24, 2014	This contact is from the same tribe as Paul Macarro and M. Ozdil (see below).



Table 8 (Continued)

## Summary of Native American Responses

Name, Title/Affiliation	Phone/Letter	Response
Paul Macarro, Cultural Resources Manager <i>Pechanga Band of Mission Indians</i>	Letter sent June 24, 2014	In an email to PCR dated August 22, 2014, Ms. Tuba Ebru Ozdil attached a letter with the tribe's preliminary comments for the project and requested PCR to forward the tribe's comments to the Lead Agency. The letter indicated that the tribe requests: a) notification once the project begins entitlement process, b) copies of archaeological reports, site records, grading plans and environmental documents, c) government-to-government consultation with the Lead Agency, and d) the tribe would like monitoring by a San Diego County qualified archaeologist and a professional Pechanga Tribe monitor (see response letter in Appendix D of this report for additional comments).
Bo Mazzetti, Chairperson <i>Rincon Band of Mission Indians</i>	Letter sent June 24, 2014	In a letter dated July 11, 2014, Ms. Rose Duro mentioned that the project is located within the Luiseño Aboriginal Territory and the tribe would like to remain informed regarding changes/updates for the project (see response letter in Appendix D of this report for additional comments).
Mr. Will Micklin, Executive Director <i>Ewiiaapaayp Tribal Office</i>	Letter sent June 24, 2014	No response to date.
Ms. Bernice Paipa, Vice Spokesperson <i>Kumeyaay Cultural Repatriation Committee</i>	Letter sent June 24, 2014	No response to date.
Lavonne Peck, Chairwoman <i>La Jolla Band of Mission Indians</i>	Letter sent June 24, 2014	No response to date.
Anthony R. Pico, Chairperson <i>Viejas Band of Kumeyaay Indians</i>	Letter sent June 24, 2014	In an email dated July 28, 2014, Ms. Julie Hagen attached a letter mentioning that the project has little significance to Viejas. However, the tribe would like to be informed when inadvertent discoveries are made so that they can reevaluate their participation in the government-to-government process.
Mark Romero, Chairperson <i>Mesa Grande Band of Mission Indians</i>	Letter sent June 24, 2014	No response to date.
Daniel Tucker, Chairperson <i>Sycuan Band of the Kumeyaay Nation</i>	Letter sent June 24, 2014	No response to date.
Vincent Whipple, Tribal Historic Pres. Officer <i>Rincon Band of Mission Indians</i>	Letter sent June 24, 2014	This contact is from the same tribe as Rose Duro (see above).

Table 8 (Continued)

## Summary of Native American Response Letters and Telephone Log

Name, Title/Affiliation	Phone/Letter	Response
Cultural Department <i>San Luis Rey Band of Mission Indians</i>	Letter sent June 24, 2014	(1) In email to PCR dated June 27, 2014, Ms. Cami Mojado requests a copy of the cultural resources assessment report for tribal review. (2) In letter to PCR dated July 1, 2014, Ms. Lopez-Keifer requests, a.) presence of Native American monitor during archaeological surveys and construction, b.) further consultation with Project Applicant, and c.) copy of the cultural resources assessment report (see response letter in Appendix D of this report for additional comments) (3) Ms. Mojado left a voicemail with PCR on August 28, 2014 requesting a project update and an anticipated construction start date. PCR left a voicemail with Ms. Mojado on the same day and has yet to receive a call back to date.

Source: PCR Services Corporation (As of September 11, 2014)

### 6.3 HISTORIC BACKGROUND RESEARCH

The results of the historic background research of the project area and vicinity assisted in preparation of the Historic Context provided in Chapter 4.2 of this report and supported the impact analysis of historic resources in the project area and surrounding vicinity. As discussed previously, the records obtained from the local government research are provided in Appendix C of this report.

### 6.4 PALEONTOLOGICAL RESOURCES RECORDS SEARCH

#### 6.4.1 General Project Region

The results of the paleontological resources records search has indicated that 185 known fossil localities from SDNHM's database have been recorded in the vicinity of the project alignments in geologic units/formations that currently underlie many of the project alignments (Anderson 2014, 2015). For a detailed list of the geologic units that underlie the project area, see Table 1 in Section 3.2.1 of this report.

One locality of a terrestrial vertebrate was discovered in Holocene-age (less than 10,000 years old) alluvium (Qa) while 28 localities were discovered in late Pleistocene-age (80,000 to 220,000 years old) unnamed non-marine terraces, unnamed lagoonal deposits, and unnamed marine deposits (Qya). These localities produced leaf impressions of plants (e.g., flowering plants), shell remains of marine and freshwater invertebrates (e.g., shrimp, crabs, ostracods, bryozoans, barnacles, urchins, snails, mussels, oysters, clams, and foraminifera), fossilized remains of marine vertebrates (e.g., sharks, rays, and fish), and fossilized remains of terrestrial vertebrates (e.g., birds, frogs, salamanders, bison, camel, deer, insectivores, rabbits, horses, mastodons, rodents, pond turtles, snakes, and ground sloths).

One-hundred and twelve localities were discovered in the terrestrial, fluvial, estuarine, lagoonal, and marine deposits of the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation (Tsa). The specimens recovered include leaf impressions and molds of plants (e.g., freshwater algae, willow, magnolia, and mangroves), trace fossils (e.g., coprolites and burrows), shell remains and mold impressions of freshwater and marine invertebrates (e.g., barnacles, segmented worms, shrimp, crabs, ostracods, bryozoans, brachiopods, stony corals, urchins, snails, oysters, mussels, clams, tusk shells, sand dollars, and sponges), fossilized remains of marine vertebrates (e.g., sharks, rays, and fish), and fossilized remains of terrestrial vertebrates (e.g., birds, amphibians, insectivores, rabbits, oreodonts, creodonts, primitive artiodactyls, camels, primitive carnivores, primates, marsupials, semi-aquatic placental mammals, hippo-like perissodactyls, brontotheres, rhinoceroses, early horses, tapirs, rodents, tortoises, softshell turtles, snakes, crocodylians, and lizards).

Four localities were discovered in marine deposits of the middle Eocene-age (48 to 49 million years old) Torrey Sandstone (Tt). These localities produced seed pod and leaf impressions of plants (e.g., flowering plants), internal and external molds of marine invertebrates (e.g., urchins, snails, mussels, clams, oysters, and crustaceans), and scales of marine vertebrates (e.g., fish). Three localities were discovered in estuarine deposits of the middle Eocene-age (49 to 50 million years old) Delmar Formation (Td). These localities produced shell remains and mold impressions of marine invertebrates (e.g., oysters, clams, mussels, snails, and sponges), and mineralized remains of marine vertebrates (e.g., rays and fish). Finally, eighteen localities were discovered in marine deposits of the middle Cretaceous-age (approximately 75 million years old) Point Loma Formation (Kp). These localities produced fossilized roots and wood fragments of plants (e.g., vascular plants), and shell remains and mold impressions of marine invertebrates (e.g., segmented worms, shrimp, crabs, brachiopods, urchins, ammonites, nautiloids, snails, mussels, oysters, clams, and sponges).

#### 6.4.2 Project Specific

Thirty-one known fossil localities have been recovered within a quarter-mile of Group A, 12 within a quarter-mile of Group G, four within a quarter-mile of Group H, and four within a quarter-mile of Group K. Of these 51 localities, 18 of them have been recorded either within the project area and/or immediately adjacent.<sup>11</sup> No other fossil localities have been recorded within a quarter-mile of the remaining groups.

The paleontological resources records search results letter from SDNHM is provided in Appendix E of this report.

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<sup>11</sup> Given the scale of the paleontological locality map provided by Anderson (2014, 2015) and lack of specific location information, PCR is unable to definitely say whether these localities were recovered from the project area or immediately adjacent.

## 7.0 IMPACTS/EFFECTS ANALYSIS

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The purpose of this Chapter is to discuss the potential impacts to archaeological resources, historical resources, paleontological resources, and human remains associated with implementing the Proposed Project.

### 7.1 CEQA SIGNIFICANCE THRESHOLDS

#### 7.1.1 Archaeological Resources

The current CEQA Guidelines state that a project will have a significant impact on the environment if it ***will cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.***

According to the CEQA Guidelines, an archaeological resource is further defined as a resource that qualifies as a “historical resource”<sup>12</sup> pursuant to CEQA Guidelines Section 15064.5 or a “unique archaeological resource” pursuant to Section 21083.2 of the Public Resources Code. These terms are defined earlier in this report. Therefore, a project will have a significant impact on the environment if it will cause a “substantial adverse change” in the significance of a historical resource or “damage” to a unique archaeological resource.

A “substantial adverse change” (as defined in the CEQA Guidelines) is caused when one or more of the following occurs:

- Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
- The significance of a historical resource is materially impaired when a project:
  - a. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
  - b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
  - c. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

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<sup>12</sup> A historical resource can be an archaeological object, site or district that is listed in or determined eligible for the CRHR.

The CEQA Guidelines do not define “damage” when it comes to unique archaeological resources, but it can be reasonably interpreted as having a meaning similar to that of “substantial adverse change” (as defined above).

### 7.1.2 Historical Resources

The current CEQA Guidelines state that a project will have a significant impact on the environment if it ***will cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.***

According to the CEQA Guidelines, a historical resource is further defined as a resource that qualifies for listing in the California Register or another federal or local register. The criteria for listing are defined earlier in this report. Therefore, a project will have a significant impact on the environment if it will cause a “substantial adverse change” in the significance of a historical resource. The definition of “substantial adverse change” is provided in the previous section, 7.1.1.

The *Secretary of the Interior’s Standards for Rehabilitation* (Standards) are codified at 36 Code of Federal Regulations (CFR) Section 67.7. In most circumstances, the Standards are relevant in assessing whether there is a substantial adverse change under CEQA. Section 15064.5b(3) of the CEQA Guidelines states in part that “. . . a project that follows the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the *Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historic resource,” and therefore may be considered categorically exempt.

According to the Secretary of the Interior’s Standards,

- *A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.*
- *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.*
- *Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*
- *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*
- *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*
- *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*

- *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*
- *Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*
- *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.*
- *New additions and adjacent or related new construction will be undertaken in a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

### 7.1.3 Paleontological Resources

The current CEQA Guidelines state that a project will have a significant impact on the environment if it ***will directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.***

The CEQA Guidelines do not define “directly or indirectly destroy,” but it can be reasonably interpreted as the physical damage, alteration, disturbance, or destruction of a paleontological resource.

### 7.1.4 Human Remains

The current CEQA Guidelines state that a project will have a significant impact on the environment if it ***will disturb any human remains, including those interred outside of formal cemeteries.***

The CEQA Guidelines do not define “disturb” but it can be reasonably interpreted as the physical damage, alteration, disturbance, or destruction of any human remains.

## 7.2 POTENTIAL IMPACTS

### 7.2.1 Archaeological Resources

As discussed earlier, the results of the cultural resources records search through the CHRIS-SCIC have indicated that 58 known archaeological resources have been recorded within or adjacent to the proposed project alignments. These resources include prehistoric archaeological resources such as temporary and permanent occupation sites (e.g., lithic/groundstone/shell scatters, midden deposits, large habitation sites, and bedrock milling stations) and trails. They also include historic archaeological resources such as remnants of historic period homesteads and refuse dumps and scatters. The current contents and condition of these 58 resource are unknown as some of these resources were recorded as early as 1958 (and as late as 2013) and therefore it is likely that at least some of the resources have been partially or completely displaced or destroyed by modern development or some other cultural (e.g., looting, road construction) or natural (e.g., erosion, flood events) process. In addition, the exact boundaries of these resources and their horizontal (across the surface) and vertical (below the surface) extent may either be unknown or inconclusive for the same reason and/or if no subsurface archaeological investigations have taken place at the resource. Moreover, the Proposed Project is conceptual at this stage and therefore the associated

excavation parameters for the proposed facilities and pipelines in the specific areas of the 58 resources are currently unknown. As a result of this, PCR is not able to conduct a definitive impact analysis on any of these resources as they relate to the Proposed Project. However, it can be assumed that components of the Proposed Project that include excavations into native soils/sediments (as opposed to artificial fill or bedrock) would have the potential to impact these 49 resources.

No pedestrian survey was conducted as part of this assessment since the Proposed Project components are conceptual and PCR analyzed the project with a program level of detail. Therefore, it is possible that additional archaeological resources are present within the project area that have yet to be discovered and would need to be evaluated for eligibility for listing in the California Register and undergo an impact analysis. Furthermore, some existing facilities were likely constructed prior to the existence of cultural resources protection laws and may have been built on archaeological resources; therefore, the current or prior existence of built environment does not preclude the possibility of underlying archaeological deposits that were protected from destruction by their depth. It is also possible that buried archaeological resources that were not visible to previous archaeological surveyors have now been brought to the surface as a result of cultural or natural processes. Therefore, as discussed later, when a project-level analysis is feasible, PCR recommends that an updated pedestrian survey be conducted to identify previously unknown archaeological resources and to verify current condition, contents, and horizontal extent (across the surface) of known archaeological resources. These surveys are recommended as management guidelines in the following chapter.

Although a majority of the Proposed Project would be constructed in paved roadways, it is possible to encounter buried archaeological resources given the proven prehistoric and historic occupation of the region (as discussed in Chapter 3), the identification of multiple surface and subsurface archaeological resources within and in the vicinity of the proposed alignments (as discussed in Chapter 6), and the favorable natural conditions (e.g., Pacific Ocean, watersheds, vegetation communities) that would have attracted prehistoric and historic inhabitants to the area. The archaeological monitoring of numerous construction projects throughout the region in recent decades has demonstrated the existence of deeply buried archaeological deposits, especially in locations of rapid Holocene deposition such as alluvial fans.

As a result of these findings, recommended management guidelines and mitigation measures are provided in the following chapter that would reduce potentially significant impacts to archaeological resources to a less than significant level.

## 7.2.2 Historical Resources

The Proposed Project was reviewed by a qualified architectural historian, who satisfies the *Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture*, pursuant to 36 CFR 61, to determine the significance of potential impacts to the identified historical resources within the project area. Since the proposed alignments and project elements are conceptual and programmatic, PCR performed an impacts analysis of the potential path of the pipeline extensions analyzing the potential impacts to individual resources, historic groupings or districts.

### 7.2.2.1 Water Recycling Plant Expansions

#### San Luis Rey WWTP and AWT

The Proposed Project includes short-term expansion of existing facility and potential seasonal storage at Whelan Lake. A historic resource known as Rancho Francisco Pio/Whelan Ranch is located at 3850 North River Road, immediately adjacent to the existing San Luis Rey WWTP and AWT. The property is between the facility and Whelan Lake. The resource was constructed c.1880 and is listed under National Register Status Code 4D2, which makes it a contributor to a fully documented district that may become eligible for listing when more historical or architectural research is performed on the district. The integrity of the setting of the property is likely already compromised by the proximity of the existing facility and any expansion may further impact the resource. Further analysis would be required to determine the level of impact once project plans are more fully developed. If adverse impacts would result from the project, mitigation measures such as visual screening (tree rows) may be appropriate. (**Figure 12**, *Potential Historical Resources Impact - San Luis Rey WWTP and AWT.*)

#### El Corazon Site<sup>13</sup>

The Proposed Project includes the construction of a new above-ground facility; located at the corner of El Camino Real and Oceanside Boulevard within the City of Oceanside at a development site known as the El Corazon Site.

The City of Oceanside Fire Station 3 is located to the southeast of the intersection of the proposed project site. The station was built in 1962 and is a potential historic resource requiring further evaluation. If found eligible and depending upon the final location of the proposed facility, the project may have a potential impact on Fire Station 3. (**Figure 13**, *Potential Historical Resources Impact - El Corazon Site.*)

#### Escondido Advanced Water Treatment Facility

The Proposed Project includes the construction of a new facility; located along Escondido Creek Channel potentially where the Escondido Creek Channel Intersects with Citrus Avenue within the City of Escondido.

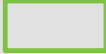
The potential project site is located near a cluster of unevaluated potential resources. The residence at 2439 E. Washington was built in or before 1964, making it at least 50 years of age and a possible resource. Additionally, based on historic aerials of the area, a number of buildings in the block bounded by N. Citrus Avenue, E. Washington Avenue, E. George Washington Avenue, and Escondido Creek were built in or before 1964 and therefore may be historic resources. The housing development bounded by N. Citrus Avenue, Washington Avenue, and Pitman Street (including Scott Way and Hillward Street), was also built by 1964 and may contain historic resources. Depending upon the final location of the proposed facility, it may have a potential impact on some or all of these unevaluated resources. (**Figure 14**, *Potential Historical Resources Impact - Escondido Advanced Water Treatment Facility.*)


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<sup>13</sup> While the El Corazon Site is not a treatment plant, it is a major above-ground facility associated with the Proposed Project; as such, it was considered in this assessment in a manner similar to the treatment plants.




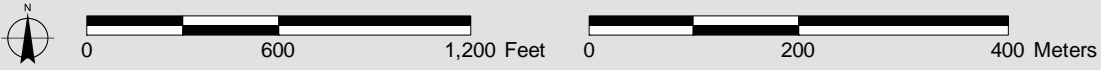
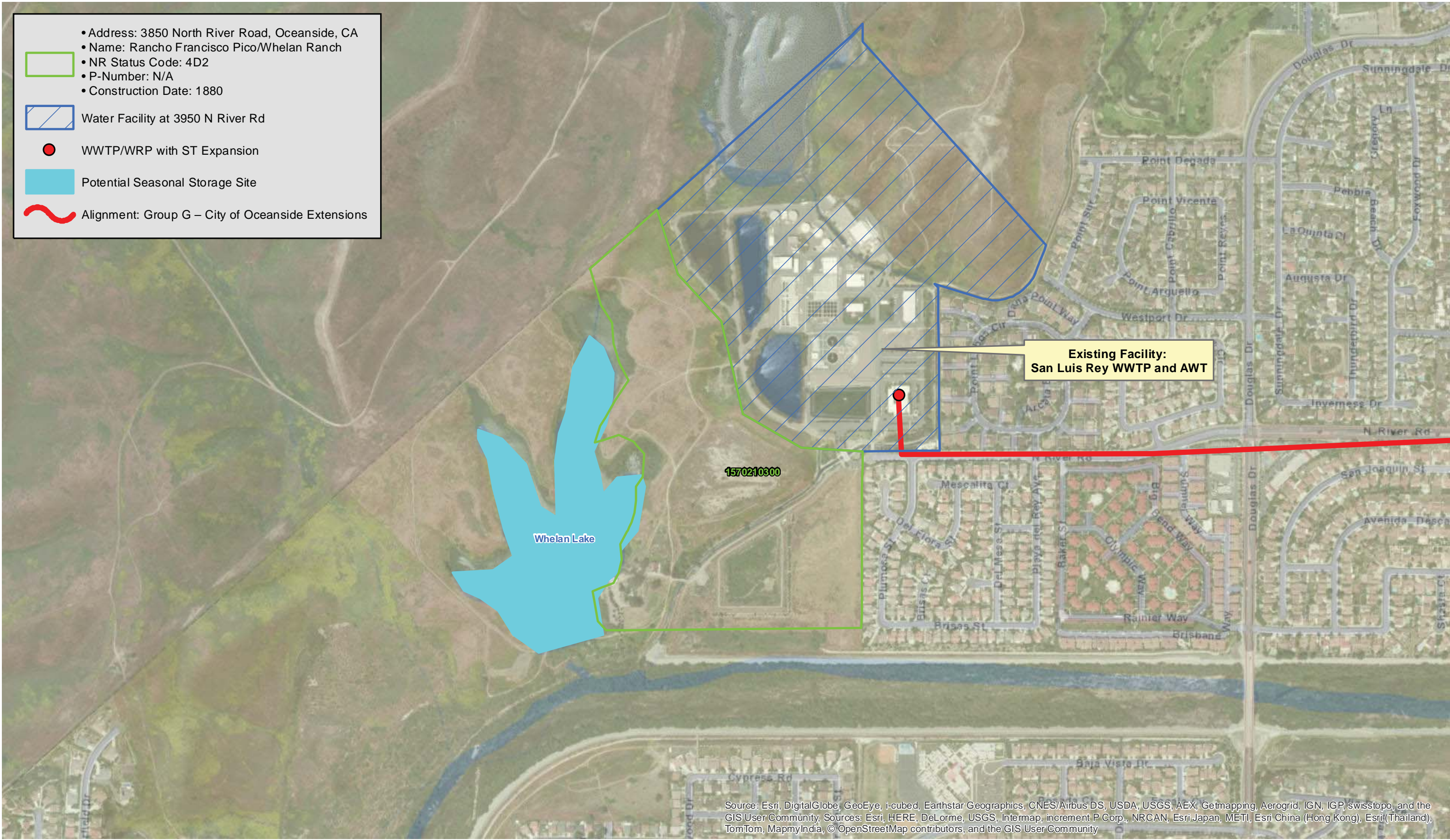
- Address: 3850 North River Road, Oceanside, CA
- Name: Rancho Francisco Pico/Whelan Ranch
- NR Status Code: 4D2
- P-Number: N/A
- Construction Date: 1880

 Water Facility at 3950 N River Rd

 WWTP/WRP with ST Expansion

 Potential Seasonal Storage Site


 Alignment: Group G – City of Oceanside Extensions

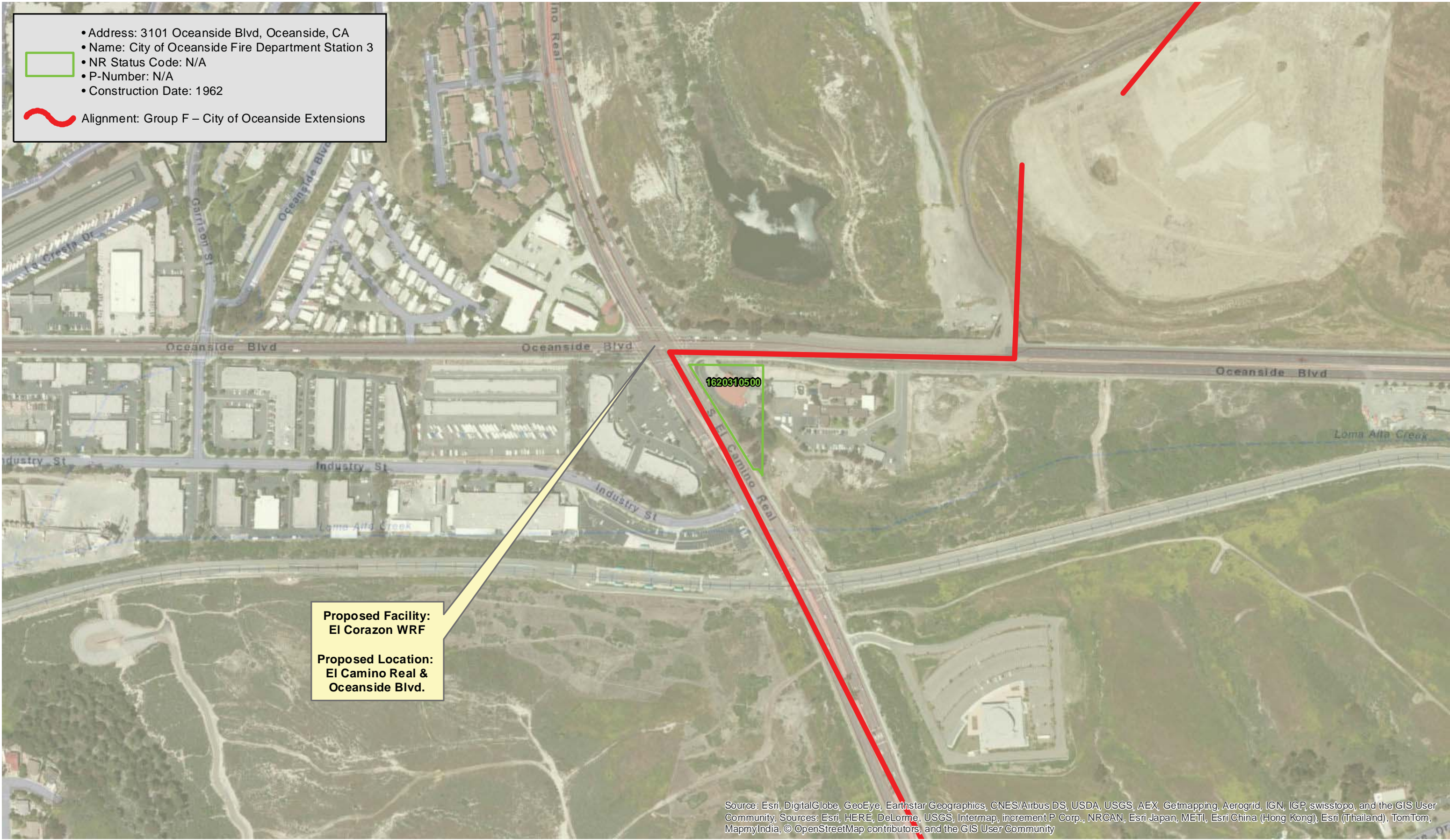


Potential Historical Resources Impact: San Luis Rey WWTP and AWT

North San Diego County Regional Recycled Water Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.

- Address: 3101 Oceanside Blvd, Oceanside, CA
- Name: City of Oceanside Fire Department Station 3
- NR Status Code: N/A
- P-Number: N/A
- Construction Date: 1962

 **Alignment: Group F – City of Oceanside Extensions**



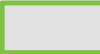
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community




**Potential Historical Resources Impact: El Corazon Site**

North San Diego County Regional Recycled Water Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.

- Address: 2439 E. Washington Avenue, Escondido, CA
- Name: N/A
- NR Status Code: N/A
- P-Number: N/A
- Construction Date: c.1964

 Potential Historic Resources (built c. 1964)

 Alignment: Group D – City of Escondido Extensions



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



**Potential Historical Resources Impact: Escondido Advanced Water Treatment Facility**

North San Diego County Regional Recycled Water Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.

### Harmony Grove Water Recycling Facility

The Proposed Project includes the construction of a new facility; located within or adjacent to the Harmony Grove Village – a proposed development project that is located in Rincon del Diablo MWD’s service area and bounded to the north by Mt. Whitney Road, to the south and east by Harmony Grove Road, and to the west by undeveloped land.

3023 Mt. Whitney Road is a farm property within the project area that may have historic resources. Based on historic aerials of the property, it appears that the westernmost building (which may be a barn) was there as early as 1943. Any impact on these potential resources is likely limited by their distance from the alignments and the proposed project site for the new water recycling facility. (**Figure 15**, *Potential Historical Resources Impact - Harmony Grove Water Recycling*.)

### Hale Avenue RRF

The Proposed Project includes the updates to the existing facility. The expansion of the Hale Avenue RRF has the potential to negatively impact the historic resource located at 1555 Hale Avenue. However, the integrity of the setting of this Victorian residence has already been significantly compromised by the location of the existing Hale Avenue RRF and Diablo Mini Storage on parcels adjacent to the property. Further analysis would be required to determine the level of impact once project plans are more fully developed. If adverse impacts would result from the project, mitigation measures such as visual screening (tree rows) may be appropriate. (**Figure 16**, *Potential Historical Resources Impact - Hale Avenue RRF*.)

## 7.2.2.2 Recycled and Potable Reuse System Expansions

### Group C: City of Escondido Extensions – HARRF

The Proposed Project includes the potential construction of recycled water pipelines, recycled water laterals (to be determined during project-specific design), and other facilities (to be determined during project-specific design).


The First San Diego Aqueduct crosses the alignment Ex RW line to New AWT in Escondido (Group C) at approximately the intersection of Harding Street and the Escondido Creek Channel. The Escondido Creek Channel is located between E. Washington Avenue and Valley Parkway. The aqueduct was constructed between 1945 and 1952 and is an important part of the history of water development in San Diego County. The proposed alignment runs through the Escondido Creek Channel and would therefore intersect the aqueduct, likely causing an adverse impact unless mitigation is completed. (**Figure 17**, *Potential Historical Resources Impact - Group C – City of Escondido Extensions*.)

### Group E: San Elijo Joint Powers Authority Extensions—San Elijo WRF/Gafner WRF

Two potential historical resources are located adjacent to the proposed pipeline alignments associated with Group E. These resources include a ranch residence that was constructed in 1948 and the Holiday Pet Hotel that was constructed in 1951 (**Figures 18 and 19**, *Potential Historical Resources Impact - Group E*).

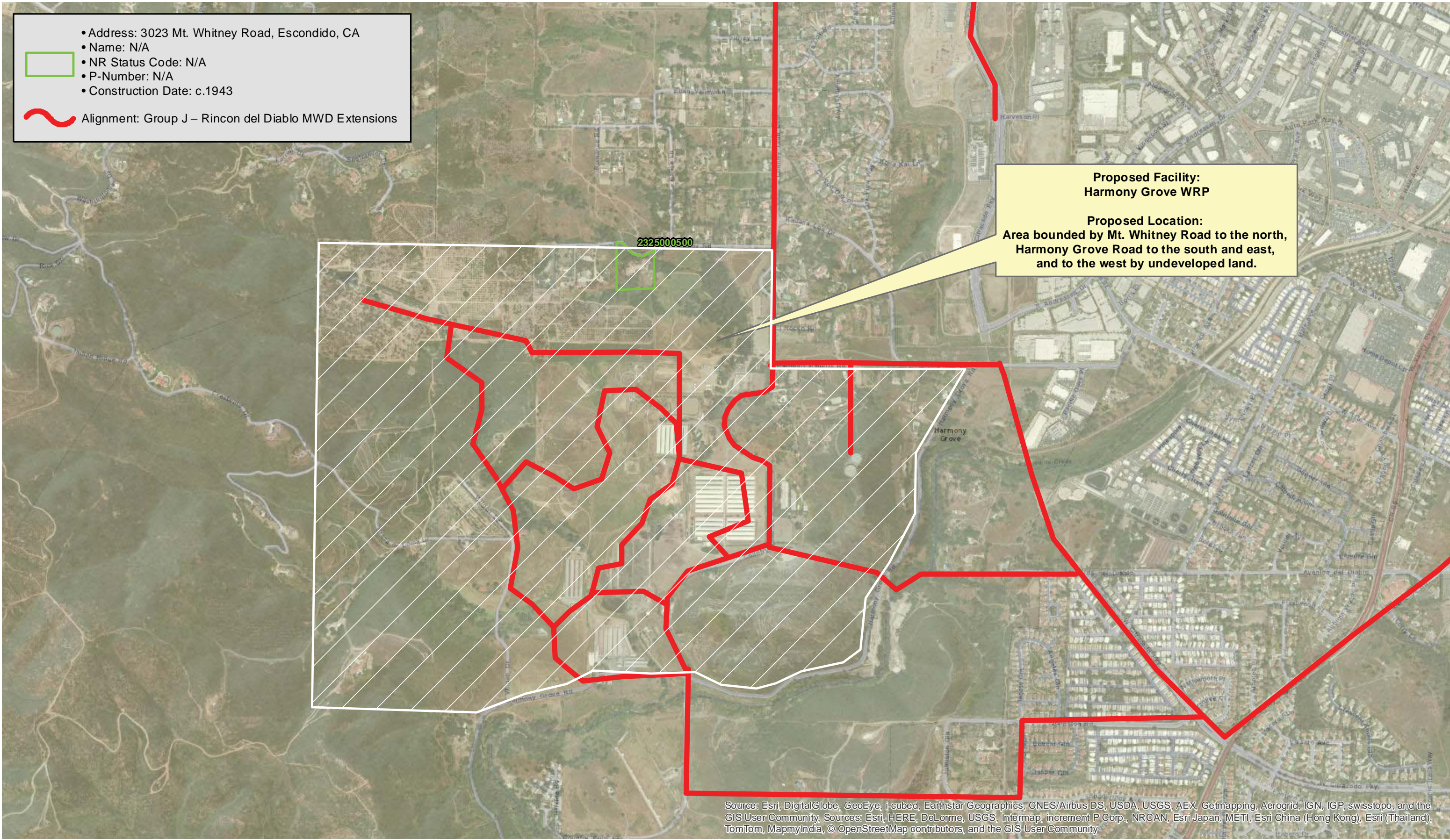
At the programmatic phase, and based on the current records search, it appears that the laying of new pipe beneath the existing roads would not cause an adverse impact to these two resources. It is recommended as mitigation, that once the project is fully designed, a reconnaissance level survey of the proposed project path be performed.

- Address: 3023 Mt. Whitney Road, Escondido, CA
- Name: N/A
- NR Status Code: N/A
- P-Number: N/A
- Construction Date: c.1943

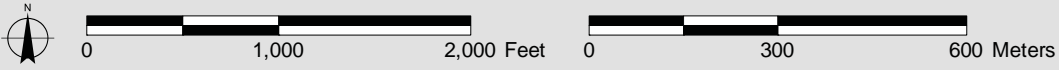
 Alignment: Group J – Rincon del Diablo MWD Extensions

**Proposed Facility:**  
Harmony Grove WRP

**Proposed Location:**  
Area bounded by Mt. Whitney Road to the north,  
Harmony Grove Road to the south and east,  
and to the west by undeveloped land.



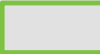
Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.




**Potential Historical Resources Impact: Harmony Grove Water Recycling**

North San Diego County Regional Recycled Water Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.

- Address: 1555 Hale Avenue, Escondido, CA
- Name: Enchanted Oaks
- NR Status Code: 4
- P-Number: N/A
- Construction Date: 1890


 • WWTP/WRP with ST Expansion

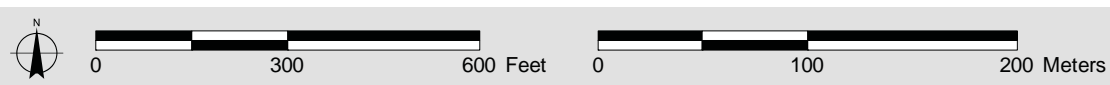

 Alignment: Group I – Rincon del Diablo MWD Extensions



**Existing Facility:  
Hale Avenue RRF and AWT**

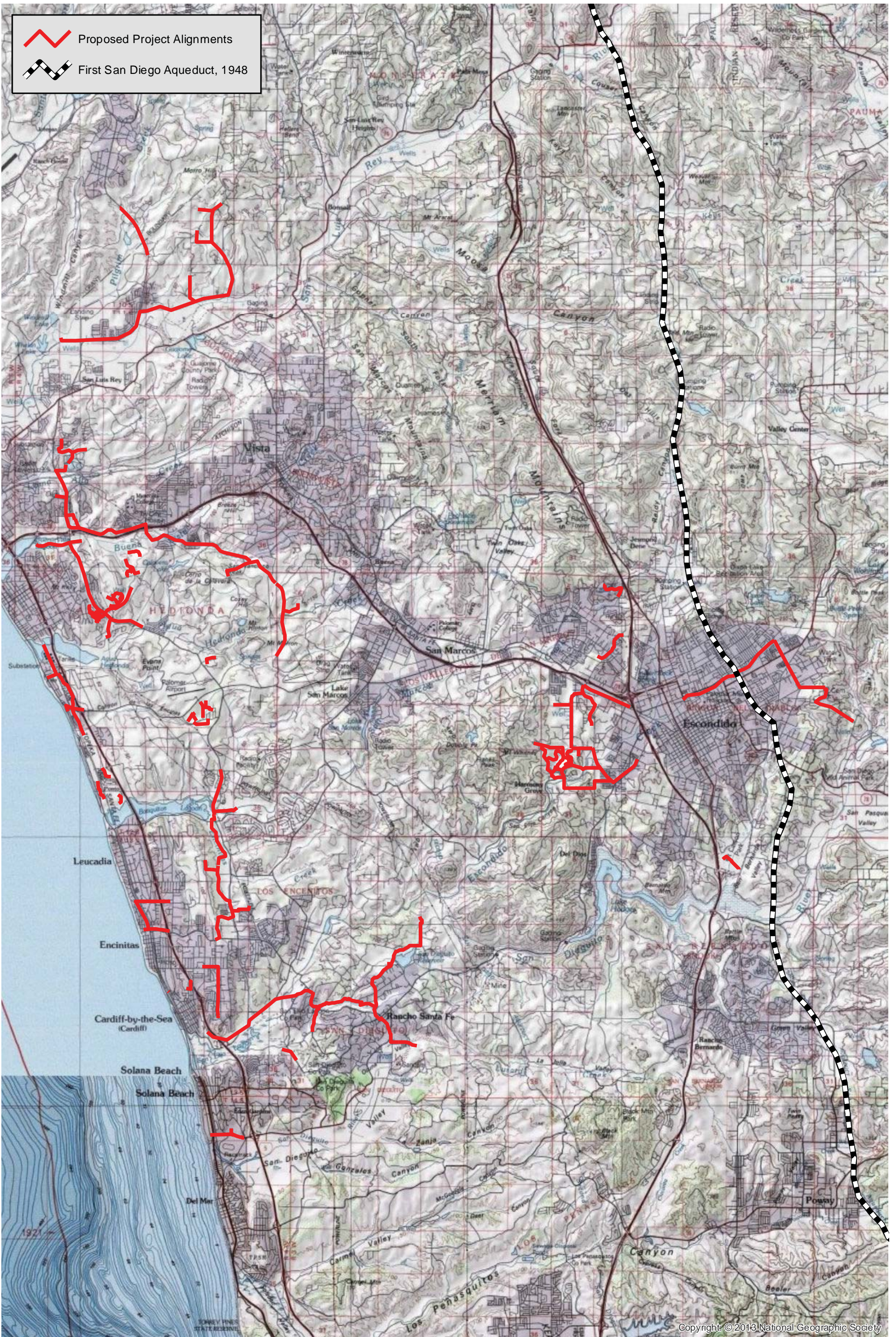
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Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



**Potential Historical Resources Impact: Hale Avenue RRF**

North San Diego County Regional Recycled Water Project  
Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2014.



Copyright © 2013 National Geographic Society



0 2 Miles

0 4 Kilometers

**Potential Historical Resources Impact:  
Group C – City of Escondido Extensions**

North San Diego County Regional Recycled Water Project

Source: USGS Topographic Series (Del Mar, Del Mar OE W, Encinitas, Escondido, Morro Hill, Rancho Santa Fe, San Luis Rey, San Marcos, San Pasqual, Valley Center, CA); PCR Services Corporation, 2015.

FIGURE

**17**

- Address: 1450 Mackinnon Avenue, Cardiff, CA
- Name: N/A (Ranch Residence)
- NR Status Code: N/A
- P-Number: N/A
- Construction Date: 1948

Alignment: Group E



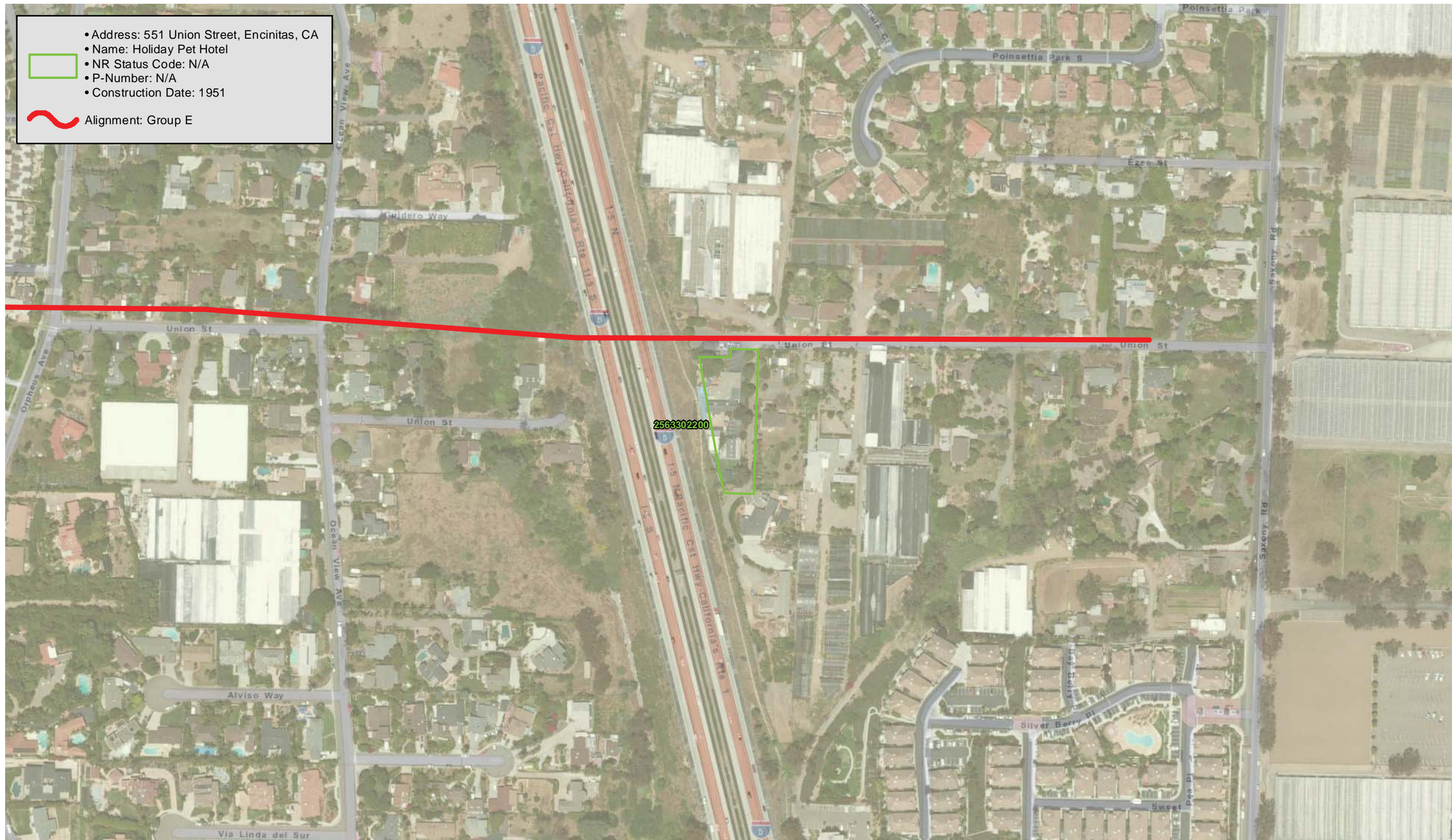
Potential Historical Resources Impact: Group E

North San Diego County Regional Recycled Water Project  
 Source: Microsoft, 2010 (Aerial); PCR Services Corporation, 2015.



- Address: 551 Union Street, Encinitas, CA
- Name: Holiday Pet Hotel
- NR Status Code: N/A
- P-Number: N/A
- Construction Date: 1951

Alignment: Group E



**Group G: City of Oceanside Extensions – San Luis Rey WWTP/SRTTP**

See El Corazon Site in section 7.2.2.1 above.

**Group I: Rincon del Diablo MWD Extensions – HARRF**

None of the 19 historic resources within a quarter mile radius of the proposed alignment would be impacted by the construction of pipelines. However, one historic resource, Enchanted Oaks, would be impacted by expansion of the Hale Avenue RRF. See Hale Avenue RRF in section 7.2.2.1 above.

**Group K: Santa Fe ID Extensions - San Elijo WRF/Gafner WRF**

The Proposed Project includes the potential construction of recycled water pipelines, recycled water laterals (to be determined during project-specific design), and other facilities (to be determined during project-specific design).

The Santa Fe ID Extensions run through Rancho Santa Fe Civic Center, a designated California Landmark. Both the original planned community and the landscape are included in the landmark designation. Additionally, the Village Commercial District, which includes the Civic Center, is believed to be eligible for listing as a historic district on the National Register of Historic Places. A Multiple Property Listing is already in place on the National Register for Lilian Rice Designed Buildings in Rancho Santa Fe, California. Furthermore, it should be noted that the larger community at Rancho Santa Fe is under a Protective Covenant, in place since 1928, which heavily regulates development and construction within its boundaries and may require further review of the proposed project.

The design of the road layout is a character-defining feature of the planned community at Rancho Santa Fe. However, the existing road was reconstructed and is therefore not character-defining. The proposed Santa Fe ID Extension project, which would require the temporary removal of parts of the existing road, does not negatively impact the Landmark as the road layout would remain, and existing road materials that would be removed are not character-defining features.

At the programmatic phase, and based on the current records search, it appears that the laying of new pipe beneath the existing roads would not cause an adverse impact to the Rancho Santa Fe Civic Center or Village Commercial District within the Santa Fe ID Extension project area. It is recommended as mitigation, that once the project is fully designed, a reconnaissance level survey of the proposed project path be performed.

**7.2.2.3 Seasonal Storage Sites****Maerkle Dam Reservoir/Squires II Reservoir**

A potential long-term storage site to be constructed, which would be owned by the Carlsbad MWD and located in the eastern portion of the Carlsbad MWD service area, near the border with the City of Oceanside and Vista ID, at the eastern end of Sunny Creek Road. The site would provide potable or recycled water storage. The proposed project site is located in an isolated area of Carlsbad near the border with Oceanside and Vista. The existing Maerkle Dam reservoir (previously called Squires Dam reservoir) is located in that area and was built in 1963 (City Municipal Water District, "Agenda Bill City of Carlsbad, California AB# 645,"

2007). The dam and reservoir may be a historic resource and should be evaluated further for possible impact from the proposed project.

As a result of these findings, recommended management guidelines and mitigation measures are provided in the following chapter that would reduce potentially significant impacts to historical resources to a less than significant level.

### 7.2.3 Paleontological Resources

As discussed earlier, the results of the paleontological resources records search has indicated that 185 known fossil localities from SDNHM's database have been recorded in the vicinity of the project alignments in fossiliferous geologic units/formations that currently underlie many of project alignments. Specifically, 31 known fossil localities have been recovered within a quarter-mile of Group A, 12 within a quarter-mile of Group G four within a quarter-mile of Group H, and four within a quarter-mile of Group K. Of these 51 localities, 18 of them have been recorded either within the project area and/or immediately adjacent (Anderson 2014, 2015). These 18 localities have already been recovered from known fossiliferous geologic units since they are curated at SDNHM and therefore no longer exist at their former location. As a result, the Proposed Project would not cause an impact to these known paleontological resources. However, it is possible that additional unrecorded resources exist in the immediate vicinity of these known resources in similar fossiliferous geologic units.

The geologic units that underlie the project area have varying degrees of potential for retaining paleontological resources and these degrees are summarized by unit in **Table 10**, *Geologic Units/Formation Within Project Area*. The geologic units across the project alignments are also displayed on **Figure a and 20b**, *Geologic Maps*.

Excavations into native soil/sediments associated with the Proposed Project in geologic units that have a "moderate", "moderate to high", and "high" potential for retaining fossils (see Table 10, *Geologic Units/Formations Within Project Area*), would have the potential to cause a significant impact to paleontological resources. As a result, recommended mitigation measures are provided in the following chapter to reduce potentially significant impacts to paleontological resources that are accidentally discovered during project implementation to a less than significant level.

### 7.2.4 Human Remains

No known human remains have been identified from the CHRIS-SCIC records within the project alignments or within a quarter-mile radius. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which may be encountered during construction excavations associated with the Proposed Project. Similar to the discussion regarding archaeological resources above, it is also possible to encounter buried human remains during construction given the proven prehistoric and historic occupation of the region, the identification of multiple surface and subsurface archaeological resources within a quarter-mile of the project area (including large habitation/village sites), and the favorable natural conditions that would have attracted prehistoric and historic inhabitants to the area. As a result, recommended mitigation measures are provided in the following chapter that would reduce potentially significant impacts to previously unknown human remains that may be unexpectedly discovered during project implementation to a less than significant level.

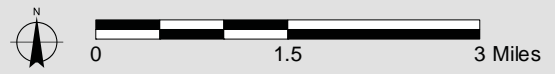
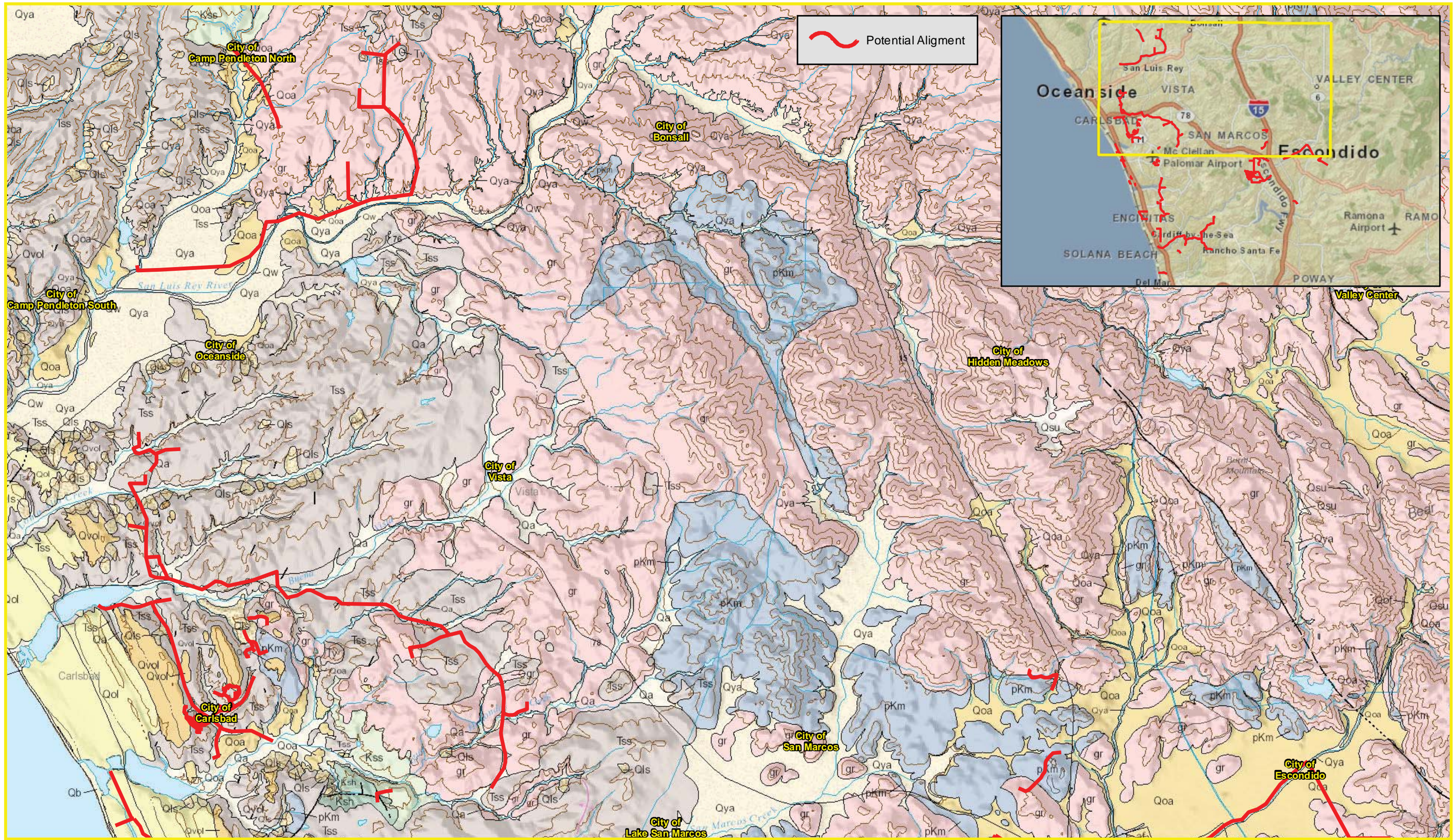
Table 10

## Geologic Units/Formations within Project Area

Geologic Unit	Name/Type (Age)	Fossil/Paleontological Resource Potential
Kgb	Gabbro, undivided (mid-Cretaceous)	None
Kgd	Granodiorite, undivided (mid-Cretaceous)	None
Kl	Lusardi Formation (Upper Cretaceous)	Moderate
Kmm	Monzogranite of Merriam Mountain (mid-Cretaceous)	None
Kp	Point Loma Formation (Upper Cretaceous)	High
Kt	Tonalite, undivided (mid-Cretaceous)	None
Kwm	Granodiorite of Woodson Mountain (mid-Cretaceous)	None
Mzu	Metamorphosed and unmetamorphosed volcanic and sedimentary rocks, undivided (Mesozoic)	High/None*
Qa	Alluvial flood-plain deposits (late Holocene)	Low
Qaf	Artificial fill (late Holocene)	None
Qoa	Old alluvial flood-plain deposits, un-divided (late to middle Pleistocene)	High
Qop2-4	Old paralic deposits (late to middle Pleistocene)	High
Qop6-7	Old paralic deposits (late to middle Pleistocene)	High
Qpe	Paralic estuarine deposits (late Holocene)	Low
Qvoa	Very old alluvial flood-plain deposits, undivided (middle to early Pleistocene)	Moderate
Qvop10-11	Very old paralic deposits, Unit 10 (middle to early Pleistocene)	Moderate
Qya	Young alluvial flood-plain deposits (Holocene and late Pleistocene)	Low
Qyls	Young landslide deposits (Holocene and late Pleistocene)	Low
Td	Delmar Formation (middle Eocene)	High
Tsa	Santiago Formation (middle Eocene)	Moderate to High
Tt	Torrey Sandstone (middle Eocene)	Moderate

*\*Only the meta-sedimentary portion of this unit has a high potential, the meta-volcanic portion has no potential*

*Source: Demere and Walsh 1993, Anderson 2014, PCR Services Corporation 2014*




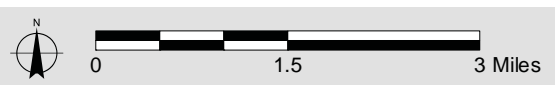
**Geologic Map - Northern Part**

FIGURE  
**20A**

North San Diego County Regional Recycled Water Project  
Source: Geologic Compilation of Quaternary Surficial Deposits in Southern California, December 2012; PCR Services Corporation, 2015.



 Potential Alignment



**Geologic Map - Southern Part**

FIGURE  
**20B**

North San Diego County Regional Recycled Water Project  
Source: Geologic Compilation of Quaternary Surficial Deposits in Southern California, December 2012; PCR Services Corporation, 2015.

## 8.0 RECOMMENDED MANAGEMENT GUIDELINES AND MITIGATION MEASURES

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### 8.1 ARCHAEOLOGICAL RESOURCES

For components of the Proposed Project that do not require excavation activity, no further analyses, management guidelines, or mitigation measures are warranted since these types of improvements would have no impact to archaeological resources.

For components of the Proposed Project that require excavation activity (e.g., clearing/grubbing, grading, trenching, or boring) into native soil<sup>14</sup> and that have the potential to exhibit native ground surface<sup>15</sup> within or in the immediate vicinity of the excavation footprint, the following management guidelines (CULT-1, -2, and -3) are recommended:

**CULT-1: Conduct a Phase I Archaeological Resources Assessment - Identification.** The Coalition shall conduct a Phase I Archaeological Resources Assessment of the given improvement footprint to identify any archaeological resources within the footprint or immediate vicinity to support the CEQA environmental document. The minimum level of effort for the Phase I assessment shall include a cultural resources records searches through the South Central Coastal Information Center (as needed<sup>16</sup>), a Sacred Lands File search through the Native American Heritage Commission and follow-up Native American consultation, and a pedestrian survey of the project area (*Note: surveys may not be required in areas that do not have the native ground surface exposed such as paved streets*). In addition, the Coalition shall review available geotechnical studies, site plans, and drilling/grading studies to determine the nature and depth of the construction activities to assist in determining the depths of fill versus native soils across the improvement footprint. If no resources are identified as a result of the records search or survey, it does not preclude the existence of buried resources within the improvement footprint. If this is the case, a qualified archaeologist will determine the potential for the project to encounter buried resources during construction based on the results of the record searches, land use history, depth of native versus fill soils, and the proposed excavation parameters. This discussion will be included in a technical report and the Cultural Resources Section of the CEQA document.

- If resources are identified during the Phase I assessment, then a Phase II assessment shall be required, as described in CULT-2.
- If no resources are identified as part of the assessment, no further analyses or mitigation shall be warranted, unless it can be determined that the project has a high or moderate potential to encounter buried archaeological resources.

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<sup>14</sup> The Coalition shall review available geotechnical studies to determine whether excavation activities will impact native soils. If a geotechnical study is not available for review, then the archaeological monitor shall coordinate with the Coalition to make a determination based on the soil conditions observed during archaeological monitoring services of the given excavation activity.

<sup>15</sup> The Coalition shall review recent aerial photography of facility locations (or, more specifically, the footprint of the proposed excavation activity) to determine whether native ground surfaces may be present.

<sup>16</sup> Since the Coalition has already completed a cultural resources records search through the CHRIS-SCIC for a majority of the Proposed Project as part of the PEIR, a cultural resources record search may not be warranted.

- If it is determined that there is a moderate or high potential to encounter buried archaeological resources, appropriate mitigation such as construction monitoring shall be required as described in CULT-4, -5, -6, and -7.

**CULT-2: Conduct a Phase II Archaeological Resources Assessment - Evaluation.** If resources are identified during the Phase I assessment, a Phase II Archaeological Resources Evaluation may be warranted if impacts from the improvements cannot be avoided. The Phase II assessment shall evaluate the resource(s) for listing in the CRHR and to determine whether the resource qualifies as a “unique archaeological resource” pursuant to CEQA. If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II evaluation may not be necessary. Methodologies for evaluating a resource can include, but are not limited to: subsurface archaeological test excavations, additional background research, and coordination with Native Americans and other interested individuals in the community. The methods and results of a Phase II evaluation shall be described in a technical report that will support the Cultural Section of the CEQA environmental document.

- If, as a result of the Phase II evaluation, resources are determined eligible for listing in the California Register (thus qualifying them as “historical resources” pursuant to CEQA Guidelines Section 15064.5) or are considered “unique archaeological resources” pursuant to Section 21083.2 of the Public Resources Code, potential impacts to the resources shall be analyzed and if impacts are significant (i.e., the improvement would cause a “substantial adverse change” to the resource) and cannot be avoided, mitigation measures shall be developed and implemented, as discussed in CULT-3, to reduce impacts to the resources to a level that is less than significant.

**CULT-3: Conduct a Phase III Archaeological Resources Assessment - Mitigation.** If resource avoidance, resource “capping” (covering a resource with a layer of fill soils before building on the resource), or incorporating a resource into a park plan or open space is deemed not feasible, then the Coalition shall conduct a Phase III archaeological resources mitigation program to reduce impacts to a less than a significant level. Such mitigation programs typically include additional subsurface archaeological excavations (i.e., data recovery) that serve to recover significant archaeological resources before they are damaged or destroyed by the proposed improvement. Documentation and recovered materials (artifacts and other specimens) are placed with a suitable museum for future study and research. Data recovery is typically recommended as a mitigation measure in the CEQA environmental document and is typically implemented after the CEQA environmental document has been completed, but prior to issuance of grading or building permits. The methods and results of a data recovery program shall be described in a technical report that shall be submitted to the Coalition and filed with the CHRIS-SCIC to show satisfactory compliance with the archaeological mitigation measures for a given project. It is possible that the archaeological excavations associated with the preceding Phase II evaluation could remove enough archaeological material from the resource as to negate the need to conduct a subsequent excavation as part of the Phase III assessment.

As discussed earlier, if it is determined that there is a moderate or high potential to encounter buried archaeological resources during construction, the following mitigation measures (CULT-4, -5, -6, and -7) have been recommended to reduce potentially significant impacts to archaeological resources that are accidentally discovered during implementation of the Proposed Project to a less than significant level:



- CULT-4: Conduct Archaeological Sensitivity Training for Construction Personnel.** The Coalition shall retain a qualified archaeologist who shall conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session shall be carried out by a cultural resources professional with expertise in archaeology, will focus on how to identify archaeological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event. The training session will include a Power Point presentation and/or handouts for all attendees. The basic topics to be addressed in the session include: a brief cultural and archaeological history of the area and the project area; cultural resource compliance obligations; training in potential resources that may be encountered through the use of photographs or other illustrations; the duties of archaeological monitors; notification and other procedures to follow upon discovery of resources; and, the general steps that would be followed to conduct a salvage investigation if one is necessary.
- CULT-5: Conduct Archaeological Construction Monitoring.** The Coalition shall retain a qualified archaeological monitor who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the proposed improvement. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the archaeological monitor.
- CULT-6: Cease Ground-Disturbing Activities and Implement Treatment Plan if Archaeological Resources Are Encountered.** In the event that archaeological resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated. Work shall be allowed to continue outside of the vicinity of the find. All archaeological resources unearthed by Project construction activities shall be evaluated by the archaeologist. The Coalition shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. Treatment may include implementation of archaeological data recovery excavations to remove the resource or preserve it in place. The landowner, in consultation with the Coalition and archaeologist, shall designate repositories in the event that archaeological material is recovered.
- CULT-7: Prepare Archaeological Monitoring Report.** The archaeological monitor shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted to the Coalition and CHRIS-SCIC, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register of Historical Resources and CEQA, and treatment of the resources.

For components of the Proposed Project that require excavation activities (regardless of whether native soils are present or absent) where no archaeological monitor is present, the following mitigation measure is recommended that would reduce potentially significant impacts to previously unknown archaeological resources to a less than significant level that are unexpectedly discovered during construction:

**CULT-8: Cease Ground-Disturbing Activities and Report if Archeological Resources are Encountered.** If archaeological resources are encountered by construction personnel during implementation of the Project, ground-disturbing activities should temporarily be redirected from the vicinity of the find. The Coalition shall immediately notify a qualified archaeologist of the find. The archaeologist should coordinate with the Coalition as to the immediate treatment of the find until a proper site visit and evaluation is made by the archaeologist. Treatment may include the implementation of an archaeological testing or data recovery program. All archaeological resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the CHRIS-SCIC. The archaeologist shall prepare a final report about the find to be filed with the District and the CHRIS-SCIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the resource's eligibility for listing in the California Register of Historical Resources and whether the resource qualifies as a unique archaeological resource. The landowner, in consultation with the Coalition and the archaeologist, shall designate repositories to curate any material in the event that resources are recovered. The archaeologist shall also determine the need for archaeological monitoring for any ground-disturbing activities in the area of the find thereafter.

## 8.2 HISTORICAL RESOURCES

Pursuant to CEQA, the following Mitigation Measures are recommended to reduce potentially significant impacts to four "historical resources" (Rancho Santa Fe, The First San Diego Aqueduct, Rancho Francisco Pio/Whelan Ranch, and Enchanted Oaks) and un-evaluated potential historical resources to a less than significant level:

**CULT-9: Conduct Plan Review and Evaluation of Historical Resources.** Rancho Santa Fe is a California State Historic Landmark, and therefore, improvements on or adjacent to Rancho Santa Fe have the potential to directly impact the historical resources and setting, and therefore, improvements on or adjacent to Rancho Santa Fe must be designed to comply with the Secretary of the Interior's *Standards*. Prior to designing or implementing projects in this area, the Coalition shall engage a qualified historic preservation consultant to review the proposed projects. Likewise, Rancho Francisco Pio/Whelan Ranch and Enchanted Oaks are previously identified resources that may require re-evaluation by qualified surveyors if determined necessary based upon the proposed improvement and its potential to affect these resources. Prior to designing or implementing projects in this area, the Coalition shall engage a qualified historic preservation consultant to assess identified resources for eligibility as historical resources and review the proposed projects for potential impacts to eligible historical resources. A qualified preservation consultant is an architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years of experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The Coalition shall undertake and complete construction in a manner consistent with the preservation consultant's recommendations to ensure that the Project meets the *Secretary of the Interior's Standards for Rehabilitation*. The preservation consultant shall review the final construction drawings for conformance to the Secretary of the Interior's

Standards and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior's *Standards* is considered fully mitigated under CEQA.

**CULT-10: Conduct Historical Resources Monitoring for First San Diego Aqueduct.** The Coalition shall retain a qualified architectural historian who shall be present during construction excavations such as clearing/grubbing, grading, trenching, or any other construction excavation activity in the vicinity of the First San Diego Aqueduct. Specifically, the monitoring shall take place along the alignment Ex RW line to New AWT in Escondido (Group C) over the First San Diego Aqueduct. The First San Diego Aqueduct was determined to be eligible for the National Register of Historic Places under criterion A in 2012 (Department of the Army 2012) and the Proposed Project has the potential to materially impair a small segment of it. Any important historic fabric uncovered associated with the First San Diego Aqueduct shall be fully recorded in photographic images and written manuscript notes to supplement the HAER documentation of the First San Diego Aqueduct (previously prepared/required to be prepared for another project, see Department of the Army 2012). A qualified architectural historian or historic preservation professional who satisfies the Secretary of the Interior's Professional Qualification Standards for Architectural History, pursuant to 36 CFR 61, shall prepare the necessary written and illustrated documentation in a construction monitoring report. This document shall briefly record the history of the First San Diego Aqueduct and the construction methods as well document its present physical condition through site plans; historic maps and photographs; sketch maps; 35mm photography; and written data and text. The completed documentation shall be submitted to the CHRIS-SCIC and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

**CULT-11: Conduct a Phase I Historical Resources Assessment.** The Coalition shall conduct a Phase I Historical Resources Assessment of unevaluated potentially eligible historical resources that may be impacted by the Proposed Project. A Phase I Reconnaissance-Level Survey shall be performed for structures over 45-years in age located in proximity of proposed above-ground project components. A reconnaissance-level field survey for potentially historic buildings, structures, landscapes, and road infrastructure shall be conducted to determine whether the Proposed Alignments and Project Elements would directly or indirectly impact any historic resources. The minimum level of effort for the Phase I assessment shall include historical resources records searches through the South Central Coastal Information Center, the development of historic context for the project area, and a pedestrian survey of the project area. The assessment would include potentially eligible historic resources which were not previously evaluated. The project applicant shall engage a qualified historic preservation consultant who shall assess the significance and integrity of potential historic resources. A qualified architectural historian, historic architect, or historic preservation professional is someone who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years of experience in conducting historic surveys. If an identified property is found ineligible, no further evaluation would be required; however, if eligible historical resources are identified, a project-level impacts analysis shall be conducted for compliance with CEQA. If adverse impacts/effects are identified, the project may be redesigned to avoid or reduce potential impacts/effects to less than significant, in accordance with the Standards, or mitigation measures would be required.

### 8.3 PALEONTOLOGICAL RESOURCES

For components of the Proposed Project that do not require excavation activity, no further analyses, management guidelines, or mitigation measures are warranted since these types of improvements would have no impact to paleontological resources.

For components of the Proposed Project that require excavation activity (e.g., clearing/grubbing, grading, trenching, or boring) into native soil and that have the potential to exhibit native ground surface within or in the immediate vicinity of the excavation footprint, the following management guidelines (CULT-12 and -13) are recommended:

**CULT-12: Conduct Paleontological Sensitivity Training for Construction Personnel.** The Coalition shall retain a qualified paleontologist who shall conduct a Paleontological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session, shall be carried out by a cultural resources professional with expertise in paleontology, and will focus on how to identify paleontological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event. The training session will include a Power Point presentation and/or handouts for all attendees. The basic topics to be addressed in the session include: a brief cultural and geologic history of the area and the Coalition's cultural resource compliance obligations; training in potential resources that may be encountered through the use of photographs or other illustrations; the duties of paleontological monitors; notification and other procedures to follow upon discovery of resources; and, the general steps that would be followed to conduct a salvage investigation if one is necessary.

**CULT-13: Monitor and Report Construction Excavations for Paleontological Resources.** A qualified paleontologist shall be retained to monitor excavation activities in certain areas of the project that would encounter fossiliferous geologic units that have been assigned "moderate", "moderate to high", and "high" potential as detailed in this report. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources or fossiliferous geologic units, the materials being excavated (native versus fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources encountered. Full-time monitoring can be reduced to part-time inspections or ceased entirely if determined adequate by the paleontological monitor.

If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage. At the paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing.

Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are donated to their final repository. Any fossils collected shall be donated to a public, non-profit institution with a research interest in the materials, such

as the San Diego Natural History Museum. Accompanying notes, maps, and photographs shall also be filed at the repository.

Upon completion of the above activities, the paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the lead agency, the San Diego Natural History Museum, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

## 8.4 HUMAN REMAINS

For components of the Proposed Project that do not require excavation activity, no further analyses, management guidelines, or mitigation measures are warranted since these types of improvements would have no impact to human remains.

For components of the Proposed Project that require excavation activity (e.g., clearing/grubbing, grading, trenching, or boring) into native soil and that have the potential to exhibit native ground surface within or in the immediate vicinity of the excavation footprint, the following mitigation measures (CULT-14) are recommended:

**CULT-14: Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered.** If human remains are unearthed during implementation of the Proposed Project, the landowner shall comply with State Health and Safety Code Section 7050.5. The landowner shall immediately notify the County Coroner and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, inspect the site of the discovery of the Native American remains and may recommend to the landowner means for treating or disposing, with appropriate dignity, the human remains and any associated funerary objects. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and cultural items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment. MLDs in the region typically recommend reburial of the remains as close to the original burial location as feasible accompanied by a ceremony. The MLD shall file a record of the reburial with the NAHC and the project archaeologist shall file a record of the reburial with the CHRIS-SCIC.

If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

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## **APPENDIX A – Personnel Qualifications**

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## Education

- M.A., Anthropology (Archaeology Option), California State University Los Angeles, In Progress
- B.A., Anthropology, (Physical/Biological Emphasis), University of California, Santa Barbara, 2004

## Registrations/Certifications

- Riverside County Registered Archaeologist #202
- 40-Hour HAZWOPER Training – Update, 2013

## Continuing Education

- NAGPRA Notices: Types, Process, and Content, National NAGPRA Program, National Park Service, U.S. Department of the Interior (Webinar), 2012
- Cultural Resources Orientation & Pro-Seminar, County of Riverside, 2011
- Introduction to Professional Practice under Section 106 of the National Historic Preservation Act (NHPA), 2009
- Cultural Resources Protection Under CEQA and Other Legislative Mandates, UCLA Extension, 2008
- Riverside County Archaeology and Cultural Sensitivity Training Program, 2007
- The Art and Science of Flintknapping, California State University, San Bernardino, College of Extended Learning, 2007

## Professional Affiliations

- Society for American Archaeology
- Society for California Archaeology
- Pacific Coast Archaeological Society

## Summary

Kyle Garcia has over 10 years of professional experience in the archaeology and prehistory of California. Mr. Garcia is knowledgeable about archaeological resources in coastal, interior, and island settings. He specializes in faunal analysis and has worked in faunal laboratories at UCSB and the Santa Barbara Museum of Natural History.

Mr. Garcia has evaluated historic and prehistoric archaeological resources for listing in the National Register of Historic Places and the California Register of

Historical Resources, conducted agency and Native American consultation, conducted and supervised all aspects of archaeological fieldwork (pedestrian surveys, testing and evaluation excavations, and construction monitoring) and laboratory processing (sorting, identification, cataloging, and analysis), conducted numerous record searches at the regional Information Centers across the State, and authored or co-authored more than 330 technical reports and sections in support of various levels of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents.

## Experience

Mr. Garcia has contributed his services and archaeological expertise to projects subject to requirements of CEQA, Section 106 of the NHPA, NEPA, and other federal, State, and local regulations. These projects included energy, infrastructure, utility, residential, commercial, mixed-use, schools, parks, trail systems, and urban redevelopment serving a variety of public and private sector clients throughout California and Arizona. Mr. Garcia has conducted archaeological work in Los Angeles (including Santa Catalina Island), San Bernardino, Orange, Riverside, San Diego, Kern, Santa Barbara, Monterey, Mono, Inyo, and San Joaquin counties. In addition to his archaeological work, Mr. Garcia has been cross-trained in paleontological mitigation monitoring and assisted in the excavations of a Miocene whale fossil near Irvine, California.

*General Project Experience:* Mr. Garcia has extensive experience in dealing with projects with a large number of archaeological resources. His large-scale surveys include a pedestrian survey and site recordation of more than 200 historic and prehistoric archaeological resources as part of a Class III Inventory on an approximately 11,000-acre portion of the La Osa Ranch Project site in Pinal County, Arizona; and he directed the 1,400-acre field survey and the successful site recordation of over 150 prehistoric and historic archaeological resources per the Section 106 Process for a confidential project in Riverside County. He also served as Deputy Project Manager for the approximately 240-acre Archaeological Treatment & Restoration Plan for The Cove project that was subject to Section 106, where he performed the field survey, Native American consultation, prepared the final report, and supervised the thorough recordation and documentation of over 350 significant artifacts which included artifact photography and illustrations.

*Energy Projects:* He is well-versed in the potential effects of energy production projects on California Archaeology through his service as an on-call consultant to Southern California Edison (SCE) where he has served as the Project Director and Manager for over 100 SCE projects and managed SCE purchase order contracts in excess of \$1.5M. These projects were subject to requirements of CEQA, Section 106 of the NHPA, and other local ordinances. These projects included deteriorated pole replacements, conduit and vault installations, distribution circuit installations, and emergency on-call archaeological survey and monitoring services for SCE property during southern California wildfires. Mr. Garcia not only managed the budgets and supervised the work but he also conducted most of the record searches, surveys, report writing, site recordation, and client/agency coordination for these projects. These projects also entailed rapid response services including close-interval surveys, construction monitoring, and sensitivity assessments for SCE property in areas damaged by the wildfires.

*Peer Reviews:* Mr. Garcia is often sought after to conduct Peer Review services of controversial projects across southern California. These reviews include environmental documentation for the Needles Highway Safety Realignment Project for the County of San Bernardino Department of Public Works and various infrastructure projects for Caltrans/San Bernardino Associated Governments.





## Education

- M.A. (ABT), Anthropology, California State University, Fullerton, 2008
- B.A., Anthropology, California State University, Fullerton, 2005

## Continuing Education

- Workshop: The Art and Science of Flintknapping, California Desert Studies Center, 2013
- 40-Hour HAZWOPER Training – Update, 2012
- Successful CEQA, Compliance-Southern California Edison, Environmental Training, 2011
- Cultural Resources Protection under CEQA and Other Legislative Mandates, UCLA Extension, 2010
- Public Archaeology Course, California State University Fullerton, 2005

## Professional Affiliations

- Society for California Archaeology

## Summary

Fatima Clark has eight years of hands-on experience. Her field experience is complimented by the courses she has taken and participation in many archaeological excavations in California, Arizona and Peru. In addition to her archaeology background, Ms. Clark has been cross trained in Paleontology and conducted surveys, monitoring and co-authored and managed associated reports.

Ms. Clark has conducted field surveys, Phase II testing, site recordation, records searches, monitoring, and writing California Environmental Quality Act (CEQA) document sections and Phase I CEQA-level reports for a wide variety of projects including energy, water, and road infrastructure projects, as well as residential and mixed-use developments. Having recently worked at Southern California Edison (SCE) as a contingent employee, Ms. Clark has become seasoned in Deteriorated Pole, General Order 131D and Capital projects.

## Experience

**Archaeology:** Ms. Clark has performed pedestrian surveys and written Phase I reports for diverse project types, each pursuant to applicable State and federal regulations (e.g., CEQA and National

Environmental Policy Act [NEPA]). Her infrastructure projects include the Badlands Landfill stockpile project for Riverside County, the Palos Verdes pipeline project and Crenshaw Reservoir project for the California Water Service Company, the City of San Clemente Recycled Water project, and the Cascade Solar project in San Bernardino County. She also served as the Project Manager for the I-10/Pepper Avenue project which includes a bridge expansion along Pepper Avenue in Colton. The project involves the preparation of an Archaeological Survey Report in accordance with Caltrans guidelines.

Bridging the gap of public and private project work is her leadership of the La Costa Chevron Project in Encinitas, which addressed Chevron-created erosion onto a Caltrans right-of-way. Due to the project site's location within a recognized archaeological site Caltrans required an Extended Phase I excavation (XPHI). Managing PCR's role as a subcontractor to a larger engineering firm she has coordinated with the prime consultant as well as the Native American groups in the area and served as the primary author of the XPHI. Ms. Clark's general real estate experience includes the 2nd+PCH Mixed-Use project in Long Beach, the Isla Verde Residential Project in Moreno Valley, the Frontier Chino project, and the 220-acre Aidlin Property project in the Stevenson Ranch community of the Santa Clarita Valley.

Ms. Clark has also participated on a Phase II site investigation for the Cascade Solar Project in the high desert, located in the 29 Palms area where she excavated several Shovel Test Probes within a newly recorded archaeological site. As part of the Phase II field investigation, Ms. Clark has also conducted lab analysis of lithic materials recovered at the archaeological site. She has also written peer reviews for Archaeological Survey Reports for San Bernardino Associated Governments (SANBAG) transportation projects, preparing Native American letters (Senate Bill 18), and performing records searches at several Southern California Information Centers. Ms. Clark also performed the Phase II Testing for the Mill Creek testing at site Ca-SBR-2845 in Chino.

In addition to stand-alone assessments, Ms. Clark has prepared CEQA Document sections and archaeological monitoring. Her CEQA work includes the Initial Study sections for the Anaheim 3-Lot Henning Way residential Subdivision, the Burbank Reservoir No. 1 Replacement project, and the Century Woods project in Los Angeles. Her monitoring experience includes a number of projects for the City of San Juan Capistrano, Burbank Water & Power, as well as work at the Orange County Great Park (on the former El Toro MCAS), with the city of Mission Viejo, for the Cascade Solar Project, the Willow Heights project in Diamond Bar, and various Lennar Homes and John Laing Homes Housing development projects.

**Southern California Edison:** Ms. Clark worked at SCE as a full-time in-house consulting archaeologist. Ms. Clark was in charge of managing work sent to outside consultants for surveys and preparation of archaeological reports and coordinating with consultants and SCE staff. Ms. Clark also conducted over 100 archaeological reviews – conducting records searches, field surveys, project coordination, report writing – for projects subject to the rules and regulations of the California Public Utilities Commission (CPUC) and therefore follows CEQA mandated requirements. Among the larger projects in which Ms. Clark was involved with was the Valley South Subtransmission Project (VSSP). The VSSP had three alternative routes with a total of approximately 25 miles in length. The VSSP was conducted for the purpose of developing a Proponent's Environmental Assessment (PEA) for the CPUC's review. Ms. Clark had the role of Project Manager for the VSSP and her duties consisted of records searches, creating a Scope of Work, reviewing PEA bidders' proposals, assessing/developing study corridors, developing suitable access roads to avoid/minimize impact to archaeological sites, and project coordination with SCE team members for the entire project and outside consulting archaeologists.

**Paleontology:** Ms. Clark has performed a number of paleontological surveys and monitoring projects, and co-authored the associated reports. Projects include the 7.5-acre Highgrove community library site in Riverside County; the proposed San Clemente Recycled Water Project study areas associated with the installation, transmission, distribution of pipelines, and expansion of facilities at water treatment plants; and the 2nd + PCH mixed-use project in Long Beach.



## Education

- Ph.D., Art History, University of California, Los Angeles, 2005
- M.A., Architectural History, School of Architecture, University of Virginia, Charlottesville, 1991
- Certificate of Historic Preservation, School of Architecture, University of Virginia, Charlottesville, 1991
- B.A., Art History, Oberlin College, Oberlin, Ohio, 1983

## Professional Affiliations

- Santa Monica Conservancy
- Los Angeles Conservancy
- California Preservation Foundation
- Society of Architectural Historians
- National Trust for Historic Preservation Leadership Forum
- American Institute of Architects (AIA), National Allied Member
- American Architectural Foundation
- Association for Preservation Technology

## Summary

Dr. Wuellner has an extensive background in historic preservation, architectural history, art history and decorative arts, and historical archaeology. Her qualifications and experience meet and exceed the Secretary of the Interior's Professional Qualification Standards in History, Archaeology, and Architectural History. She has 25 years in professional practice in the United States and 15 years of academic experience in American, European and Latin American architecture. She has managed and conducted a wide range of technical studies in support of environmental compliance projects, developed preservation and conservation plans, and implemented preservation treatment projects for public agencies and private clients in California and throughout the United States. Prior to coming to PCR, she was Senior Architectural Historian in EDAA's Los Angeles office (2004-2006); Senior Architectural Historian, Parsons Engineering Science (1995-2004); Architectural Historian, John

Milner Associates, Inc., (1991-1995); and Architectural Historian, Land and Community Associates, Charlottesville, Virginia, (1988-1991).

Dr. Wuellner is a specialist in Visual Art and Culture, 19<sup>th</sup>-20<sup>th</sup> Century American Architecture, Modern and Contemporary Architecture, Architectural Theory and Criticism, Urbanism and Cultural Landscape. Her academic work has been recognized and supported by numerous scholarships and fellowships including the Samuel H. Kress Foundation Fellowship in Art History; American Council of Learned Societies Fellowship in East European Studies; Edward A. Dickson Graduate Fellowship in Art History, UCLA; and the Thomas Jefferson, Dupont and Governor's State Graduate Fellowships in Architectural History, School of Architecture, University of Virginia. Her accomplishment in historic preservation has been recognized by a 2012 Preservation Design Award from the California Preservation Foundation under the category of Cultural Resources Studies and Reports for the RMS *Queen Mary Conservation Management Plan, Long Beach, California*.

## Experience

Rehabilitation/adaptive-reuse, planning and redevelopment projects are of particular interest to Dr. Wuellner. She provides expert assistance to public agencies and private clients in environmental review, from due diligence through planning/design review and permitting; and when necessary, she implements mitigation and preservation treatment measures on behalf of her clients. She is a highly experienced manager with broad national experience throughout the United States in California, Washington, D.C., Virginia, Maryland, Pennsylvania, West Virginia, New York, South Carolina, Georgia, Florida, Texas, Michigan, Ohio, Iowa, Utah, Washington, and Canada. As primary investigator and author of hundreds of technical reports, plan review documents, preservation and conservation plans, HABS/HAER/HALS reports, construction monitoring reports, salvage reports and relocation plans, she is a highly experienced practitioner and expert in addressing historical resources issues while supporting and balancing project goals.

She specializes in the evaluation, management and treatment of historic properties for compliance with Sections 106 and 110 of the National Historic Preservation Act (NHPA), the National Environmental Protection Act (NEPA), Section 4(f) of the Department of Transportation Act, the California Environmental Quality Act (CEQA), and local ordinances and planning requirements. She is highly experienced in the assessment of projects for conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, and assists clients with adaptive reuse/rehabilitation projects by providing preservation design and treatment consultation, agency coordination, legally defensible documentation, construction monitoring and conservation treatment.

Dr. Wuellner has over 17 years of project experience in historical resources management and preservation in California and is a regional expert on Southern California architecture. She has prepared a broad range of environmental documentation and conducted preservation projects throughout the Los Angeles metropolitan area as well as in Ventura, Orange, Riverside, San Bernardino and San Diego counties. She currently manages PCR's on-call preservation services contracts with the City of Santa Monica (2002-present), County of San Bernardino Department of Public Works, City of Hermosa Beach, Los Angeles Unified School District and Long Beach Unified School District; and previously managed PCR's preservation consulting services under master agreements with the Los Angeles Redevelopment Agency, City of Long Beach, City of Anaheim, and private developers.



## Education

- M.S., Historic Preservation (Emphasis: Conservation Science), Columbia University, New York, New York, 2008
- B.S., Design, (Emphasis: Interior Architecture), University of California, Davis, 2002
- B.A., Art History, University of California, Davis, 2002

## Professional Experience

- Intern, Historic Resources Group, Los Angeles California, Summer 2007

## Awards

- Joel Polsky Academic Achievement Award, American Society of Interior Designers, 2008

## Professional Affiliations

- California Preservation Foundation
- Los Angeles Conservancy
- Santa Monica Conservancy
- Association of Preservation Technology Western Chapter

## Training

- CEQA and Historic Resources: Thresholds, Mitigation & Case Studies, California Preservation Foundation Workshop, March 2011

## Summary

Ms. Kainer has over eight years of professional and academic experience in the practice of historic preservation and architectural history in New York and California. Her undergraduate work in Art History and Interior Architecture at UC Davis led to a master's degree in Historic Preservation (emphasis Conservation Science) from Columbia University. At Columbia, Ms. Kainer studied under esteemed conservation science professors Dr. George Wheeler, Norman Weiss, and Dr. Theodore Prudon (thesis advisor). During graduate school, she interned at the Historic Resources Group under Peyton Hall, managing principal, working on character-defining features tables for All Saints Church and Polytechnic Elementary School. She has training and substantial experience in the evaluation and conservation of art and architecture and passion for interior design.

## Experience

Ms. Kainer has conducted extensive archival research, field observation, recordation, and prepared survey documentation for numerous PCR historic resources projects. She has served as project architectural historian and conducted survey work, provided archival, historical, architectural and property research, and assisted in database management. She completed and co-authored a wide range of architectural investigations such as historic resources assessment and impacts analysis reports for compliance with CEQA, character-defining features reports, plan reviews, investment tax credit applications, Section 106 significance evaluations, and HABS documentations for PCR projects in the Los Angeles metropolitan area. She has also conducted extensive research and survey work and prepared numerous landmark and preliminary assessment reports for the City of Santa Monica. Recent projects included California Register nomination for the UCLA Faculty Center, historic resources assessments for eleven single-family residential properties in Beverly Hills, a historic resources assessment for late nineteenth century ranch associated with California's early mining history, a Section 106 report for the Santa Monica Pier, and a CEQA Impacts Analysis and Evaluation Report for a pipeline in Escondido.

*Survey Experience:* She was a contributing author for three major Community Redevelopment Agency of the City of Los Angeles (CRA/LA) – Adelante Eastside, Wilshire Center/Koreatown, and Normandie 5 Redevelopment Areas. Ms. Kainer also served as PCR Survey Team Leader and co-author for the comprehensive survey of over 4,000 objects of fine and decorative arts aboard the RMS Queen Mary in Long Beach. Additionally, Ms. Kainer helped complete the district-wide survey and evaluation of the Long Beach Unified School District and a windshield survey of Hermosa Beach for the Historic Resources Chapter of the Hermosa Beach General Plan Update.

*Historic Resources Assessments:* Ms. Kainer has contributed to the research, site inspections, and report preparation of a number of historic resources assessments in the Los Angeles metropolitan area for compliance with CEQA. Ms. Kainer has evaluated a number of different types of potential historical resources, including single-family and multi-family residences, banks, commercial buildings, schools, hotels, and cultural landscapes.



## Education

- M.A., Architectural History (Major: American Architecture) University of Virginia, Charlottesville, 2014
- Certificate in Historic Preservation, University of Virginia, Charlottesville, 2014
- B.A., St. John's College, Annapolis, Maryland, 2011

## Awards

- The Peter R. Kutscha Endowed Memorial Scholarship in Historic Preservation, University of Virginia, 2013
- Architectural History Faculty Book Award, University of Virginia, 2014

## Professional Affiliations

- Thomas Jefferson Society of Architectural Historians

## Summary

Virginia Harness has two years of academic experience in the practice of historic preservation and architectural history in Virginia. Additionally, her professional background includes a year of professional experience in archival work and a summer of training in archaeology. She has also worked in the field of public history, conducting oral history interviews and creating a museum exhibit.

She earned her M.A. in Architectural History and Certificate in Historic Preservation from the University of Virginia (UVA) where she studied under architectural historian Dr. Richard Guy Wilson (thesis advisor) and preservationist Dr. Daniel Bluestone. Her wide range of work across preservation and history fields brings a depth of experience to her current work in historic resources.

## Experience

Ms. Harness has extensive experience in archival research, first as an archivist with the Brethren Historical Library and Archives and during her time as a student at UVA. While at UVA she worked on the Historic American Building Survey (HABS) recordation of Little Mountain Farm in Albemarle County and was a contributing author of the National Register Nomination for a corridor in Dillwyn, Virginia to assess its eligibility for listing as a historic district on the National Register of Historic Places.

As a public history intern with Historic Vienna, Inc. in northern Virginia she designed and created a small scale museum exhibit which included traditional board mounted displays and a touch-screen interface.

Since commencing work at PCR she has worked on historic resources assessment and impacts analysis reports, character-defining features reports, plan reviews, and HABS documentation for projects in the greater Los Angeles metropolitan area. Recent projects include HABS documentation for a late 19<sup>th</sup> century residence in Laguna Beach, a historic resource assessment and impacts analysis report for a new construction project in the Old Pasadena historic district, and research for an impact report for a pipeline in San Diego County.



## **APPENDIX B – List of Historical Resource Properties Within a Quarter-Mile of Proposed Alignments**

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Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

Id	ADDRESS	CITY	ZIP	UTM_EAST	UTM_NORTH	STPL_X	STPL_Y	NR_STATUS	HISTRC_NM	COMMN_NM	PROP_	PROJ_REF	PNUMBER	CNSTR_DATE	RESRCE_ATT	ARCHT_STYL	THEME_SIG	PERIOD_SIG	FLE_LAUNCH	APN	APE_MAP	PRMT_ACT	CENSUS	MAP_NAME	PAGE	GRID
1	100 VALLEY BLVD	ESCN	92025	492940	3664900	0	0	3D		CITY HALL	42366	2025-0931-0000		1938	HP14	SPANISH ADOBE	ARCHIT,GOVT			229-450-05			202	SD	1129	J2
2	100 VALLEY BLVD	ESCN	92025	492940	3664940	0	0	3	OLD FIRE STATION	CONFERENCE ROOM	42370	2025-0935-0000		1940		SPANISH ADOBE	ARCHIT,GOVT			229-450-05			202	SD	1129	J2
3	114 E CLARK ST	ESCN	92025	492370	3665010	0	0	4D			41958	2025-0523-0000	P-37-018734	1925	HP02	CLAPBOARD COTTAGE	ARCHIT			229-304-27			203	SD	1129	J2
4	120 W WASHINGTON AV	ESCN	92025	492180	3665200	0	1990620	5		RUBE NELSON'S OFFICE	42387	2025-0952-0000		1920	HP06	CALIFORNIA BUNGALOW	ARCHIT						203	SD	1129	G3
5	137 W VALLEY PKWY	ESCN	92025	492340	3664620	0	1989143	6		B & M	42373	2025-0938-0000		1940	HP06		ARCHIT			229-421-05			203	SD	1129	J3
6	140 W WASHINGTON AV	ESCN	92025	0	0	0	0				42388	2025-0953-0000											203	SD	1129	G3
7	142 W VALLEY PKWY	ESCN	92025	492360	3664680	0	1989143	4		GEORGINA'S DANCE STUDIO	42374	2025-0939-0000		1930	HP06	COMMERCIAL VERNACULAR	ARCHIT			229-381-13			203	SD	1129	J3
8	144 W WASHINGTON AV	ESCN	92025	492110	3665190	0	1990620	5			42389	2025-0954-0000		1930	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-180-21			203	SD	1129	G3
9	151 N VALLEY BLVD	ESCN	92025	492900	3664920	0	1990079	4			42371	2025-0936-0000		1918	HP03	SPANISH	ARCHIT			229-442-02			203	SD	1129	J2
10	151 W WASHINGTON AV	ESCN	92025	492205	3665170	0	1990620	5			42390	2025-0955-0000		1930	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-291-07			203	SD	1129	G3
11	155 N VALLEY BLVD	ESCN	92025	492900	3664940	0	1990079	4			42372	2025-0937-0000		1918	HP02	SPANISH	ARCHIT			229-442-02			203	SD	1129	J2
12	157 E VALLEY PKWY	ESCN	92025	0	0	0	0				67201	HUD900312A											203	SD	1129	J2
13	157 W WASHINGTON AV	ESCN	92025	492155	3665140	0	1990620	5		WASHINGTON HEALTH SPA	42391	2025-0956-0000		1930		CALIFORNIA BUNGALOW	ARCHIT			229-291-06			203	SD	1129	G3
14	201 W WASHINGTON AV	ESCN	92025	492075	3665120	0	1990620	5			42392	2025-0957-0000		1930	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-281-12			203	SD	1129	H2
15	202 E PENNSYLVANIA AV	ESCN	92025	492510	3664890	0	0	4D			42304	2025-0869-0000		1915	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-362-01			203	SD	1129	J2
16	204 E CLARK ST	ESCN	92025	492450	3665030	0	0	4D			41959	2025-0524-0000	P-37-018735	1915	HP02	CALIFORNIA BUNGALOW				229-301-09			203	SD	1129	J2
17	219 N KALMIA ST	ESCN	92025	492555	3664700	0	0	6	BLACKSMITH AND WHEELWRIGHT ; TOM BANDY AND SON	TOM BANDY & SON	42210	2025-0775-0000		1947	HP06	INDUSTRIAL BUILDING	ECON/INDUST, ARCHIT			229-382-09			203	SD	1129	J2
18	221 E CLARK ST	ESCN	92025	492530	3665030	0	0	4D			41960	2025-0525-0000	P-37-018736	1930	HP02	CLAPBOARD COTTAGE	ARCHIT			229-302-16			203	SD	1129	J2
19	237 E VALLEY PKWY	ESCN	92025	492675	3664800	0	1989621	5		A & P AUTO PARTS	42377	2025-0942-0000		1938	HP06	COMMERCIAL SPANISH	ARCHIT			229-431-07			203	SD	1129	J2
20	300 N BROADWAY	ESCN	92025	0	0	0	1989740	3	SITE OF LIME ST SCHOOL	GRAPE DAY PARK	41911	2025-0476-0000	P-37-018687		HP31	PARKLAND	EXPL/STTLMNT , SOC/ED						203	SD	1129	J2
21	302 E WASHINGTON AV	ESCN	92025	492460	3665260	0	1991180	4D			42401	2025-0966-0000		1935	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-220-08			203	SD	1129	J2
22	310 E WASHINGTON AV	ESCN	92025	492490	3665380	0	1991180	4			42402	2025-0967-0000		1890	HP02	VICTORIAN/LA TER CRAFTSMAN ADDITIONS	ARCHIT			229-220-09			203	SD	1129	J2
23	315 E WASHINGTON AV	ESCN	92025	492620	3665280	0	1991180	4D			42403	2025-0968-0000		1915	J[02	CALIFORNIA BUNGALOW	ARCHIT			229-310-67			203	SD	1129	J2
24	318 N WAVERLY PL	ESCN	92025	492510	3664940	0	0	4			42413	2025-0978-0000		1916	HP02	CRAFTSMAN BUNGALOW	ARCHIT			229-302-06			203	SD	1129	J2

Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

Id	ADDRESS	CITY	ZIP	UTM_EAST	UTM_NORTH	STPL_X	STPL_Y	NR_STATUS	HISTRC_NM	COMMN_NM	PROP_	PROJ_REF	PNUMBER	CNSTR_DATE	RESRCE_ATT	ARCHT_STYL	THEME_SIG	PERIOD_SIG	FLE_LAUNCH	APN	APE_MAP	PRMT_ACT	CENSUS	MAP_NAME	PAGE	GRID
25	319 E VALLEY PKWY	ESCN	92025	0	0	0	1989865	4		AMERITONE COLOR REY PAINT	42378	2025-0943- 0000		1930	HP08	COMMERCIAL SPANISH	ARCHIT			229-432- 06			203	SD	1129	J2
26	321 N BROADWAY	ESCN	92025	492280	3664990	0	1989983	3	ESCONDIDO LIBRARY	ESCONDIDO HISTORICAL SOCIETY MUSEUM	41912	2025-0477- 0000	P-37-018688	1894	HP39	VICTORIAN	ARCHIT EX/STL SOC/ED			229-352- 08			203	SD	1129	J2
27	321 N BROADWAY	ESCN	92025	492280	3664230	0	1989983	3	POMEROY- HOFFMANN HOUSE	HOFFMANN HOUSE	41913	2025-0478- 0000	P-37-018689	1890	HP39	VICTORIAN EASTLAKE	ARCHIT			229-352- 08			203	SD	1129	J2
28	321 N BROADWAY	ESCN	92025	492250	3664820	0	1989983	3D	PENNER BARN	BARN	41914	2025-0479- 0000	P-37-018690	1901	HP39	CALIFORNIA BARN	ARCHIT, EXPL/STTLMNT			229-352- 08			203	SD	1129	J2
29	321 N BROADWAY	ESCN	92025	492350	3664810	0	1989983	4	BAND SHELL	CIVIC STAGE	41915	2025-0480- 0000	P-37-018691	1935-6	HP12	SPANISH MISSION	ARCHIT			229-352- 08			203	SD	1129	J2
30	321 N BROADWAY	ESCN	92025	492330	3664800	0	1989983	4		RESTROOMS	41916	2025-0481- 0000	P-37-018692	1935-6	HP39	MASSIVE SPANISH	ARCHIT			229-352- 08			203	SD	1129	J2
31	321 N BROADWAY	ESCN	92025	0	0	0	0	3			41912	37-0038	P-37-018688	1894	HP39	VICTORIAN	ARCHIT EX/STL SOC/ED			229-352- 08			203	SD	1129	J2
32	321 N CEDAR ST	ESCN	92025	493580	3665360	0	1991374	4D			41950	2025-0515- 0000	P-37-018726	1940	HP02	SHIPLAP COTTAGE			230-112- 08			202	SD	1130	A2	
33	328 N WAVERLY PL	ESCN	92025	492480	3664960	0	0	4			42414	2025-0979- 0000		1916	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-302- 07			203	SD	1129	J2
34	338 N BROADWAY	ESCN	92025	492385	3664960	0	1989983	5			41917	2025-0482- 0000	P-37-018693	1935	HP06	HOLLOW CORE BRICK BUILDING	ARCHIT			229-303- 08			203	SD	1129	J2
35	340 N WAVERLY PL	ESCN	92025	0	0	0	0	4			42415	2025-0980- 0000		1915	HP02	BOARD & BATTEN COTTAGE	ARCHIT			229-302- 08			203	SD	1129	J2
36	350 N JUNIPER ST	ESCN	92025	492590	3665060	0	1990357	4D			42167	2025-0732- 0000		1920	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-310- 12			203	SD	1129	J2
37	350 N WAVERLY PL	ESCN	92025	492465	3664990	0	0	4			42416	2025-0981- 0000		1916	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-302- 10			203	SD	1129	J2
38	350 N WAVERLY PL	ESCN	92025	492510	3664970	0	1990181	4D			42417	2025-0982- 0000		1908	HP02	CLAPBOARD COTTAGE	ARCHIT			229-302- 10			203	SD	1129	J2
39	354 N WAVERLY PL	ESCN	92025	492470	3665005	0	0	4			42418	2025-0983- 0000		1916	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-302- 11			203	SD	1129	J2
40	355 N JUNIPER ST	ESCN	92025	492540	3665040	0	1990357	4D			42168	2025-0733- 0000		1915	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-302- 01			203	SD	1129	J2
41	366 E PENNSYLVANIA AV	ESCN	92025	492720	3665040	0	0	5		BUNGALOW STRIP	42305	2025-0870- 0000		1930	HP02	BUNGALOW STRIP			229-310- 22			203	SD	1129	J2	
42	401 N WAVERLY PL	ESCN	92025	492410	3665030	0	0	4			42419	2025-0984- 0000		1916	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-304- 09			203	SD	1129	J2
43	405 N JUNIPER ST	ESCN	92025	492520	3665060	0	1990776	4			42169	2025-0734- 0000		1910	HP02	CRAFTSMAN HOUSE	ARCHIT			229-301- 06			203	SD	1129	J2
44	409 N JUNIPER ST	ESCN	92025	492520	3665080	0	1990776				42170	2025-0735- 0000		1915	HP02	BOARD AND BATTEN COTTAGE	ARCHIT			229-301- 05			203	SD	1129	J2
45	410 E PENNSYLVANIA AV	ESCN	92025	492740	345050	0	0	4D			42306	2025-0871- 0000		1930	HP02	BUNGALOW	ARCHIT			229-310- 23			203	SD	1129	J2
46	410 E WASHINGTON AV	ESCN	92025	492650	3665340	0	1991315	4D			42404	2025-0969- 0000		1935	HP02					229-241- 15			203	SD	1129	J2
47	411 N JUNIPER ST	ESCN	92025	492490	3665120	0	1990776	4D			42171	2025-0736- 0000		1920	HP02	CLAPBOARD COTTAGE	ARCHIT			229-301- 04			203	SD	1129	J2
48	412 N HICKORY ST	ESCN	92025	492880	3665200	0	0	4D			42140	2025-0705- 0000		1920	HP02	WORKERS COTTAGE	ARCHIT			230-101- 11			203	SD	1129	J2
49	418 E PENNSYLVANIA AV	ESCN	92025	492760	3665040	0	0	4D			42310	2025-0875- 0000		1920	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-310- 24			203	SD	1129	J2

Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

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50	421 N JUNIPER ST	ESCN	92025	492490	3665125	0	1990776	4D			42172	2025-0737-0000		1940	HP02	CLAPBOARD COTTAGE	ARCHIT			229-301-03			203	SD	1129	J2
51	426 E PENNSYLVANIA AV	ESCN	92025	492770	3665060	0	0	4			42307	2025-0872-0000		1910	HP02	COTTAGE	ARCHIT			229-310-25			203	SD	1129	J2
52	427 N BEECH ST	ESCN	92025	937700	3665420	0	0	4D			41909	2025-0474-0000	P-37-018685	1935	HP02	LATE CALIFORNIA BUNGALOW				230-132-22			202	SD	1130	A1
53	430 N ROSE ST	ESCN	92027	0	0	0	0			HUMAN SERVICES CENTER	65379	HUD870831C											203	SD	1130	B1
54	433 E VALLEY PKWY	ESCN	92025	492880	3664945	0	1990062	5		TAX & MIRIJANI ALTERATIONS	42379	2025-0944-0000		1918-1927		SPANISH - ALTERED	ARCHIT			229-442-02			203	SD	1129	J2
55	436 E PENNSYLVANIA AV	ESCN	92025	492790	3665070	0	0	4D			42308	2025-0873-0000		1930	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-310-26			203	SD	1129	J2
56	451 E VALLEY PKWY	ESCN	92025	492920	3664970	0	1990253	4		SAN DIEGO MOTORCAR	42380	2025-0945-0000		1930	HP06		ARCHIT			229-442-01			203	SD	1129	J2
57	466 E PENNSYLVANIA AV	ESCN	92025	492860	3665110	0	0	4D			42309	2025-0874-0000		1930'S	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-310-30			203	SD	1129	J2
58	503 N FIG ST	ESCN	92025	492920	3665375	0	1991326	5			42027	2025-0592-0000		1910	HP02	CALIFORNIA BUNGALOW	ARCHIT			230-102-15			203	SD	1129	J1
59	503 N FIG ST	ESCN	92025	493070	3665400	0	1991326	4D			42028	2025-0593-0000		1915	HP02	CALIFORNIA BUNGALOW	ARCHIT			230-102-15			203	SD	1129	J1
60	505 N FIG ST	ESCN	92025	493060	3665400	0	1991326	4D			42029	2025-0594-0000		1930	HP02	CRAFTSMAN - ALTERED	ARCHIT			230-102-20			203	SD	1130	A2
61	540 E WASHINGTON AV	ESCN	92025	492840	3665400	0	1991523	6			42405	2025-0970-0000		1940	HP02	STUCCO COTTAGE	ARCHIT			229-260-15			203	SD	1129	J2
62	543 E GRAND AV	ESCN	92025	493115	3664870	0	1989880	3	JOHNSTON HOUSE	EHMKE HOUSE	42120	2025-0685-0000		1906	HP02	CRAFTSMAN	ARCHIT, EXPL/STTLMNT			229-491-04			207	SD	1130	A2
63	550 N BROADWAY	ESCN	92025	492320	3665155	0	1991038	4		MURRAY BUICK BUILDING	41918	2025-0483-0000	P-37-018694	1935	HP06	STREAMLINED MODERNE				229-304-17			203	SD	1129	J2
64	550 E WASHINGTON AV	ESCN	92025	492830	366545	0	1991523	4D			42406	2025-0971-0000		1925	HP02	WORKER'S COTTAGE				229-260-16			203	SD	1129	J2
65	551 N BROADWAY	ESCN	92025	492255	3665110	0	1991038	5		CONTRACTORS CARPET AND DRAPES	41919	2025-0484-0000	P-37-018695	1930'S	HP06	REGIONAL VERNACULAR	ARCHIT			229-180-43			203	SD	1129	J2
66	559 N HALE AV	ESCN	92025	490630	3664580	0	0	4		TALONE MEAT PACKING COMPANY, INC	42136	2025-0701-0000		1930	HP02	REGIONAL VERNACULAR	ARCHIT, EXPL/STTLMNT			232-061-25			203	SD	1129	G3
67	560 E WASHINGTON AV	ESCN	92025	492870	3665410	0	1991523	4D			42407	2025-0972-0000		1915	HP02	BOARD & BATTEN COTTAGE				229-260-17			203	SD	1129	J2
68	601 N BROADWAY	ESCN	92025	492210	3665230	0	1991271	5	NELSON'S MARKET	RUBE'S FABULOUS COUNTRY CORNER STORE	41920	2025-0485-0000	P-37-018696	1957	HP06					229-180-31			203	SD	1129	J2
69	602 E WASHINGTON AV	ESCN	92025	492920	3665480	0	1991595	4D			42408	2025-0973-0000		1910	HP02	CRAFTSMAN - ALTERED	ARCHIT			229-260-18			203	SD	1130	A1
70	625 N GRAPE ST	ESCN	92025	492750	3665400	0	1992195	5			42037	2025-0602-0000		1930	HP02	CLASSIC REVIVAL BUNGALOW	ARCHIT			229-260-14			203	SD	1129	J2
71	633 N GRAPE ST	ESCN	92025	492750	3665420	0	1992195	5			42038	2025-0603-0000		1890	HP02	QUEEN ANNE COTTAGE - ALTERED	ARCHIT			229-260-13			203	SD	1129	J1



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72	639 N BROADWAY	ESCN	92025	492220	3665260	0	1991271	5		GYM-DANCER LEOTARD SUPPLIES	41922	2025-0487- 0000	P-37-018698	1930	HP06		ARCHIT			229-180- 28			203	SD	1129	J2
73	641 N BROADWAY	ESCN	92025	492215	3665270	0	1991271	5			41921	2025-0486- 0000	P-37-018697	1890	HP02	VICTORIAN FARMHOUSE	ARCHIT			229-180- 28			203	SD	1129	J2
74	642 N JUNIPER ST	ESCN	92025	492430	3665350	0	1991254	4			42173	2025-0738- 0000		1900	HP02	BOARD AND BATTEN COTTAGE	ARCHIT			229-220- 42			203	SD	1129	J2
75	643 N BROADWAY	ESCN	92025	492210	3665290	0	1991271	5			41923	2025-0488- 0000	P-37-018699	1930	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-180- 11			203	SD	1129	J2
76	643 N FIG ST	ESCN	92025	492920	3665640	0	1992194	4			42030	2025-0595- 0000		1903	HP02	COLONIAL REVIVAL - CRAFTSMAN	ARCHIT			229-260- 32			203	SD	1129	J2
77	643 N GRAPE ST	ESCN	92025	492840	3665470	0	1992195	4D			42039	2025-0604- 0000		1900	HP02	SHIPLAP COTTAGE ARCHIT				229-260- 12			203	SD	1129	J1
78	646 METCALF ST	ESCN	92025	490770	3664660	0	1989678	5			42227	2025-0792- 0000		1890	HP02	VICTORIAN	ARCHIT			228-250- 62			203	SD	1129	G2
79	651 N BROADWAY	ESCN	92025	492030	3665330	0	1991363	5		SITE	41924	2025-0489- 0000	P-37-018700	1930	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-180- 10			203	SD	1129	J2
80	660 N JUNIPER ST	ESCN	92025	492400	3665430	0	1991679	4			42174	2025-0739- 0000		1888	HP02	ALTERED GREEK REVIVAL	ARCHIT			229-220- 01			203	SD	1129	J2
81	675 N GRAPE ST	ESCN	92025	492710	3665530	0	1992195	4D			42040	2025-0605- 0000		1925	HP03	CLAPBOARD COTTAGE	ARCHIT			229-260- 05			203	SD	1129	J1
82	683 N GRAPE ST	ESCN	92025	492710	3665500	0	1992195	4D			42041	2025-0606- 0000		1925	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-260- 03			203	SD	1129	J1
83	691 N GRAPE ST	ESCN	92025	492850	3665580	0	1992195	4D			42042	2025-0607- 0000		1935	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-260- 01			203	SD	1129	J1
84	709 PARK PL	ESCN	92025	492455	3665520	0	1992186	5			42295	2025-0860- 0000		1925	HP02	CLAPBOARD COTTAGE				229-210- 11			203	SD	1129	J1
85	713 PARK PL	ESCN	92025	492480	3665570	0	1992186	5			42296	2025-0861- 0000		1925	HP02	CALIFORNIA BUNGALOW				229-210- 36			203	SD	1129	J1
86	716 PARK PL	ESCN	92025	492520	3665520	0	1992186	4D			42297	2025-0862- 0000		1900	HP02	VICTORIAN FARMHOUSE				229-210- 21			203	SD	1129	J1
87	717 PARK PL	ESCN	92025	492475	3665575	0	1992186	5			42298	2025-0863- 0000		1925	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-210- 35			203	SD	1129	J1
88	719 E PENNSYLVANIA AV	ESCN	92025	493250	3665150	0	1990877	4D			42311	2025-0876- 0000		1920	HP02	CALIFORNIA BUNGALOW	ARCHIT			230-161- 06			202	SD	1130	A2
89	727 PARK PL	ESCN	92025	492465	3665545	0	1992186	5			42299	2025-0864- 0000		1940	HP02	COTTAGE	ARCHIT			229-210- 09			203	SD	1129	J1
90	729 N BROADWAY	ESCN	92025	492110	3665450	0	1991454	4			41925	2025-0490- 0000	P-37-018701	1918	HP02	CRAFTSMAN BUNGALOW- ALTERED	ARCHIT			229-180- 08			203	SD	1129	H2
91	739 PARK PL	ESCN	92025	492460	3665610	0	1992186	5			42300	2025-0865- 0000		1925	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-210- 07			203	SD	1129	J1
92	749 PARK PL	ESCN	92025	492475	3666590	0	1992186	5			42301	2025-0866- 0000		1940	HP02	BRICK BUNGALOW	ARCHIT			229-210- 05			203	SD	1129	J1
93	753 PARK PL	ESCN	92025	492420	3665665	0	1992186	5			42302	2025-0867- 0000		1925	HP02	CALIFORNIA BUNGALOW	ARCHIT			229-210- 04			207	SD	1130	C6
94	756 PARK PL	ESCN	92025	492480	3665670	0	1992186	4D			42303	2025-0868- 0000		1925	HP02	CLAPBOARD COTTAGE				229-210- 14			207	SD	1130	C6
95	775 METCALF ST	ESCN	92025	490615	3664900	0	1989678	3D		ICE HOUSE; HILLTOP CLASSICS/DISTI LLERY	42228	2025-0793- 0000		1920	HP02		ARCHIT, ECON/IND			232-070- 32			203	SD	1129	G3
96	829 E OHIO AV	ESCN	92025	493450	3665610	0	0	3D			42277	2025-0842- 0000		1890	HP02	GREEK REVIVAL	ARCHIT			230-181- 04			202	SD	1130	A2

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97	829 E OHIO AV	ESCN	92025	493460	3665090	0	0	4D		GARAGE APARTMENTS	42278	2025-0843-0000		1900	HP02	COTTAGE	ARCHIT			230-181-04			202	SD	1130	A2
98	848 E OHIO AV	ESCN	92025	493440	3666140	0	0	5			42279	2025-0844-0000		1933	HP02	CALIFORNIA BUNGALOW	ARCHIT			230-171-12			202	SD	1130	A2
99	880 STEVENS AV	SOLB	92075	0	0	0	0				120018	DOE-37-95-0039-0000										173	SD	1187	G1	
100	880 STEVENS AV	SOLB	92075	0	0	0	0				120018	HUD950814M										173	SD	1187	G1	
101	960 DEL DIOS Hwy	ESCN	92029	490860	3662950	0	0	4			41965	2025-0530-0000	P-37-018741	1900	HP02	VICTORIAN	ARCHIT			235-090-07			171	SD	1149	D6
102	991 DEL DIOS Hwy	ESCN	92029	490680	3662980	0	0	4D			41964	2025-0529-0000	P-37-018740	1910	HP02	CALIFORNIA BUNGALOW	ARCHIT			235-072-08			171	SD	1149	D6
103	1004 E VALLEY PKWY	ESCN	92025	0	0	0	1991740	4		CHRISTO'S CAFE	42381	2025-0946-0000		1935		RANCH-STYLE BUILDING	ARCHIT			230-132-13			202	SD	1130	A1
104	1006 DEL DIOS Hwy	ESCN	92029	490720	3662945	0	0	4D			41966	2025-0531-0000	P-37-018742	1905	HP02	CALIFORNIA BUNGALOW	ARCHIT			235-090-20			171	SD	1149	D6
105	1007 DEL DIOS Hwy	ESCN	92029	490620	3662960	0	0	4D			41967	2025-0532-0000	P-37-018743	1920	HP02		ARCHIT			235-072-17			171	SD	1149	D6
106	1016 E VALLEY PKWY	ESCN	92025	493580	3665510	0	0	4			42382	2025-0947-0000		1920	HP02	ROCK COTTAGE	ARCHIT			230-132-14			202	SD	1130	A1
107	1018 E PENNSYLVANIA AV	ESCN	92025	493580	3665500	0	1991364	5			42312	2025-0877-0000		1935	HP02	STUCCO COTTAGE	ARCHIT			230-121-09			202	SD	1130	A2
108	1035 E PENNSYLVANIA AV	ESCN	92025	493690	3665320	0	1991364	4D			42313	2025-0878-0000		1925	HP02	SHIPLAP COTTAGE				230-191-05			202	SD	1130	A2
109	1100 W MISSION AV	ESCN	92025	491020	3665160	0	1990198	4	UNION 76 STATION	UNION 76 STATION	42262	2025-0827-0000		1920'S	HP06		ARCHIT			228-220-72			203	SD	1129	F2
110	1101 E PENNSYLVANIA AV	ESCN	92025	493770	3665370	0	1991526	4D			42314	2025-0879-0000		1915	HP02	CALIFORNIA BUNGALOW	ARCHIT			230-192-01			202	SD	1130	A2
111	1101 E PENNSYLVANIA AV	ESCN	92025	493785	3665320	0	1991526	5			42315	2025-0880-0000		1920	HP02	CLAPBOARD COTTAGE	ARCHIT			230-192-01			202	SD	1130	A2
112	1105 W MISSION AV	ESCN	92025	490590	3664960	0	1990198	4		GRANGETTO AGRICULTURE SUPPLY CO.	42263	2025-0828-0000		1930	HP02	INDUSTRIAL	ARCHIT, ECON/INDS			232-070-38			203	SD	1129	F2
113	1110 W MISSION AV	ESCN	92025	490550	3665020	0	1990198	4D			42265	2025-0830-0000		1941	HP02	ADOBE BUNGALOW	ARCHIT			228-220-72			203	SD	1129	F2
114	1110 E PENNSYLVANIA AV	ESCN	92025	493630	3665340	0	1991526	4			42316	2025-0881-0000		1915	HP02	CRAFTSMAN BUNGALOW	ARCHIT			230-122-13			202	SD	1130	A2
115	1112 W MISSION AV	ESCN	92025	490590	3665020	0	1990198	4D			42264	2025-0829-0000		1941	HP02	ADOBE HOUSE	ARCHIT			228-220-72			203	SD	1129	F2
116	1118 S CITRUS AV	ESCN	92027	496670	3665450	0	0	3D			41956	2025-0521-0000	P-37-018732	1900	HP02	VICTORIAN	ARCHIT EXPL/STLMNT			231-220-37			207	SD	1130	E2
117	1120 W MISSION AV	ESCN	92025	491020	3665150	0	1990198	4D		PAT'S PLACE	42267	2025-0832-0000		1920'S	HP02	CALIFORNIA BUNGALOW	ARCHIT			228-220-73			203	SD	1129	F2
118	1155 W MISSION AV	ESCN	92025	490500	3664830	0	1990198	4	ESCONDIDO ORAGNE ASSOC.PACKING PLANT	CAL FAME, PARAMOUNT CITRUS ASSOC.	42266	2025-0831-0000		1934	HP02	INDUSTRIAL	ARCHIT, ECON/IND			232-070-30			203	SD	1129	F2
119	1155 W MISSION AV	ESCN	92025	0	0	0	0			CAL FAME PACKING PLANT	68232	USPS870521A		1934	HP02	INDUSTRIAL	ARCHIT, ECON/IND			232-070-30			203	SD	1129	F2
120	1157 E VALLEY PKWY	ESCN	92025	493800	3665460	0	1991973	4D			42383	2025-0948-0000		1930		LATE CALIFORNIA BUNGALOW	ARCHIT			230-122-05			202	SD	1130	A1
121	1289 E WASHINGTON Av	ESCN	92027	490180	3664760	0	0	3	MUTUAL ORANGE DISTRIBUTORS	MCMAHON DESK OF ESCONDIDO	42409	2025-0974-0000		1930	HP06,HP08	SPANISH COLONIAL	ARCHIT,ECON/IND			232-061-32			203	SD	1130	B1

Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

Id	ADDRESS	CITY	ZIP	UTM_EAST	UTM_NORTH	STPL_X	STPL_Y	NR_STATUS	HISTRC_NM	COMMN_NM	PROP_	PROJ_REF	PNUMBER	CNSTR_DATE	RESRCE_ATT	ARCHT_STYL	THEME_SIG	PERIOD_SIG	FLE_LAUNCH	APN	APE_MAP	PRMT_ACT	CENSUS	MAP_NAME	PAGE	GRID	
122	1555 HALE AV	ESCN	92029	489460	3662590	0	0	4		ENCHANTED OAKS	42137	2025-0702-0000		1890	HP02	VICTORIAN	ARCHIT			235-051-11			203	SD	1129	E5	
123	1561 E VALLEY PKWY	ESCN	92027	490380	3663190	0	0	4D			42376	2025-0941-0000		1925	HP02	CALIFORNIA BUNGALOW	ARCHIT			235-072-41			203	SD	1130	B1	
124	1657 W 11TH AV	ESCN	92029	490240	3663000	0	1982963	4D			41878	2025-0443-0000	P-37-018559	1900	HP02	VICTORIAN FARMHOUSE	ARCHIT			235-081-46			204	SD	1129	G5	
125	2033 E WASHINGTON AV	ESCN	92027	495120	3666800	0	0	4			42410	2025-0975-0000		1900	HP02	VICTORIAN COTTAGE	ARCHIT			231-021-05			202	SD	1110	C7	
126	2124 MUDGE LN	ESCN	92026	490020	3668530	0	2002281	3D			42274	2025-0839-0000		1900	HP02	VICTORIAN FARMHOUSE-ALTERED	ARCHIT			224-230-10			203	SD	1109	F5	
127	2305 CARRIAGE CIR	OCN	92056	0	0	0	0	5S1	LEIF AND GERD HENIE RESIDENCE	TOM AND PAM HENIE RESIDENCE	85638	2054-0036-0000		1943	HP02	RANCH STYLE	RURAL DEV	1900-1950		165-563-52			186	SD	1106	H1	
128	2421 E WASHINGTON AV	ESCN	92027	495690	3667370	0	0	4D			42411	2025-0976-0000		1930	HP02	BUNGALOW	ARCHIT			231-030-23			202	SD	1110	D6	
129	2558 Bear Valley Pkwy	Escondido	92027	0	0	0	0	6Z1			0		37-019294	1952	HP2								207		1130	D2	
130	2564 Bear Valley Pkwy	Escondido	92027	0	0	0	0	6Z1			0		37-019289	1948	HP2									207		1130	D2
131	2568 Bear Valley Pkwy	Escondido	92027	0	0	0	0	6Z1			0		37-019290	1948	HP2									207		1150	C1
132	3850 N RIVER RD	OCN	92054	0	0	0	0	4D2	RANCHO FRANCISCO PICO	WHELAN RANCH	85788	2054-0157-0000		1880	HP03,HP33		ARCHIT	1869-1950		158-010-02,158-101-03&0			186	SD	1066	G7	
133	1284 W 9TH AV	ESCN	92025	490950	3663140	0	0	5			41797	2025-0362-0000	P-37-018479	1930'S	HP02	CALIFORNIA BUNGALOW	ARCHIT			232-250-24			205	SD	1129	G4	
134	2574 Bear Valley Pkwy	Escondido	92025	0	0	0	0	6Z1			0		37-019291	1948	HP2									207		1150	C1
135	16780 LA GRACIA	RANCHO SANTA FE	92067	0	0	0	0	1		LILIAN J. RICE RESIDENCE/MARHTA HILTON RESIDENCE	73032	NPS-91000946-0000		1924	HP02	SPANISH COLONIAL REVIVAL	ARCHIT,COMM UN P & D	1924		26812018			171	SD	1168	D3	
136	16915 AVENIDA DE ACACIAS	RANCHO SANTA FE	92067	0	0	0	0	1		RANCHO SANTA FE LAND IMPROV OFFICES	73036	NPS-91000940-0000		1924	HP06	SPANISH COLONIAL REVIVAL	ARCHIT,COMM UN P & D	1924		26628502			171	SD	1168	D3	
137	5880 SAN ELIJO	RANCHO SANTA FE	92067	480800	3654860	6268390	1956595			TERWILLIGER, CLAUDE & FLORENCE,-	73031	2067-0003-0000		1925	HP02	SPANISH COLONIAL REVIVAL	ARCHIT,COMM UN P & D	1925		26512011			171	SD	1168	D2	
138	600 PARK PL	ESCN	92025	492510	3665480	0	0	4D			42294	2025-0859-0000		1924	HP02	CALIFORNIA BUNGALOW	ARCHIT			22922041			207	SD	1130	C5	
139	6112 PASEO DELICIAS	RANCHO SANTA FE	92067	481120	3653400	6269823	1952562			CLOTFELTER, REGINALD M. & CONSTANCE	73035	2067-0006-0000		1928	HP02	SPANISH COLONIAL REVIVAL	ARCHIT,COMM UN P & D	1928		26627119			171	SD	1168	D3	
140	5951 LINEA DEL CIELO	RANCHO SANTA FE	92067	0	0	0	0			GUEST HOUSE / THE INN; THE HUNTINGTON HOTEL CORPOR	91952	2067-0032-0000												171	SD	1168	D3

Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

Id	ADDRESS	CITY	ZIP	UTM_EAST	UTM_NORTH	STPL_X	STPL_Y	NR_STATUS	HISTRC_NM	COMMN_NM	PROP_	PROJ_REF	PNUMBER	CNSTR_DATE	RESRCE_ATT	ARCHT_STYL	THEME_SIG	PERIOD_SIG	FLE_LAUNCH	APN	APE_MAP	PRMT_ACT	CENSUS	MAP_NAME	PAGE	GRID
141	6033 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			LOUISE BADGER RESIDENCE; RANCHO SANTA FE TEMPORARY	91953	2067-0033-0000											171	SD	1168	D3
142	6118 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			SIDNEY R. AND RUTH NELSON ROWHOUSE/E MMA WORSTELL (	91930	2067-0013-0000											171	SD	1168	D3
143	6122 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			BAKER; PEARL; ROW HOUSE	79267	37-0046											171	SD	1168	D3
144	6126 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			GLENN AND IDA MOORE TOWNHOUSE	91963	2067-0045-0000											171	SD	1168	D3
145	6015 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			SANTA FE LAND IMPROVEMENT COMPANY HEADQUARTER S BUI	91962	2067-0043-0000											171	SD	1168	D3
146	6024 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			ORIGINAL RANCHO SANTA FE SCHOOL HOUSE	91960	2067-0039-0000											171	SD	1168	D3
147	16834 VIA DE SANTA FE	RANCHO SANTA FE	92067	0	0	0	0			CHARLES M. AND SERVETTA M. PADDOCK RESIDENCE/SC HIR	91954	2067-0034-0000											171	SD	1168	D3
148	16811 VIA DE SANTA FE	RANCHO SANTA FE	92067	0	0	0	0		WILLIAMS COTTAGE	A.B. HARLAN HOUSE/LA FLECHA HOUSE	91940	2067-0027-0000											171	SD	1168	D3
149	16723 LA GRACIA	RANCHO SANTA FE	92067	0	0	0	0			MAITLAND AND EDNA BAKEWELL	91931	2067-0014-0000											171	SD	1168	D3
150	17000 LOS MORROS	RANCHO SANTA FE	92067	0	0	0	0			GEORGE AND HARRIETT KEATING RESIDENCE/JOSEPH COBER	91961	2067-0040-0000											171	SD	1168	A3
151	17022 AVENIDA DE ACACIAS	RANCHO SANTA FE	92067	0	0	0	0			RANCHO SANTA FE SCHOOL/RANCHO SANTA FE ASSOC. OFFI	91973	2067-0058-0000											171	SD	1168	D3

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152	17555 AVENIDA DE ACACIAS	RANCHO SANTA FE	92067	0	0	0	0			CARL AND LINA BERTSCHINGER RESIDENCE/O WEN AND ELIZ	91934	2067-0017-0000											171	SD	1168	D2
153	5860 LAGO LINDO	RANCHO SANTA FE	92067	0	0	0	0			HAMMOND AND RENA WHITSITT	91964	2067-0047-0000											171	SD	1168	D2
154	5871 LAGO LINDO	RANCHO SANTA FE	92067	0	0	0	0			W.N. AND EDNA ATTRILL/REYN OT A. & WELMOET ROLAND-H	91929	2067-0012-0000											171	SD	1168	D2
155	6016 LA GRANADA	RANCHO SANTA FE	92067	0	0	0	0			F.W. JOERS BUILDING/MAR GARET O'DRISCOLL	91942	2067-0028-0000											171	SD	1168	D3
156	6036 LA FLECHA	RANCHO SANTA FE	92067	0	0	0	0			LA FLECHA HOUSE	73081	37-0002											171	SD	1168	D3
157	6029 LA FLECHA	RANCHO SANTA FE	92067	0	0	0	0			MAITLAND AND EDNA S. BAKEWELL RESIDENCE/CARL AND M	91932	2067-0015-0000											171	SD	1168	D3
158	6135 LA FLECHA	RANCHO SANTA FE	92067	0	0	0	0			FRANK WILLIAM JOERS RESIDENCE/MICHAEL & BARBARA DE	91943	2067-0029-0000											171	SD	1168	D3
159	6311 EL MONTEVIDEO	RANCHO SANTA FE	92067	0	0	0	0			BARTON AND NATHALIE M. MILLARD RESIDENCE	91951	2067-0031-0000											171	SD	1168	E1
160	6030 EL TORDO	RANCHO SANTA FE	92067	0	0	0	0			RANCHO SANTA FE GARDEN CLUB/COUNTRY FRIENDS; INC.	91955	2067-0035-0000											171	SD	1168	D3
161	0 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			F.W. JOERS TOWNHOUSE	91972	2067-0057-0000											171	SD	1168	D3
162	0 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			HIST&ARCHT RES/RANCHO SANTA FE	73478	37-0022											171	SD	1168	D3
163	0 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0			PLANNED COMMUNITY OF RANCHO SANTA FE	72977	SHL-0982-0000											171	SD	1168	D3
164	0 WASHINGTON AV	ESCN	92025	0	0	0	0				105818	FTA961015A											203	SD	1129	J2
165	2574 Bear Valley Pkwy	Escondido	92025	0	0	0	0	621			0		P-37-019291	1948	HP2								207		1150	C1
166	17232 Via De Fortuna	Rancho Santa Fe	92067	498640	3613200	6324992	1820500	3S	MAX JEWETT RESIDENCE	VALDES RESIDENCE	74411	2002-0002-0000	P-37-017369	1934F	HP02,HP04	MEDITERRANEAN	RESIDENTIAL	1900-1940		59312223			171	SD	1168	B2

Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

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167	16811 VIA DE SANTA FE	RANCHO SANTA FE	92067	0	0	0	0		CHARLES R. AND ALICE M. NELSON HOUSE		0		P-37-028188	1926		SPANISH COLONIAL REVIVAL	RESIDENTIAL	LATE 1920'S		266-293-00			0	SD	1168	D3
168	16780 LA GRACIA	RANCHO SANTA FE	92067	480900	3653040	0	0		LILLIAN J. RICE RESIDENCE		0					SPANISH COLONIAL REVIVAL	ARCHITECTURE, COMMUNITY PLANNING AND DEV.	1924		2681201800			0	SD COUN TY THOM AS BROS	1168	D3
169	16915 AVENIDA DE ACACIAS	RANCHO SANTA FE	92067	481040	3653260	0	0		RANCHO SANTA FE LAND AND IMPROVEMENT CO. OFFICE		0							1924		2662850200			0	SD COUN TY THOM AS BROS	1168	D2
170	5880 SAN ELIJO	RANCHO SANTA FE	92067	480800	3654860	0	0		CLAUDE AND FLORENCE TERWILLIGER RESIDENCE		0			1925		COLONIAL REVIVAL		1925		2651201100			0	SD COUN TY THOM AS BROS	1168	D1
171	6126 PASEO DELICIAS	RANCHO SANTA FE	92067	0	0	0	0		CASA BLANCA	GLENN A. AND IDA MAY MOORE ROW HOUSE	0			1926				1926-1980		26627116			0	SD COUN TY THOM AS BROS	1168	D3
172	1634- 1636 DEL DIOS HIGHWAY	SAN DIEGO	92029	0	0	0	0				0	1634-1636 DEL DIOS HIGHWAY	P-37-028967	1938		D-SHELL' FACTORY/ CONTEMPORARY INDUSTRIAL				2350902100			0	SD COUN TY THOM AS BROS	1129	F6
173	17043 EL FUEGO	RANCHO SANTA FE	92067	480633	3653390	0	0		THE MATURE RESIDENCE	THE MATURE RESIDENCE	0	THE LORETTA MATURE RESIDENCE	P-37-029703		HP2: SINGLE FAMILY RESIDENCE	CALIFORNIA RANCH	RANCHO SANTA FE DEVELOPMENT	1930S-1970S					0	SD COUN TY THOM AS BROS	1168	D3
174	17056 EL FUEGO	RANCHO SANTA FE	92067	480591	3653481	0	0		THE DACUS RESIDENCE	SINGLE FAMILY RESIDENCE	0	THE DACUS MATURE RESIDENCE	P-37-029704	1952	HP2: SINGLE FAMILY RESIDENCE	CALIFORNIA RANCH	RANCHO SANTA FE DEVELOPMENT	1930S-1970S					0	SD COUN TY THOM AS BROS	1168	D3

Appendix B - Historical Resource Properties Within a Quarter-Mile of the Proposed Project Alignments of the North San Diego County Regional Recycled Water Project

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175		RANCHO SANTA FE	92067	0	0	0	0		RANCHO SANTA FE SCHOOL	T. ROGER ROWE SCHOOL	0	T. ROGER RANCHO SANTA FE SCHOOL	P-37-029705		HP15 (EDUCATIONAL BUILDING)	CALIFORNIA RANCH SPANISH ECLECTIC, INSTITUTIONAL	RANCHO SANTA FE DEVELOPMENT	1930S-1970S					0	SD COUN TY THOM AS BROS 2007	1168	D3
176	16332 VIA DE SANTA FE	RANCHO SANTA FE	92067	481270	3851450	0	0				0	OSUNA ADOBE		1831	HP2	SPANISH COLONIAL ADOBE	MEXICAN RANCHO PERIOD SETTLEMENT	1831-1925	0	2681721 0	0	0	0	SD COUN TY THOM AS BROS 2009	1168	D3

## **APPENDIX C – Local Government Historical Research Documentation**



## Amanda Kainer

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**From:** Carlsbad Historical Society <[cbadhistory@yahoo.com](mailto:cbadhistory@yahoo.com)>  
**Sent:** Thursday, June 12, 2014 10:51 AM  
**To:** Amanda Kainer  
**Subject:** Re: Historical Resources in Carlsbad

The History Room at the Carlsbad Library, on Carlsbad Village Drive, may have what you need.

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Carlsbad Historical Society  
P.O.Box 252 Carlsbad CA 92018  
760-434-9189  
<http://carlsbadhistoricalsociety.com/>

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On Wed, 6/11/14, Amanda Kainer <[A.Kainer@pcrnet.com](mailto:A.Kainer@pcrnet.com)> wrote:

Subject: Historical Resources in Carlsbad  
To: "[cbadhistory@yahoo.com](mailto:cbadhistory@yahoo.com)" <[cbadhistory@yahoo.com](mailto:cbadhistory@yahoo.com)>  
Date: Wednesday, June 11, 2014, 2:36 PM

Hi –

I'm working on a technical study for a regional recycled water project and am wondering if you have a list of historical resources in Carlsbad you can share with me?

Thank you!

Amanda  
Kainer,  
M.S.  
Senior Architectural  
Historian

## Amanda Kainer

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**From:** Lois Aufmann <lois92024@cox.net>  
**Sent:** Wednesday, June 11, 2014 6:56 PM  
**To:** Amanda Kainer  
**Subject:** Re: Historical Resources in Encinitas?

Hi Amanda,

I am sure we have a file with information on water at our historic schoolhouse located at 390 W. F Street. Normally, I would suggest you visit us and peruse the articles in our file to see if there is anything that might help you but it doesn't appear that you are local. If you could give me a little better idea of what you are looking for I would be happy to search through our files for you, though I wouldn't be able to do it until this weekend. (We have no permanent employees, we are all volunteers.)

The City of Encinitas has water supplied by both the San Dieguito Water District and the Olivenhain Municipal Water District. SDWD covers Old and New Encinitas and Leucadia and OMWD serves the areas of Olivenhain and Cardiff (all are part of the City of Encinitas).

Here are a few links to information about our water districts. I've also included one to the Santa Fe Irrigation District which services Rancho Santa Fe and Solana Beach as they have a nice page about their history. Both these communities "skirt" Encinitas; Rancho Santa Fe is to our east and Solana Beach is south.

<http://encinitasca.gov/modules/showdocument.aspx?documentid=1779>

<http://youtu.be/hqaVaeGll-4>

<https://www.olivenhain.com/about-us>

<http://www.sfidwater.org/index.aspx?page=42>

Let me know if there is anything else I can do for you.

Sincerely,  
Lois Aufmann  
Encinitas Historical Society, docent

---

**From:** Amanda Kainer <[A.Kainer@pcrnet.com](mailto:A.Kainer@pcrnet.com)>  
**Date:** Wed, 11 Jun 2014 21:50:41 +0000  
**To:** "[info@encinitashistoricalsociety.org](mailto:info@encinitashistoricalsociety.org)" <[info@encinitashistoricalsociety.org](mailto:info@encinitashistoricalsociety.org)>  
**Subject:** Historical Resources in Encinitas?

Hi –

I'm working on a technical study for a regional recycled water project and am wondering if you have a list of historical

resources and districts in Encinitas you can share with me? I found the document about the history of water on your website that will be very helpful for our historic context.

Thank you,

**Amanda Kainer, M.S.**

*Architectural Historian*

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201 Santa Monica Boulevard, Suite 500 | Santa Monica, California 90401 | T: 310.451.4488 x1128 | [www.pcrnet.com](http://www.pcrnet.com)

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## Amanda Kainer

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**From:** kristihawthorne@cox.net  
**Sent:** Wednesday, June 11, 2014 2:57 PM  
**To:** Amanda Kainer  
**Subject:** Re: Historical Resources?

Amanda, the city did an "inventory" of historic resources in 1992. This is available at the public library and Oceanside Planning Department. I believe there is only one "official" historic district and that is the "Mission District" in the San Luis Rey Valley (El Camino Real and Mission Avenue). Other areas considered historic would be the downtown, beach and South Oceanside neighborhoods.

Can you be more specific as to what you are looking for?

Kristi

---- Amanda Kainer <[A.Kainer@pcrnet.com](mailto:A.Kainer@pcrnet.com)> wrote:

> Hi -  
>  
> I'm working on a technical study for a regional recycled water project and am wondering if you have a list of historical resources and districts in Oceanside you can share with me?  
>  
> Thanks,  
>  
> Amanda Kainer, M.S.  
> Architectural Historian  
>  
>  
>  
>  
>  
>  
> PCR Services Corporation \* 40 Years of Service Santa Monica \*  
> Irvine \* Pasadena  
> 201 Santa Monica Boulevard, Suite 500 | Santa Monica, California 90401 | T: 310.451.4488 x1128 |  
> [www.pcrnet.com](http://www.pcrnet.com)  
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>

## Amanda Kainer

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**From:** Pinon, Arthur <APinon@san-marcos.net>  
**Sent:** Tuesday, July 22, 2014 10:14 AM  
**To:** Amanda Kainer  
**Subject:** Historical Sites  
**Attachments:** Mills Act.pdf

Hi Amanda,  
Please see the attached:

If you have any other questions, please feel free to let me know.

Sincerely,

### **ART PIÑON | ASSISTANT PLANNER**

City of San Marcos | 1 Civic Center Drive, San Marcos CA 92069  
(760) 744-1050 x3204 | [apinon@san-marcos.net](mailto:apinon@san-marcos.net) | [Website](#)

### **FREQUENTLY REQUESTED INFORMATION:**

[Zoning Map](#) | [Municipal Code](#) | [Planning Application](#) | [CFD Information](#)  
[Building Division](#) | [Engineering Standards](#) | [Planning Commission Agendas](#)

City offices are open Monday - Friday\* from 7:30 AM to 5:30 PM

\*City offices are closed every other Friday, [click here](#) to view the scheduled closures.

RESOLUTION NO. 2005-6539

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN MARCOS AUTHORIZING THE CREATION OF A MILLS ACT PROGRAM FOR THE PRESERVATION OF HISTORICALLY SIGNIFICANT PROPERTIES.

WHEREAS, the City of San Marcos promotes the preservation and conservation of the heritage of the City by preserving resources which reflect elements of the City's history; and

WHEREAS, the City wishes to deter the demolition, misuse or neglect of historic resources which represent an important link to San Marcos' past; and


WHEREAS, Government Code, Article 12, Sections 50280-50290, the Mills Act of 1972, provides an economic incentive to owners of historically significant properties to maintain or restore these vital cultural resources.

NOW, THEREFORE BE IT RESOLVED, that the City Council of the City of San Marcos authorizes:

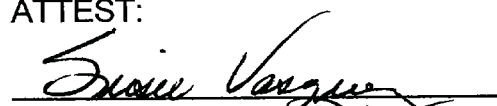
1. The creation of a "Mills Act Program" as per the Government Code,
2. The City Manager, or his designee, to enter into "Mills Act Contracts" with owners of historically significant properties, and
3. The adoption of Exhibit 'A', San Marcos Historically Significant Properties, which are qualified to participate in the Mills Act Program.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of San Marcos this 10<sup>th</sup> day of May, 2005, by the following roll call vote:

AYES: COUNCILMEMBERS: DESMOND, HARRIS, MARTIN, PRESTON, SMITH  
NOES: COUNCILMEMBERS: NONE  
ABSENT: COUNCILMEMBERS: NONE

  
F.H. "Corky" Smith, Mayor  
City of San Marcos

ATTEST:

  
Susie Vasquez, City Clerk  
City of San Marcos

## HISTORIC STRUCTURES & SITES OF SAN MARCOS

### HOUSES

| <u>HOUSES</u>                   | <u>ADDRESS</u>                          | <u>YEAR</u> |
|---------------------------------|-----------------------------------------|-------------|
| BIDWELL & COX-DICKEY (10)       | Relocated to Walnut Grove Park          | 1890 & 1888 |
| BLAKE-SHORT (24)                | 650 Bennett                             | 1893        |
| BORDEN-TEDRICK-READ (16)        | 1043 Richland Rd                        | 1882        |
| BUCHER-GRANGETTO (17)           | Moved 1983 to 961 Richland              | 1895        |
| COCHEMS (7)                     | 3700 N. Twin Oaks Valley Rd.            | 1902        |
| COOK-McDOUGALL (13)             | 317 Olive (Cr. Of Sycamore)             | 1888-1895   |
| DORAN-MEYERS (2)                | 418 Discovery                           | Before 1904 |
| FULTON (20)                     | 1324 Fulton Rd                          | 1893        |
| GALL-BULEN-YOUNG (26)           | 1319 Knob Hill                          | 1895-1901   |
| GREEN-SOLOMON (12)              | 236 Olive Dr.                           | 1895        |
| HARTSHORN-SOLOMON-OLMSTED (19)  | 1142 Calle Maria (Restored)             | 1893        |
| HARTSHORN-SHORT                 | Bennett & Rock Springs Rd. Int.         | 1895        |
| JOHNSTON-HANNEGAN (22)          | 515 Bougher Rd. (Near Rock Springs Rd.) | 1893        |
| LA MESITA-CLINTON MERRIAM (9)   | 555 Deer Springs Rd.                    | 1889        |
| MERRIAM-JORDAN-TORK (5)         | 2727 N. Twin Oaks                       | 1904        |
| MORGAN-WISDOM-YOUNG (27)        | 1317 Knob Hill                          | 1893        |
| RIZDON-PETZOLD (18)             | 1084 Barham Rd.                         | 1895        |
| TRACEY-BERTA (11)               | 1939 Sycamore Rd..                      | 1895        |
| WHITE-WARD-BISPLINGHOFF (25)    | 1617 Rock Springs Rd.                   | 1891        |
| WOOD (Built for Hartshorn) (21) | Woodland Park - 1617 Rock Springs Rd    | 1890        |

### CEMETERIES

|                          |                                        |      |
|--------------------------|----------------------------------------|------|
| SAN MARCOS CEMETERY (14) | Mulberry Rd.                           | 1894 |
| MEADOWLARK GRAVE SITE    | Rancho Santa Fe. Rd. & Meadowlark Int. | 1800 |

### CHURCHES

|                                      |                                    |      |
|--------------------------------------|------------------------------------|------|
| GRACE EPISCOPAL (was METHODIST) (15) | Rose Ranch Rd. & Mulberry Rd. Int. | 1887 |
|--------------------------------------|------------------------------------|------|

### COMMUNITY LANDMARK

|                                           |                                                                                                     |      |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------|------|
| TWIN OAKS TREES (6) (About 500 years old) | Twin Oaks Valley Rd. - Destroyed by age and lightning in the 1980's. Replanted at City Hall in 1995 |      |
| MARY YOUNG CONNORS HALL (SM MUSEUM)(1)    | 270 W. San Marcos Blvd.                                                                             | 1940 |

### MARKET

|                                     |                                                |      |
|-------------------------------------|------------------------------------------------|------|
| SAN MARCOS MARKET & POST OFFICE (4) | 975 Mission Rd.(Destroyed 1924 - Rebuilt 1925) | 1901 |
|-------------------------------------|------------------------------------------------|------|

### SCHOOLS

|                          |                      |      |
|--------------------------|----------------------|------|
| 1910 SCHOOL (3)          | 1511 Grand Ave.      | 1910 |
| OLD RICHLAND SCHOOL (23) | 888 E. Mission Rd.   | 1889 |
| TWIN OAKS SCHOOL (8)     | 368 Deer Springs Rd. | 1891 |

(Listed by Historic Name/More Recent Name)

4/13/2005

## Amanda Kainer

---

**From:** John Hamilton <jhamilton@ci.vista.ca.us>  
**Sent:** Friday, June 13, 2014 2:21 PM  
**To:** Amanda Kainer  
**Subject:** RE: Historical Resources  
**Attachments:** 1987 Survey\_List-of-Local-Hist-Resources.pdf; deve code 15.12 historic preservation.pdf

Hi Amanda,

Attached, please find a copy of our Historic Preservation Ordinance and a copy of the buildings on our Local Register. We do not have any designated historic districts in Vista, but we do have a Historic Character Overlay District in our small downtown under the Downtown Vista Specific Plan. Some of the structures on the register sadly no longer exist (list was compiled in 1987); however, at least you hopefully have what you need. Let me know if you have any questions.

**John Hamilton, AICP**  
*Environmental Planner*  
City of Vista Community Development Department  
PH: 760-726-1340, Ext. 1215

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**From:** Amanda Kainer [<mailto:A.Kainer@pcrnet.com>]  
**Sent:** Thursday, June 12, 2014 9:56 AM  
**To:** John Hamilton  
**Subject:** Historical Resources [heur][spf]

Hi John,

Thank you for returning my call. Can you please send me the list of designated landmarks and districts in Vista?

Thank you!

**Amanda Kainer, M.S.**  
*Architectural Historian*



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**Chapter 15.12**

**Historic Preservation**

**Sections:**

- 15.12.010 Purpose and Intent**
- 15.12.020 Boundaries and Areas of Application**
- 15.12.030 Definitions**
- 15.12.040 Environmental Review**
- 15.12.050 Historic Preservation Commission**
- 15.12.060 Register of Designated Historic Resources: Establishment; Criteria for Inclusion Therein**
- 15.12.070 Historic Resource Designation Procedures**
- 15.12.080 Certificates of Appropriateness: Applicability**
- 15.12.090 Certificates of Appropriateness: Procedures and Levels of Review**
- 15.12.100 Certificates of Appropriateness: Criteria for Approval**
- 15.12.110 Historic Preservation Incentives: Historic Property Preservation Agreements**
- 15.12.120 Historic Preservation Incentives: California Historic Building Code; Parking Reductions and Waivers; Exemption from Certain Limitations on Nonconforming Structures and Uses**
- 15.12.130 Duty to Keep in Good Repair**
- 15.12.140 Ordinary Maintenance and Repair**
- 15.12.150 Existing Improvements**
- 15.12.160 Appeals**
- 15.12.170 Enforcement, Restitution and Penalties for Violation**

**Section 15.12.010 Purpose and Intent**

In both the built environment and the written historical record, there exists considerable evidence of the course of human settlement and activity in what now constitutes the City of Vista: from prehistoric Native American society to Spanish colonization, Mexican rule, American statehood, the transformation of ranching and dry farming into a diverse agricultural industry, and the eventual decline of agriculture in the face of suburban residential development. Acknowledging the role that historic preservation can play in promoting the harmonious, orderly and efficient development of the City, this chapter establishes a process by which to identify, protect, enhance, and encourage the viable use of resources that embody the historic, archaeological, cultural, architectural, and aesthetic heritage of the City, the state and the nation.

With the fundamental purpose of enacting a practical and sustainable historic preservation program, this chapter establishes procedures and standards intended to:

- A. Carry out the goals and policies of the General Plan.
- B. Safeguard the City's historic heritage as embodied and reflected in its historic resources and historic areas.
- C. Stabilize and improve property values.
- D. Preserve the City's unique visual character.
- E. Foster awareness of significant figures, events, and accomplishments in the City's history.
- F. Strengthen the local economy by promoting tourism and providing an attractive environment for business and industry.

G. Protect and enhance both public and private amenities for residents, visitors and the workforce.

H. Encourage adaptive reuse and other sustainable development practices.  
(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

### **Section 15.12.020 Boundaries and Areas of Application**

This chapter applies to all historic resources publicly and privately owned within the corporate limits of the City.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

### **Section 15.12.030 Definitions**

Whenever the following words or terms are used in this chapter they shall have the meaning established by this section.

**“Alteration”** means any change or modification through public or private action of any historic resource or of any property with a historic designation, including, but not limited to, exterior changes to, or modifications of, a resource or any of its architectural details or visual characteristics, including: paint color and surface texture, grading surface, paving, new structures, cutting or removal of trees and other natural features, disturbances of archaeological sites or areas, and the placement or removal of any objects such as signs, plaques, light fixtures, street furniture, walls, fences, steps, plantings, and landscape accessories affecting the historic qualities of the property.

**“Archaeological site”** means a surface or subsurface area where remains of humans or their activities prior to keeping of history are still evident.

**“Certificate of appropriateness”** means a certificate issued by the City approving such plans, specifications, design, or statements of work for any proposed alteration, restoration, construction, removal, relocation, or demolition, in whole or in part, of or to a historic resource or to any improvement on a property with a historic designation.

**“Commission”** means the Planning Commission acting as the Historic Resource Commission.

**“Exterior architectural feature”** means the architectural style, design, general arrangement, components, natural features and all the outer surfaces of the resource including, but not limited to, the kind and texture of the building material, the type and style of all windows, doors, lights, signs, walls, fences, and other appurtenant fixtures, and the natural form and appearance of any grade, rock, body of water, stream, tree, plant, shrub, road, path, walkway, plaza, fountain, sculpture, or other form of natural or artificial landscaping.

**“Historic Context Statement”** means the City-adopted document that provides an overview of the City’s history and identifies property types associated with defining cultural themes and patterns of development. The Historic Context Statement is the basis for formal decisions regarding the identification, evaluation, registration, and treatment of historic properties.

**“Historic resource”** means:

A. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

B. A resource included in a local register of historical resources or identified as significant in a historical resource survey.

C. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant on the basis of the criteria for listing on the California Register of Historical Resources.

D. Such additional resources, if any, that are defined as historical resources for purposes of the California Environmental Quality Act.

“**Ordinary maintenance**” means any repair, cleaning, painting, or other improvement which does not result in a discernible visual alteration of a historic resource.

“**Paleontological site**” means a surface or subsurface area where fossilized or otherwise preserved remains of plants or animals which generally predate man’s emergence on the earth are still evident.

“**Person**” means any individual, association, partnership, firm, corporation, public agency, or political subdivision.

“**Secretary of the Interior’s Standards for the Treatment of Historic Properties**” means the Secretary of the Interior Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.

“**Site**” means any parcel or portion of real property which has special character or special historic, cultural, archaeological, architectural, community, or aesthetic value.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

#### **Section 15.12.040 Environmental Review**

In connection with any environmental review process occurring under the California Environmental Quality Act, the City will evaluate the historical significance of any feature of the built environment found to be more than 45 years old where a proposed project would result in its alteration or removal. This review and assessment shall occur whether or not the potential historic resource is officially designated as such at the local, state, or federal level. If, such environmental review determines that the resource is of historic significance, the provisions of Section 15.12.090 must be satisfied before any project may proceed which has the potential to adversely affect such resource.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

#### **Section 15.12.050 Historic Preservation Commission**

The City Planning Commission is hereby established as the Historic Preservation Commission of the City of Vista.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

#### **Section 15.12.060 Register of Designated Historic Resources: Establishment; Criteria for Inclusion Therein**

The City of Vista Register of Designated Historic Resources shall develop over time as resources worthy of historic designation are identified, evaluated, and registered through the application and review procedures outlined in Section 15.12.070.

A. Potential historic resources shall only be considered for inclusion in the Register upon formal application by the legal owner of the potential resource.

B. A potential resource will then be considered for inclusion in the register on the basis of one or more of the following:

1. Its association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

2. Its association with the lives of persons important to local, California, or national history.

3. Its embodiment of the distinctive characteristics of a type, period, region, or method of construction; its representation of the work of a master; or its signification of high artistic values.

4. Its potential to yield information important to the prehistory or history of the local area, California, or the nation.

C. In addition to meeting one or more of the above criteria, a potential resource must also retain enough of its historic character or appearance (i.e. integrity) to be recognizable as a historic resource and to convey the reasons for its significance.

D. The evaluation of potential historic resources shall be guided by a Historic Context Statement, as adopted and updated pursuant to Section 15.12.060(B)(3). Prepared in accordance with the Secretary of the Interior's Guidelines for Preservation Planning, the Historic Context Statement shall assist decision-makers in determining whether or not candidates for historic designation are representative of property types associated with locally significant themes and patterns of development.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

### **Section 15.12.070 Historic Resource Designation Procedures**

Following formal application by the property owner, a potential historic resource may be designated as such and thereby included in the Register of Designated Historic Resources in the following manner:

A. An application for historic designation shall be filed with the Planning Division upon prescribed forms and shall include the following data:

1. The name and address of the property owner and the assessor parcel number and address of site where the potential resource is located.

2. Narrative that demonstrates how the potential resource meets one or more of the criteria for inclusion established in Section 15.12.060.

3. Relevant sketches, photographs, or drawings.

4. Assessment of the current condition of the potential resource, by means of an Architectural Resource Maintenance Report (ARMR).

5. Listing of any known threats to the preservation or rehabilitation of the potential resource.

6. Plot plan in appropriate scale, listing the subject property's legal description as well as its existing land use and zoning designations.

7. Listing of all existing and proposed land uses on the subject property.

8. Bibliography of any known written material that makes reference to the potential resource.

9. Chain of title, building records, photographs, as available.

10. Written consent to historic designation signed by the owner(s) of the subject property.

B. An application for historic designation shall be processed in accordance with the Permit Streamlining Act (California Government Code Section 65920, et seq). All time frames and processing periods set forth in this Chapter are directory only, except to the extent that a time frame or processing period is mandatory with respect to a charter city pursuant to state law.

C. A notice of an application for historic designation shall be forwarded to the Building Division and no building or demolition permits for any alteration to any exterior feature of the proposed resource shall be issued while the matter is pending final decision.

D. The City, at its sole discretion, may decide to utilize the services of a specialized consultant to prepare or review studies, reports, or other documents pertaining to the eligibility

of a property to meet applicable historic preservation standards. All costs incurred in the preparation of such materials shall be borne by the applicant.

E. Following receipt of a complete application, the Planning Division staff shall, on the basis of the criteria outlined in Section 15.12.060, prepare and forward to the Planning Commission an evaluation of the potential resource's eligibility for designation.

F. The Commission shall then by resolution either: a) enter the resource into the Register of Designated Historic Resources; or b) determine that the resource does not warrant such designation.

G. Within 30 days of a resource's induction into the Register of Designated Historic Resources, the owner of the designated resource shall cause the resolution approving the resource's induction to be recorded with the County of San Diego.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

**Section 15.12.080 Certificates of Appropriateness: Applicability**

A. Without first obtaining a certificate of appropriateness as provided for in this chapter, it is unlawful for any person to alter, remove, or relocate any improvement or any portion thereof which is: (1) designated as a historic resource; or (2) found to be of historic significance in the course of the environmental review process.

B. Unless a certificate of appropriateness has been previously or concurrently issued as provided for in this chapter, no board, department, or commission shall grant any permit to carry out work on any property described in paragraph A.

C. No permit is necessary for ordinary maintenance of such properties, or if the proposed work will not alter or change the style, color, design features, or character of the resource, and a permit is not required under Section 301b of the Uniform Building Code. Furthermore, this chapter shall not prevent the construction, reconstruction, alteration, restoration, demolition, or removal of any such feature when the Building Division certifies to the City Council that such action is required for public safety due to unsafe or dangerous conditions that cannot be rectified through the use of the California Historic Building Code.

D. The certificate of appropriateness required by this chapter is in addition to any other permit required for the proposed project.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

**Section 15.12.090 Certificates of Appropriateness: Procedures and Levels of Review**

A. An application for a certificate of appropriateness to do work on a designated historic resource shall be filed with the Planning Division upon prescribed forms and with required fees. In addition to the required forms, the application shall include the following data:

1. A concise statement of the nature and extent of the proposed work.
2. A site plan in appropriate scale, listing the subject property's legal description as well as its existing land use and zoning designations.
3. Additional sketches, drawings, photographs, or material boards as required by the Planning Division.

B. An application for a certificate of appropriateness shall be processed in accordance with the Permit Streamlining Act (California Government Code Section 65920, et seq).

C. A notice of an application for a certificate of appropriateness shall be forwarded to the Building Division and no building or demolition permits for any alteration to any exterior feature of the proposed resource shall be issued while the matter is pending final decision.

D. An application for a certificate of appropriateness that does not involve the addition of habitable space or a change to the existing dimensions of the designated resource

shall be reviewed by the City Planner as a minor alteration, unless the City Planner finds that the proposed project would result in visual impacts significant enough to warrant a higher level of review. Minor alterations to designated historic resources shall be processed as follows:

1. Review and approval by the City Planner shall be considered a ministerial action and thus not subject to a public hearing or public notification requirement.

2. The determination to approve or deny a proposed minor project shall be based on the criteria outlined in the Secretary of the Interior's Standards for the Treatment of Historic Properties.

3. Upon approval of a minor project, the applicant shall receive written verification of said approval, in a form to be determined by the City Planner. Such written verification shall accompany any subsequent application for building permits.

4. Should the proposed minor alteration be denied, the applicant shall receive a written explanation of the denial, which shall make reference to the specific criteria not met by the proposed project.

5. Within 14 days of rendering a decision on a certificate of appropriateness for a minor alteration, the City Planner shall, for informational purposes only, provide written notification of the decision to the Commission. Absent a formal appeal of the City Planner's decision in accordance with Section 15.12.160, the Commission shall not have the authority to rescind or modify the City Planner's decision, require revisions to the project, or attach additional conditions of approval.

E. An application for a certificate of appropriateness involving the addition of interior floor area or a change to the existing dimensions of the designated resource shall be reviewed by the Planning Commission as a major alteration.

F. Within 45 days of determining that an application for a major alteration has been rendered complete, Planning Division staff shall, on the basis of the criteria outlined in the Secretary of the Interior's Standards for the Treatment of Historic Properties, present to the Commission an evaluation of the potential impacts of the proposed project on the visual character and historic integrity of the designated resource.

G. The Commission shall then convene a public hearing to review the application. On the basis of the Secretary of the Interior's Standards for the Treatment of Historic Properties, the Commission shall by resolution either issue or deny a certificate of appropriateness.

H. Notice of all public hearings pertaining to the designation process shall be given as provided in Section 18.04.060. In addition, notice of the date, place, time, and purpose of the hearing shall be mailed return receipt requested to the owner of the proposed resource as shown on the last equalized assessment role at least 14 days prior to the date of the public hearing. Failure to send notice by mail to any property owner when the address of such owner is not on the latest equalized assessment role shall not invalidate any proceedings in connection with the proposed designation.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

### **Section 15.12.100 Certificate of Appropriateness: Criteria for Approval**

A. The Planning Commission shall issue a certificate of appropriateness for a major alteration to a designated historic resource if, and only if, the proposed project is consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, which are hereby adopted by reference.

B. The Planning Commission shall issue a certificate of appropriateness if, and only if, any potentially adverse off-site impacts, as identified through the requisite environmental review process, are mitigated to a less than significant level.

C. Proposed projects that do not meet the above criteria shall be granted certificates of appropriateness only under the following circumstances:

1. If the owner of a designated historic resource demonstrates to the Planning Commission that such resource cannot be economically used, and denial of a certificate of appropriateness would deprive the owner of all or most of his or her economic interest in the property, the Commission may issue the certificate with an effective date 180 days from the date of issuance to allow time for the investigation of alternatives to the proposed project, such as acquisition of the resource by the City or other entity with the desire and wherewithal to maintain the historic integrity of the resource.

2. If the applicant has presented clear and convincing evidence to the satisfaction of the Planning Commission that disapproval will work immediate and substantial hardship on the applicant because of conditions peculiar to the person seeking to carry out the proposed work, whether this be the property owner, commercial tenant or resident, or because of conditions peculiar to the particular resource or other feature thereof, and that approval of the certificate will otherwise be consistent with the purposes of this chapter. In such cases, a finding of overriding considerations would have to be made through the environmental review process.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

**Section 15.12.110 Historic Preservation Incentives: Historic Property Preservation (Mills Act) Agreements**

A. In order to preserve and protect the cultural, historical, and architectural heritage of the City, certain incentives are provided in this chapter to owners of designated historic resources. Among these incentives is a property tax reduction through the execution of a historic property preservation agreement, in accordance with Sections 50280 et seq. of the Government Code and Sections 439.2 et seq. of the Revenue and Taxation Code.

B. As mandated by state law, at a minimum, historic property preservation agreements shall provide for all of the following:

1. A perpetual ten-year term, with a minimum initial term of ten years and one year added automatically to the term each year unless a notice of nonrenewal is filed. If a notice of nonrenewal is filed, the agreement will become null and void upon expiration of the ten-year term in effect at the time the notice was filed.

2. Preservation of the designated historically significant property throughout the term of the agreement.

3. Restoration and rehabilitation, as necessary, to conform to the rules and regulations of the Office of Historic Preservation of the State Department of Parks and Recreation, the United States Secretary of the Interior's Standards for Rehabilitation and the State Historical Building Code.

4. Periodic examinations of the interior and exterior of the property by the assessor, the State Department of Parks and Recreation, and the State Board of Equalization as may be necessary to determine the property owner's compliance with the terms of the agreement. Although not mandated by the state, each agreement will also provide for periodic inspections by City staff with advance notice.

5. Provisions that all successors in interest shall have the same rights and obligations under the agreement as the owner who entered into the agreement.

6. Right of the City to cancel an agreement if it determines that the property owner has breached any of the conditions of the agreement or allowed the property to deteriorate to the point that it no longer meets the criteria for designation as a historic resource.

7. Penalty of 12½ percent of the full market value (based upon the reasonably estimated tax savings for the full term of the agreement, as reasonably determined by the City) if an agreement is canceled in accordance with Section 15.12.140(G).

C. An application to enter into a historic property preservation agreement may be initiated by the owner of a property listed on the City's Register of Designated Historic Resources. Submittal requirements are as follows:

1. All forms required by the Planning Division.
2. A scaled site plan showing all existing improvements on the subject property.
3. An assessment of the current condition of the historic resource, including recommendations for the rehabilitation of any components of the resource that currently threaten its preservation or compromise its historic integrity.

4. Official tax valuation information for the most recent tax year.

D. The review procedures for applications for historic property preservation agreements are as follows:

1. Prior to submitting an application for a historic property preservation agreement, the property owner shall schedule a pre-application review conference with the City Planner. The purpose of the pre-application review conference is to ensure that mandatory terms of the agreement are understood and that the minimum submittal requirements are met. Applications may be submitted during or after the pre-application review conference.

2. All approved agreements must be executed on or before December 31 of each year in order to take effect for the following property tax year, or such earlier date as may be required to satisfy applicable legal requirements or applicable administrative requirements of those agencies responsible for the notice, levy, collection, and distribution of property taxes.

3. Following receipt of a completed application, the City Planner shall schedule a meeting with the property owner at the subject property. The meeting will be used to inspect the property, determine if it complies with applicable criteria, and to develop a list of improvements, if any, deemed necessary during the first ten-year period of the agreement to restore the property's architectural and/or historical integrity. After the site meeting, a follow-up meeting may be scheduled by the City Planner with the property owner to estimate the potential property tax savings for the individual property. However, actual property tax savings will be calculated by the County Tax Assessor each tax year. The City's estimate is no more than a simple estimate and not intended by the City to represent the actual tax savings any person may experience. No person should rely on City representatives regarding the potential tax savings resulting from the execution of a Historic Property Preservation Agreement when such person is contemplating entering into such an agreement. Any person seeking to understand the tax implications of entering into an agreement should consult a tax professional.

4. Once the site meeting has been completed and a list of required improvements, if any, has been drafted, the City Planner shall forward the draft agreement and the proposed list of improvements to the Commission for review. Within 30 days of receiving said materials, the Commission shall convene a public hearing to consider the proposed list of improvements, make recommendations for amendments to said list, and recommend approval or denial of the historic property preservation agreement to the City Council.

5. Within 30 days of receiving said recommendation on the agreement, the City Council shall convene a public hearing and either approve, conditionally approve, or deny the requested agreement.

6. Once a historic property preservation agreement has been approved by the City Council, the property owner shall pay the nonrefundable contract execution fee. Once said fee has been paid, the approved agreement shall be executed by the property owner(s) and the City with notarized signatures. The City shall forward all agreements properly executed during a given calendar year to the County Recorder's office for recordation within 30 days after the execution date. The recorded copy will be returned to the City for submission to the County Tax Assessor's office for implementation. In accordance with state law, no properly executed historic property preservation agreement may take effect until it has been recorded and



submitted to the County Tax Assessor's office. Each historic property preservation agreement recorded before January 20 of a calendar year will take effect for property tax reduction purposes in the tax year beginning July of that calendar year.

E. The approval of a historic property preservation agreement shall run with the land, and shall continue to be valid upon a change of ownership.

F. Either party to a historic property preservation agreement may file a notice of nonrenewal at any time after entering into the agreement. The effect of the notice of nonrenewal is to render the agreement null and void upon expiration of the ten-year term in effect at the time the notice is filed.

G. As established in this Chapter, the City Council may cancel a historic property preservation agreement if the City Council determines that the property owner has breached any of the terms of the agreement or has allowed the property to deteriorate to the extent that it no longer meets the criteria in Section 15.12.060.

1. Following completion of the enforcement of agreement procedures contained within each historic property preservation agreement and prior to the cancellation of a historic property preservation agreement, the City Council may initiate and review cancellation of an agreement.

2. If the City Council cancels an agreement, the property owner shall pay a penalty to the State of 12½ percent of the full value of the property, as determined by the County Tax Assessor.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

**Section 15.12.120 Historic Preservation Incentives: State Historic Building Code; Parking Reductions and Waivers; Exemption from Certain Limitations on Nonconforming Structures and Uses**

A. The State Historic Building Code provides for reasonable alternatives to established statutes or regulations where strict compliance would negatively affect the historic integrity and/or economic viability of a designated resource. While fulfilling its principal obligation to protect public health and safety, the City shall apply the State Historic Building Code in its review of designated historic resources in a manner that supports cost-effective approaches to the preservation, enhancement, and beneficial use of such resources.

B. Because in many instances historic resources were permitted, constructed and utilized under less restrictive parking standards than those currently in place, it is often impossible for these resources to accommodate viable uses without some relief from current parking requirements. To allow for viable and permitted uses of historic resources that would otherwise be precluded by current parking standards, this chapter provides for the following:

1. For changes of use in designated historic resources that result in additional parking requirements (e.g. from retail to restaurant), the proposed new use shall be credited with the number of parking spaces required for the outgoing use, regardless of whether or not this number of spaces is actually provided. Thus, the proposed new use shall be responsible only for accommodating the net increase in parking spaces required.

2. In circumstances where, as determined by the City Planner, the provision of required parking under the preceding paragraph cannot be achieved without compromising the historic integrity of the designated resource, a parking waiver may be granted through a Minor Use Permit. In waiving parking requirements through a Minor Use Permit, the Planning Division shall make the following findings, in addition to those findings required for a Minor Use Permit:

a. The required parking cannot be provided without compromising the historic integrity of the designated resource.

b. As evidenced through an empirical parking study, there are sufficient on-street parking spaces available to meet the additional demand occasioned by the change of use.

c. The applicant has entered into a shared parking agreement with an adjacent property that, as evidenced through an empirical parking study, maintains a surplus of parking spaces that can be conveniently utilized by the proposed new use during its principal hours of operation.

d. The applicant pays an in-lieu fee for the required number of spaces to be provided in a planned public parking facility located within 500 feet of the designated resource, in which case "planned" shall mean listed in the City's current capital improvement plan and slated for construction within the next three years.

C. Historic resources classified as nonconforming buildings or accommodating nonconforming uses shall benefit from the following provisions:

1. An existing nonconforming setback may be continued to an extent no greater than double the floor area of the existing encroachment, so long as the additional floor area extends no further into the required setback area than the existing encroachment.

2. A historic building shall not be classified as nonconforming solely on the basis of a deficiency or wholesale absence of required on-site parking.

3. A nonconforming building partially or fully destroyed by an act of God or the public enemy may be restored, and the use and occupancy of said building can be re-established.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

#### **Section 15.12.130 Duty to Keep in Good Repair**

The owner, occupant or other person in actual charge of a designated historic resource shall keep in good repair all of the exterior portions of the improvement and all interior portions thereof whose maintenance is necessary to prevent deterioration and decay of any exterior element.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

#### **Section 15.12.140 Ordinary Maintenance and Repair**

Nothing in this chapter shall be construed to prevent the ordinary maintenance or repair of any exterior architectural feature in or on any property covered by this chapter that does not involve a change in design material or external appearance thereof, nor does this chapter prevent the construction, reconstruction, alteration, restoration, demolition or removal of any such feature when the building official certifies to the Commission that such action is required for the public safety due to an unsafe or dangerous condition which cannot be rectified through the use of the California Historic Building Code.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

#### **Section 15.12.150 Existing Improvements**

All repairs, alterations, reconstructions, restorations, or changes in use of existing improvements shall conform to the requirements of the California Historic Building Code.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

**Section 15.12.160 Appeals**

A. Decisions regarding historic designations, certificates of appropriateness or Mills Act contracts may be appealed to the next level of authority, with the City Council being the final authority on any appeal.

1. Any decision of the City Planner may be appealed to the Planning Commission.

2. Any decision of the Planning Commission may be appealed to the City Council, including any decision regarding an appeal of a City Planner action.

B. Any person may appeal a decision of the City Planner or the Planning Commission by properly filing with the Planning Division and the City Clerk a notice of appeal on a form furnished by the Planning Division and submitting applicable fees.

C. Such notice of appeal shall be filed with the Planning Division and the City Clerk within ten days of the date of the action being appealed.

D. Not later than seven days following any decision regarding an appeal of an action taken under the provisions of this chapter, the City Clerk shall send written notice of the decision to the applicant and appellant.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

**Section 15.12.170 Enforcement, Restitution and Penalties for Violation**

A. Whenever any alteration, demolition, relocation, construction or grading of any site is being done contrary to the provisions of this chapter, the Community Development Director or designee may order the action stopped by notice in writing served on the responsible party who shall forthwith stop such activity until authorized by the Community Development Director or designee to proceed.

B. It is unlawful for any person to carry out any work on any building structure or site in violation of a notice stopping such work.

C. Any violation of the provisions of this chapter shall constitute a public nuisance and be subject to all lawfully available enforcement procedures, including without limitation, those set forth in Sections 1.12 and 1.13 of the Municipal Code. As part of any enforcement proceeding, violators may be required to reasonably restore the building, structure, object, or site to its appearance or condition prior to the violation, under the guidance of the Planning Division.

D. In the event that a historic resource is demolished or irreparably altered with benefit of a certificate of appropriateness or other properly issued authorization of the City, no building permit shall be issued for any new development on the property in question for a period of five years from the date the violation occurs, other than as may be required to comply with applicable health and safety requirements and regulations, and in no event shall any building permit authorize any new construction to exceed the building square footage, lot coverage, and use of the original structure.

(Prior Code 32-1; Ord. No. 89-7, Added 3/27/89; Ord. No. 2009-20, Repealed and Replaced, 9/22/09)

The surveyed properties that appear to be eligible for nomination to the National Register of Historic Places include the following list. These buildings will require further research to complete the nomination requirements.

| <u>Survey No.</u> | <u>Address</u>                | <u>Historic Name</u>        |
|-------------------|-------------------------------|-----------------------------|
| V.01              | 1155 Foothill Dr.             | Delpy House                 |
| V.02              | 640 Alta Vista Dr.            | Rancho Buena Vista          |
| V.03              | 211 E. Vista Way              | Vista First National Bank   |
| V.04              | 2317 Foothill Dr.             | Rancho Minerva              |
| V.06              | 2261 Edgehill                 | English Gentry House        |
| V.07              | 2261 Edgehill                 | English Gentry Barn         |
| V.08              | 1030 Heather Dr.              | Smith/S.O.S. House          |
| V.10              | 1260 Alta Vista Dr.           | McCurdy/Morton House        |
| V.11              | 303 E. Vista Way              | AVO Theater                 |
| V.12              | 321 S. Santa Fe Ave.          | American Legion Post #365   |
| V.13              | 160 Recreation Way            | Recreation Center           |
| V.14              | 226 E. Vista Way              | Dutch Bakery                |
| V.15              | 207 Washington St.            | Santa Fe Railroad Depot     |
| V.16              | W. Vista Way & Alta Vista Dr. | Wildwood Park               |
| V.17              | 224 E. Vista Way              | Sheffields Department Store |
| V.18              | 2440 E. Vista Way             | Mary Helen Ranch            |
| V.19              | 1540 Alta Vista Dr.           | Armstrong, James House      |
| V.20              | 128 S. Beaumont Lane          | Clement, Neva House         |
| V.21              | 1624 San Luis Rey Ave.        | Old Adobe Residence         |
| V.22              | 2376 Alta Vista Dr.           | Spanish Colonial Residence  |

The Braun House (V.09) is currently listed on the National Register and the Red Barn (V.05) has been declared eligible.

**San Diego County Historic Property Listing**

| Resource Number      | Resource Name                                    | Owner                                              | Address / Location                                            | City                  | Zip   | APN        | Recommendation of Approval by HSB | Approved by PDS  | Mills Act Contract Recorded | Permit #  | Resource | Status |
|----------------------|--------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------|-----------------------|-------|------------|-----------------------------------|------------------|-----------------------------|-----------|----------|--------|
| <b>Prior to 2002</b> |                                                  |                                                    |                                                               |                       |       |            |                                   |                  |                             |           |          |        |
| 001                  | County Administration Center                     | County of San Diego                                | Pacific Coast Highway                                         | San Diego             | 92101 |            |                                   |                  |                             |           |          |        |
| 002                  | Rainbow Service                                  | Duarte Jeannette L Inter Vivos Trust               | 5509 Rainbow Heights Rd                                       | Fallbrook             | 92028 | 102-42-022 |                                   |                  |                             |           |          |        |
| 003                  | Mount Helix Nature Theatre                       | Yawkey Trust Indenture of 1929                     | Mount Helix County Park                                       | La Mesa               | 91941 | 496-160-20 |                                   |                  |                             |           |          |        |
| 004                  | Rock House (1889) - Bancroft                     | County Parks / Real Estate Services                | 3554 James Circle                                             | Spring Valley         | 91977 | 504-30-223 |                                   |                  |                             |           |          |        |
| 005                  | Julian Hotel                                     | Ballinger Family Trust                             | 2032 Main Street                                              | Julian                | 92036 | 291-08-520 |                                   |                  |                             |           |          |        |
| 006                  | Bonsall Schoolhouse                              | Public Agency                                      | 31505 Old River Road                                          | Bonsall               | 92003 | 126-07-026 |                                   |                  |                             |           |          |        |
| 007                  | Julia Liffreing House                            |                                                    | Hillsdale Road                                                | El Cajon              | 92020 |            | 9/12/1990                         | 12/19/1990 (BOS) | N/A                         |           |          |        |
| 008                  | Ramona Town Hall                                 |                                                    | 729 Main Street                                               | Ramona                | 92065 | 281-31-328 |                                   |                  |                             |           |          |        |
| 009                  | Verlaque House                                   | Ramona Pioneer Historical Society                  | 645 Main Street                                               | Ramona                | 92065 | 281-34-323 |                                   |                  |                             |           |          |        |
| 010                  | Descanso First Schoolhouse incl ruins and farm   | Paul & Lorraine McGuffie                           | 8804 Riverside Drive                                          | Descanso              | 91916 | 408-070-15 |                                   |                  |                             |           |          |        |
| 011                  | Descanso Station Restaurant incl Wayside Stop    | John, D. Elliott, Jr.                              | 8306 Highway 79                                               | Descanso              | 91916 | 409-02-103 |                                   |                  |                             |           |          |        |
| 012                  | Descanso Town Hall                               |                                                    | 24536 Viejas Grade Road                                       | Descanso              | 91916 | 405-32-237 |                                   |                  |                             |           |          |        |
| 013                  | Ellis Cemetery                                   | CA-SDI-9145 off Japatal Valley Rd.                 | UTM coordinates 11S/0535473/3632679                           | Descanso              | 91916 |            |                                   |                  |                             |           |          |        |
| 014                  | Fallbrook Masonic Cemetery                       | Masonic Cemetery Association of Fallbrook          | 1010 Hillcrest Lane                                           | Fallbrook             | 92028 | 105-56-005 |                                   |                  |                             |           |          |        |
| 015                  | Lakeside Church                                  | Lakeside Historical Society                        | 9906 Maine Ave                                                | Lakeside              | 92040 | 394-13-219 |                                   |                  |                             |           |          |        |
| 016                  | Oddfellows Cemetery                              | Fallbrook Lodge No317                              | Clemmens Lane, Fallbrook: UTM coordinates 11S/0476064/3692125 | Fallbrook             | 92028 | 104-20-041 |                                   |                  |                             | REZ92-006 |          |        |
| 017                  | Ostrich Creek Bridge                             |                                                    |                                                               | Fallbrook             | 92028 |            |                                   |                  |                             |           |          |        |
| 018                  | Things Brothers Store (Destroyed by Fire)        | Louella M. and Rigaberto Vazquez; Archie O. Marron | Intersection of Thing Rd., Humphries Rd. and Emery Road       | Tecate                |       | 652-120-36 |                                   |                  |                             | REZ92-007 |          |        |
| 019                  | Patterson/Pratt/Gilles House (aka Barnett House) |                                                    |                                                               | Bostonia Santa Ysabel |       |            |                                   |                  |                             |           |          |        |
| 020                  | Mataguay Historic District                       | Mataguay Scout Ranch                               | 27955 Highway 79                                              |                       |       |            |                                   |                  |                             | REZ91-023 |          |        |
| 021                  | Barn at the Oaks                                 | U.S. Fish and Wildlife Service                     | Vista Sage Lane at Hwy 94                                     | Jamul                 |       | 596-031-43 | 8/13/1991                         | 2/14/1992        |                             | REZ92-009 |          |        |

**San Diego County Historic Property Listing**

| <b>Resource Number</b> | <b>Resource Name</b>                                | <b>Notes</b> |
|------------------------|-----------------------------------------------------|--------------|
| <b>Prior to 2002</b>   |                                                     |              |
| 001                    | County Administration Center                        | n/a          |
| 002                    | Rainbow Service                                     | H            |
| 003                    | Mount Helix Nature Theatre                          | H            |
| 004                    | Rock House (1889) - Bancroft                        | H            |
| 005                    | Julian Hotel                                        | J            |
| 006                    | Bonsall Schoolhouse                                 | None         |
| 007                    | Julia Liffreing House                               | H            |
| 008                    | Ramona Town Hall                                    | H            |
| 009                    | Verlaque House                                      | H            |
| 010                    | Descanso First Schoolhouse<br>incl ruins and farm   | H            |
| 011                    | Descanso Station Restaurant<br>incl Wayside Stop    | H            |
| 012                    | Descanso Town Hall                                  | H            |
| 013                    | Ellis Cemetery                                      | H            |
| 014                    | Fallbrook Masonic Cemetery                          | H            |
| 015                    | Lakeside Church                                     | H            |
| 016                    | Oddfellows Cemetery                                 | H            |
| 017                    | Ostrich Creek Bridge                                | H            |
| 018                    | Things Brothers Store<br>(Destroyed by Fire)        | H            |
| 019                    | Patterson/Pratt/Gilles House<br>(aka Barnett House) | H            |
| 020                    | Mataguay Historic District                          | H            |
| 021                    | Barn at the Oaks                                    | H            |

**San Diego County Historic Property Listing**

| Resource Number                        | Resource Name                                      | Owner                                     | Address / Location     | City            | Zip   | APN        | Recommendation of Approval by HSB | Approved by PDS | Mills Act Contract Recorded | Permit #  | Resource   | Status   |
|----------------------------------------|----------------------------------------------------|-------------------------------------------|------------------------|-----------------|-------|------------|-----------------------------------|-----------------|-----------------------------|-----------|------------|----------|
| <b>1993</b>                            |                                                    |                                           |                        |                 |       |            |                                   |                 |                             |           |            |          |
| 1993-001<br>(previously listed as 022) | Ramona Nuevo Memory Gardens Cemetery (1894)        | Ramona Cemetery District                  | 532 Ash St., Ramona    | Ramona          | 92065 | 280-08-716 |                                   |                 |                             | REZ92-021 |            |          |
| <b>2002</b>                            |                                                    |                                           |                        |                 |       |            |                                   |                 |                             |           |            |          |
| 2002-001                               | Somers-Linden Farmhouse                            | John Linden                               | 1333 Lindenwood Drive  | El Cajon        | 92021 | 388-592-46 | 4/15/2002                         | 11/20/2002      | 12/27/2002                  | MAA02-001 | Farmhouse  | Historic |
| 2002-002                               | McRae-Albright Ranchhouse                          | Ronald & Janie Ogdon                      | 3754 Barbic Court      | Spring Valley   | 91977 | 504-330-02 | 7/15/2002                         | 11/20/2002      | 12/23/2002                  | MAA02-002 | Ranchhouse | Historic |
| 2002-004                               | John B. & Bessie Cushman House                     | James T. & Hilary Broyles                 | 5235 La Crescenta      | Rancho Santa Fe | 92067 | 265-061-21 | 8/19/2002                         | 11/20/2002      | 11/19/2004                  | MAA02-004 | House      | Historic |
| 2002-005                               | Rancho Santa Fe Land Improvement Co. Spec House #1 | Virginia Dewey                            | 6107 Mimulus           | Rancho Santa Fe | 92067 | 266-232-09 | 8/19/2002                         | 11/20/2002      | 12/24/2002                  | MAA02-005 | House      | Historic |
| 2002-006                               | Frank William Joers House                          | Marcia Lee                                | 6135 La Flecha         | Rancho Santa Fe | 92067 | 266-291-12 | 8/19/2002 and 11/20/2002          | 11/20/2002      | 12/23/2002                  | MAA02-006 | House      | Historic |
| 2002-007                               | Frederick & Mary Allen/Boettiger House             | John & Christine Tyner                    | 5525 La Crescenta      | Rancho Santa Fe | 92067 | 265-062-09 | 9/16/2002                         | 11/20/2002      | 12/18/2002                  | MAA02-007 | House      | Historic |
| 2002-008                               | Reynolds/Warren House                              | Ricky & Judy Christensen                  | 5189 Mount Helix Drive | La Mesa         | 91941 | 496-072-28 | 9/16/2002                         | 11/20/2002      | 12/23/2002                  | MAA02-008 | House      | Historic |
| 2002-009                               | Vincent & Adele Whelan House                       | Bob & Nancy Lemke                         | 3597 Lomacitas Lane    | Bonita          | 91902 | 591-100-08 | 9/16/2002                         | 11/20/2002      | 12/23/2002                  | MAA02-009 | House      | Historic |
| 2002-010                               | Russell C. & Ella B. Allen House                   | Kurt A. Chilcott & Carol A. Squire        | 4094 Old Orchard Lane  | Bonita          | 91902 | 592-060-31 | 9/16/2002                         | 11/20/2002      | 12/23/2002                  | MAA02-010 | House      | Historic |
| 2002-011                               | George A. Christianity Residence                   | Steve Black                               | 17078 El Mirador       | Rancho Santa Fe | 92067 | 267-100-17 | 11/18/2001                        | 11/20/2002      | 12/18/2002                  | MAA02-011 | House      | Historic |
| 2003-001                               | Holmgren House                                     | Vincent P. & Margaret H. O'Hara           | 10037 Ward Lane        | La Mesa         | 91941 | 491-670-18 | 6/16/2003                         | 11/18/2003      | 12/26/2003                  | MAA03-001 | House      | Historic |
| <b>2003</b>                            |                                                    |                                           |                        |                 |       |            |                                   |                 |                             |           |            |          |
| 2003-002                               | T.W. Lillie Residence                              | Todd Pitman & Carmen Pauli                | 4410 Carmen Drive      | La Mesa         | 91941 | 497-190-61 | 8/18/2003                         | 11/18/2003      | 12/26/2003                  | MAA03-002 | House      | Historic |
| 2003-003                               | Charles A. Shaffer House                           | Mili Smythe                               | 5610 La Crescenta      | Rancho Santa Fe | 92067 | 265-101-11 | 11/17/2003                        | 11/18/2003      | N/A                         | MAA03-003 | House      | Historic |
| 2003-004                               | Live Oak Park Tables & Objects                     | County Parks                              | 2746 Reche Road        | Fallbrook       | 92028 |            | 6/16/2003                         | 6/26/2003       | N/A                         |           |            |          |
| 2003-005                               | Camp Lockett Historic District                     | County Department of Parks and Recreation | Camp Lockett           | Campo           | 91906 | Multiple   | 10/20/2003                        | 10/25/2003      | N/A                         |           | District   |          |

**San Diego County Historic Property Listing**

| Resource Number                        | Resource Name                               | Notes |
|----------------------------------------|---------------------------------------------|-------|
| <b>1993</b>                            |                                             |       |
| 1993-001<br>(previously listed as 022) | Ramona Nuevo Memory Gardens Cemetery (1894) | H     |

|             |                                                    |                |
|-------------|----------------------------------------------------|----------------|
| <b>2002</b> |                                                    |                |
| 2002-001    | Somers-Linden Farmhouse                            | H              |
| 2002-002    | McRae-Albright Ranchhouse                          |                |
| 2002-004    | John B. & Bessie Cushman House                     |                |
| 2002-005    | Rancho Santa Fe Land Improvement Co. Spec House #1 |                |
| 2002-006    | Frank William Joers House                          |                |
| 2002-007    | Frederick & Mary Allen/Boettiger House             |                |
| 2002-008    | Reynolds/Warren House                              |                |
| 2002-009    | Vincent & Adele Whelan House                       | 1935 Cliff May |
| 2002-010    | Russell C. & Ella B. Allen House                   | H              |
| 2002-011    | George A. Christiancy Residence                    | Rice           |
| 2003-001    | Holmgren House                                     | Ruocco         |

|             |                                |        |
|-------------|--------------------------------|--------|
| <b>2003</b> |                                |        |
| 2003-002    | T.W. Lillie Residence          | Ruocco |
| 2003-003    | Charles A. Shaffer House       | Rice   |
| 2003-004    | Live Oak Park Tables & Objects |        |
| 2003-005    | Camp Lockett Historic District |        |



**San Diego County Historic Property Listing**

| Resource Number | Resource Name                               | Owner                                     | Address / Location                                                            | City            | Zip   | APN                                | Recommendation of Approval by HSB | Approved by PDS | Mills Act Contract Recorded | Permit #   | Resource  | Status   |
|-----------------|---------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------|-----------------|-------|------------------------------------|-----------------------------------|-----------------|-----------------------------|------------|-----------|----------|
| <b>2004</b>     |                                             |                                           |                                                                               |                 |       |                                    |                                   |                 |                             |            |           |          |
| 2004-001        | Hidden Lake Ranch                           | Christopher & Pat Thompson                | 9556 Del Dios Highway                                                         | Escondido       | 92029 | 272-160-70                         |                                   |                 |                             |            | House     |          |
| 2004-002        | William Gross House                         | Marian Liebowitz                          | 9633 El Granito Avenue                                                        | La Mesa         | 91941 | 491-520-09, 31                     | 10/18/2004                        | 11/30/2004      | 12/16/2004                  | MAA04-002  | House     | Historic |
| 2004-003        | Tomlinson Residence                         | Geier Family Trust                        | 4928 El Mirlo                                                                 | Rancho Santa Fe | 92067 | 265-050-28                         | 10/18/2004                        | 11/30/2004      | 12/6/2004                   | MAA04-003  | House     | Historic |
| <b>2005</b>     |                                             |                                           |                                                                               |                 |       |                                    |                                   |                 |                             |            |           |          |
| 2005-001        | Edwards Rock House                          | Evan Edwards Family Trust                 | 34571 Engineers Road                                                          | Julian          | 92036 | 294-070-16                         | 11/21/2005                        | 12/5/2005       | 12/22/2005                  | MAA05-001  | House     | Historic |
| 2005-002        | Ferry Ranch House                           | Kathy Romero, Mike Meza                   | 10414 Chase Creek Lane                                                        | Lakeside        | 92040 | 379-350-11                         | 8/15/2005                         | 9/15/2005       | 12/9/2005                   | MAA05-002  | House     | Historic |
| 2005-003        | Julian Eltinge Residence                    | Mark Whittleton                           | 2690 South Grade Road                                                         | Alpine          | 91901 | 404-430-33,34,35                   | 6/20/2005                         | 8/30/2005       | 12/9/2005                   | MAA05-003  | House     | Historic |
| 2005-006        | Sickler Brothers Pala Mill                  | County of San Diego, Real Estate Services | Wilderness Gardens Open Space Preserve: UTM coordinates 11/ S 0496845/3690178 | Pala            | 92059 | 110-190-05, 08, 12, 17; 111-070-22 | 9/19/2005                         | 10/3/2005       |                             |            | Structure | Historic |
| 2005-004        | Bartlett House                              | Steve Hubbard, Janet Patzer               | 10413 Grandview Drive                                                         | La Mesa         | 92019 | 496-242-50                         | 10/17/2005                        | 11/7/2005       | 12/9/2005                   | MAA05-004  | House     | Historic |
| 2005-005        | Lamb House                                  | Mary Polopolus                            | 2239 Gird Road                                                                | Fallbrook       | 92028 | 107-220-65, 66                     | 10/17/2005                        | 11/7/2005       | 12/9/2005                   | MAA05-005  | House     | Historic |
| 2005-007        | Hare House                                  | Darin and Catherine Simmerman             | 9150 Wister Drive                                                             | La Mesa         | 91941 | 491-800-05                         | 11/21/2005                        | 12/5/2005       | 12/22/2005                  | MAA05-007  | House     | Historic |
| 2005-008        | Glenn E. Murdock House                      | David G. Kesner and Sheila K.             | 9441 Sunset Avenue                                                            | La Mesa         | 91941 | 491-462-01, 02                     | 11/21/2005                        | 12/5/2005       | 12/22/2005                  | MAA05-008  | House     | Historic |
| 2005-009        | Marie Schumann-Heink & Hubert Guy Residence | Thomas and Tawnya Macchiarella            | 5310 Valle Vista                                                              | La Mesa         | 91941 | 491-440-13, 16                     | 12/19/2005                        | 12/19/2005      | 12/22/2005                  | MAA05-009  | House     | Historic |
| <b>2006</b>     |                                             |                                           |                                                                               |                 |       |                                    |                                   |                 |                             |            |           |          |
| 2006-001        | King Ranch House                            | Ziad Michel Khozam                        | 1445 Navel Place                                                              | Escondido       | 92027 | 234-100-03                         | 6/19/2006                         | 7/26/2006       | 12/21/2006                  | MAA06-001  | House     | Historic |
| 2006-002        | Goldzband Residence                         | A. Michael Nala / Kristin Spoon           | 4709 La Rueda Drive                                                           | La Mesa         | 91941 | 497-102-21-00                      | 8/21/2006                         | 7/28/2006       | 12/21/2006                  | MAA06-002  | House     | Historic |
| 2006-003        | Alpine Woman's Club                         | Alpine Woman's Club                       | 2156 Alpine Blvd.                                                             | Alpine          | 91901 | 403-261-03                         | 8/21/2006                         | 11/9/2006       | NA                          | MAA06-003  | Structure | Historic |
| 2006-004        | Youngblood/Cliff May House                  | Lawrence T. Shannon & Candice R. Ridge    | 17538 El Vuelo                                                                | Rancho Santa Fe | 92067 | 267-020-03-00                      | 9/18/2006                         | 11/9/2006       | 12/21/2006                  | MAA06-004  | House     | Historic |
| 2006-005        | Descanso Rock Cabin                         | Robert and Joanne Elkins                  | 25121 Oak Lane                                                                | Descanso        | 91916 | 408-232-44-00                      | 10/16/2006                        | 11/9/2006       | NA                          | MAA-06-005 | House     | Historic |
| 2006-006        | Fleming/Rice RSF House                      | Morris & Kathryn Numm                     | 16811 Via de Santa Fe                                                         | Rancho Santa Fe | 92067 | 266-293-26-00                      | 11/20/2006                        | 11/27/2006      | 12/21/2006                  | MAA-06-006 | House     | Historic |
| 2006-007        | CW Cadman Residence                         | Ruthann & William Thorn                   | 4625 Calavo Drive                                                             | La Mesa         | 91941 | 497-115-30-00                      | 1/22/2007                         | 4/5/2007        | 12/19/2007                  | MAA-06-007 | Residence | Historic |

**San Diego County Historic Property Listing**

| <b>Resource Number</b> | <b>Resource Name</b>                        | <b>Notes</b> |
|------------------------|---------------------------------------------|--------------|
| <b>2004</b>            |                                             |              |
| 2004-001               | Hidden Lake Ranch                           |              |
| 2004-002               | William Gross House                         | Morley       |
| 2004-003               | Tomlinson Residence                         | Wass         |
| <b>2005</b>            |                                             |              |
| 2005-001               | Edwards Rock House                          |              |
| 2005-002               | Ferry Ranch House                           | H            |
| 2005-003               | Julian Eltinge Residence                    |              |
| 2005-006               | Sickler Brothers Pala Mill                  |              |
| 2005-004               | Bartlett House                              | Dunn         |
| 2005-005               | Lamb House                                  |              |
| 2005-007               | Hare House                                  |              |
| 2005-008               | Glenn E. Murdock House                      |              |
| 2005-009               | Marie Schumann-Heink & Hubert Guy Residence | Wheeler      |
| <b>2006</b>            |                                             |              |
| 2006-001               | King Ranch House                            |              |
| 2006-002               | Goldzband Residence                         | Delawie      |
| 2006-003               | Alpine Woman's Club                         |              |
| 2006-004               | Youngblood/Cliff May House                  | Cliff May    |
| 2006-005               | Descanso Rock Cabin                         |              |
| 2006-006               | Fleming/Rice RSF House                      |              |
| 2006-007               | CW Cadman Residence                         |              |

**San Diego County Historic Property Listing**

| Resource Number | Resource Name                     | Owner                                    | Address / Location                 | City            | Zip    | APN                                    | Recommendation of Approval by HSB | Approved by PDS       | Mills Act Contract Recorded | Permit #   | Resource                                 | Status   |
|-----------------|-----------------------------------|------------------------------------------|------------------------------------|-----------------|--------|----------------------------------------|-----------------------------------|-----------------------|-----------------------------|------------|------------------------------------------|----------|
| <b>2007</b>     |                                   |                                          |                                    |                 |        |                                        |                                   |                       |                             |            |                                          |          |
| 2007-001        | Dulzura Café                      | Martha Hernandez                         | 17023 Highway 94                   | Dulzura         | 91917  | 600-170-07                             | 2/26/2007                         | 11/13/2007            | NA                          | MAA-07-001 | Café                                     | Historic |
| 2007-002        | Jamul Haven-Gifford Ranch         | William (Bill) Roetzheim                 | 13510 Jamul Drive                  | Jamul           | 91935  | 519-050-35-00                          | Application withdrawn             | Application withdrawn | NA                          | MAA-07-002 | B&B                                      |          |
| 2007-003        | Hindman Residence - John Mock     | Byron Vess                               | 10636 Snyder Road                  | La Mesa         | 919414 | 497-011-28-00                          | 6/18/2007                         | 11/13/2007            | 12/19/2007                  | MAA-07-003 | House                                    | Historic |
| 2007-004        | Glen Abbey Memorial Park          | SCI California Funeral Services, Inc     | 3838 Bonita Road                   | Bonita          | 91902  | 591.241.12, 592.040.10 & 11            | 8/20/2007                         | 11/29/2007            | NA                          | MAA-07-004 | Landmark                                 | Historic |
| 2007-005        | U.S. Grant Jr. House              | Posadas Del Sol LLC (Roger Morgan)       | 5771 Sweetwater Road               | Bonita          | 91902  | 586-051-03-00                          | 9/17/2007                         | 11/29/2007            | NA                          | MAA-07-005 | House                                    | Historic |
| 2007-006        | Arthur & Lillian Gaynes House     | Dominick Fiume                           | 9411 Lavell Street (at Carmichael) | La Mesa         | 91941  | 495-401-13-00                          | 9/17/2007                         | 11/13/2007            | 12/19/2007                  | MAA-07-006 | House                                    | Historic |
| 2007-007        | R. King Kauffman House            | Mia & John Dolak                         | 1087 Dutton Drive                  | La Mesa         | 91941  | 497-207-09-00                          | 11/19/2007                        | 11/30/2007            | 12/19/2007                  | MAA-07-007 | House                                    | Historic |
| 2007-008        | Casa Blanca                       | David and Janice Haley                   | 6126 Paseo Delicias                | Rancho Santa Fe | 92067  | 266-271-16-00                          | 12/17/2007                        | 12/18/2007            | 12/28/2007                  | MAA-07-008 | House                                    | Historic |
| <b>2008</b>     |                                   |                                          |                                    |                 |        |                                        |                                   |                       |                             |            |                                          |          |
| 2008-001        | Townley/Lilian Rice House         | David and Peggy Brooks                   | 6557 La Valle Plateada             | Rancho Santa Fe | 92067  | 266-320-10                             | 7/21/2008T                        | 7/29/2008             | 10/16/2008                  | MAA-08-001 | House                                    | Historic |
| 2008-002        | Lee Packard/ Ralph L. Frank House | Tom and Mary Curtis                      | 10010 Country View Road            | La Mesa         | 91941  | 491-650-17                             | 9/15/2008                         | 9/30/2008             | 10/16/2008                  | MAA-08-002 | House and garden wall                    | Historic |
| 2008-003        | James Hubbell Complex             | James Hubbell                            | 930 Orchard Run                    | Santa Ysabel    | 92070  | 248-050-34                             | 8/18/2008                         | 8/22/2008             | N/A                         | MAA-08-003 | Compound                                 | Historic |
| 2008-004        | Lindo Lake Boathouse              | County of San Diego Parks and Recreation | 9841 Vine Street                   | Lakeside        | 92040  | 394-180-03                             | 9/15/2008                         | 9/30/2008             | N/A                         | MAA-08-004 | Boathouse                                | Historic |
| <b>2009</b>     |                                   |                                          |                                    |                 |        |                                        |                                   |                       |                             |            |                                          |          |
| 2009-001        | Osuna Adobe                       | Rancho Santa Fe Association              | 16332 Via de Santa Fe              | Rancho Santa Fe | 92067  | 268-172-06                             | 4/20/2009                         | 6/11/2009             | N/A                         | MAA-09-001 | Adobe                                    | Historic |
| 2009-002        | Cornelius Residence               | Charles J. Carter                        | 10385 Bonnie Lane                  | La Mesa         | 91941  | 496-080-76                             | 4/20/2009                         | 5/1/2009              | 8/12/2009                   | MAA-09-002 | House                                    | Historic |
| 2009-003        | Fallbrook Historic District       | Various                                  | Various                            | Fallbrook       | 92028  | Multiple                               | Withdrawn                         | Withdrawn             |                             | MAA-09-003 |                                          |          |
| 2009-004        | Sharp Estate                      | Story Vogel and Judith Kelly             | 28831 Spruce Road                  | Pine Valley     | 91962  | 410-097-01, 02, 03, 06, 11, 14, and 15 | 7/20/2009                         | 8/1/2009              | 9/2/2009                    | MAA-09-004 | House, Cottage, and Accessory Structures | Historic |
| 2009-005        | Angel/McCutcheon House            | Sean Pinnell and McCall Freundt          | 15880 Via del Alva                 | Rancho Santa Fe | 92067  | 268-270-56                             | 7/20/2009                         | 11/10/2009            | 12/3/2009                   | MAA-09-005 | House                                    | Historic |

**San Diego County Historic Property Listing**

| <b>Resource Number</b> | <b>Resource Name</b>              | <b>Notes</b>  |
|------------------------|-----------------------------------|---------------|
| <b>2007</b>            |                                   |               |
| 2007-001               | Dulzura Café                      |               |
| 2007-002               | Jamul Haven-Gifford Ranch         | Withdrawn     |
| 2007-003               | Hindman Residence - John Mock     |               |
| 2007-004               | Glen Abbey Memorial Park          | H Designated  |
| 2007-005               | U.S. Grant Jr. House              |               |
| 2007-006               | Arthur & Lillian Gaynes House     | Cliff May     |
| 2007-007               | R. King Kauffman House            |               |
| 2007-008               | Casa Blanca                       |               |
| <b>2008</b>            |                                   |               |
| 2008-001               | Townley/Lilian Rice House         |               |
| 2008-002               | Lee Packard/ Ralph L. Frank House |               |
| 2008-003               | James Hubbell Complex             |               |
| 2008-004               | Lindo Lake Boathouse              |               |
| <b>2009</b>            |                                   |               |
| 2009-001               | Osuna Adobe                       |               |
| 2009-002               | Cornelius Residence               | 2009-0451608. |
| 2009-003               | Fallbrook Historic District       | Withdrawn     |
| 2009-004               | Sharp Estate                      | 2009-0492633  |
| 2009-005               | Angel/McCutcheon House            | 2009-0670771  |

**San Diego County Historic Property Listing**

| Resource Number | Resource Name                                         | Owner                                     | Address / Location      | City            | Zip   | APN            | Recommendation of Approval by HSB | Approved by PDS  | Mills Act Contract Recorded | Permit #           | Resource                                                                                                    | Status   |
|-----------------|-------------------------------------------------------|-------------------------------------------|-------------------------|-----------------|-------|----------------|-----------------------------------|------------------|-----------------------------|--------------------|-------------------------------------------------------------------------------------------------------------|----------|
| <b>2010</b>     |                                                       |                                           |                         |                 |       |                |                                   |                  |                             |                    |                                                                                                             |          |
| 2010-001        | Dickinson residence                                   | Jessica and Jeremy Manning                | 10655 Queen Avenue      | La Mesa         | 91941 | 497-205-09     | 4/19/2010                         | 6/10/2010        | 6/30/2010                   | MAA 10-001         | House                                                                                                       | Historic |
| 2010-002        | Carrie Jacobs-Bond House                              | Michael D. Fitzpatrick                    | 9623 Summit Circle      | La Mesa         | 91941 | 491-530-81     | 7/19/2010                         | 11/29/2010       | 12/15/2010                  | MAA 10-002         | House                                                                                                       | Historic |
| 2010-003        | Bonsall School house                                  | Bonsall Union School District             | 31505 Old River Road    | Bonsall         | 92003 | 126-070-26     | 9/12/1990 original HSB)           | 12/19/1990 (BOS) | N/A                         | MAA 10-003         | School house                                                                                                | Historic |
| 2010-004        | Hazen and Marian Streit House                         | Peter Sadori and Vickie Terry             | 10421 Chevy Lane        | La Mesa         | 91941 | 492-540-09     | 7/19/2010                         | 8/26/2010        | 1/5/2011                    | MAA 10-004         | House                                                                                                       | Historic |
| 2010-005        | Merriam House                                         | Training Education and Research Institute | 555 Deer Springs Road   | San Marcos      | 92069 | 182-260-10     | N/A                               | N/A              | N/A                         | MAA 10-005         | House                                                                                                       | Historic |
| 2010-006        | Jessie C. Holmes Lemon Ranch Residence                | Debbie Tilley and Dennis Will             | 1006 Birch Avenue       | Escondido       | 92027 | 230-520-66     | 10/18/2010                        | 11/4/2010        | 1/10/2011                   | MAA 10-006         | House                                                                                                       | Historic |
| <b>2011</b>     |                                                       |                                           |                         |                 |       |                |                                   |                  |                             |                    |                                                                                                             |          |
| 2011-01         | McGowan/Dean Family Residence                         | James Charlton and Catherine Wentz        | 5496 Avenida Maravillas | Rancho Santa Fe | 92067 | 266-140-16     | 10/17/2011                        | 11/10/2011       | 12/7/2011                   | MAA 11-001         | House                                                                                                       | Historic |
| 2011-02         | Old Survey 97                                         | Multiple Owners                           | Multiple locations      | Ramona          | 92065 | Multiple APN's |                                   |                  |                             | MAA 11-002         | Road                                                                                                        | Historic |
| 2011-03         | Ullman /Chavez Residence                              | Mark and Loretta Chavez                   | 4786 Mount Helix Drive  | La Mesa         | 91941 | 496-140-16     | 10/17/2011                        | 11/15/2011       | 12/7/2011                   | MAA 11-003         | House                                                                                                       | Historic |
| 2011-04         | Burton I. Jones House                                 | Norm Applebaum                            | 9830 Edgelake Drive     | La Mesa         | 91941 | 491-592-07     | 11/17/2011                        | 11/17/2011       | 12/7/2011                   | MAA 11-004         | House                                                                                                       | Historic |
| <b>2012</b>     |                                                       |                                           |                         |                 |       |                |                                   |                  |                             |                    |                                                                                                             |          |
| 2012-001        | Hines Residence                                       | Sheryl & Stephen Castro                   | 9701 Sierra Vista Ave   | La Mesa         | 91941 | 491-560-08     | 7/16/2012                         | 8/13/2012        | 9/5/2012                    | MAA 12-001         | House                                                                                                       | Historic |
|                 | Bowly & Ethel Le Hurray Res                           | Linda & Ronald Hahn                       | 6463 Paseo Delicioso    | Rancho Santa Fe | 92067 | 269-340-32     |                                   |                  |                             | MAA 12-002         |                                                                                                             |          |
| 2012-003        | Scott & Janette Smith Home                            | Marilee & Thomas Carlow                   | 3287 Vista Diego Rd     | Jamul           | 91935 | 596-061-03     | 10/15/2012                        | 11/1/2012        | 11/14/2012                  | MAA 12-003         | House                                                                                                       | Historic |
| <b>2013</b>     |                                                       |                                           |                         |                 |       |                |                                   |                  |                             |                    |                                                                                                             |          |
| 2013-001        | John & Kathleen Huettner House & Associated Buildings | Edward W. Webb & Mel J. Landuyt, II       | 5770 El Montevideo      | Rancho Santa Fe | 92067 | 265-101-40     | 1/28/2013                         | 2/1/2013         |                             | PDS2012-MAA-12-004 | Main House<br>Breezeway<br>Garage<br>Raised Planter (South Side of House)<br>Guesthouse (Converted Stables) | Historic |

**San Diego County Historic Property Listing**

| <b>Resource Number</b> | <b>Resource Name</b>                                  | <b>Notes</b>                                                      |
|------------------------|-------------------------------------------------------|-------------------------------------------------------------------|
| <b>2010</b>            |                                                       |                                                                   |
| 2010-001               | Dickinson residence                                   |                                                                   |
| 2010-002               | Carrie Jacobs-Bond House                              |                                                                   |
| 2010-003               | Bonsall School house                                  | Historic Structures Report                                        |
| 2010-004               | Hazen and Marian Streit House                         |                                                                   |
| 2010-005               | Merriam House                                         | No action taken at hearing; item continued and never brought back |
| 2010-006               | Jessie C. Holmes Lemon Ranch Residence                |                                                                   |
| <b>2011</b>            |                                                       |                                                                   |
| 2011-01                | McGowan/Dean Family Residence                         | 2011-0658204                                                      |
| 2011-02                | Old Survey 97                                         | Incomplete - need approval from property owners                   |
| 2011-03                | Ullman /Chavez Residence                              | 2011-0658205                                                      |
| 2011-04                | Burton I. Jones House                                 | 2011-0658205                                                      |
| <b>2012</b>            |                                                       |                                                                   |
| 2012-001               | Hines Residence                                       | 2012-0533188                                                      |
|                        | Bowly & Ethel Le Hurray Res                           | On Hold                                                           |
| 2012-003               | Scott & Janette Smith Home                            | 2012-0709544                                                      |
| <b>2013</b>            |                                                       |                                                                   |
| 2013-001               | John & Kathleen Huettner House & Associated Buildings |                                                                   |
|                        |                                                       |                                                                   |

San Diego County Historic Property Listing

| Resource Number | Resource Name | Owner | Address / Location | City | Zip | APN | Recommendation of Approval by HSB | Approved by PDS | Mills Act Contract Recorded | Permit # | Resource | Status |
|-----------------|---------------|-------|--------------------|------|-----|-----|-----------------------------------|-----------------|-----------------------------|----------|----------|--------|
|-----------------|---------------|-------|--------------------|------|-----|-----|-----------------------------------|-----------------|-----------------------------|----------|----------|--------|

San Diego County Historic Property Listing

| Resource<br>Number | Resource Name | Notes |
|--------------------|---------------|-------|
|--------------------|---------------|-------|



**San Diego County Historic Property Listing**

| Resource Number | Resource Name                                            | Owner                             | Address / Location                                  | City            | Zip   | APN        | Recommendation of Approval by HSB | Approved by PDS | Mills Act Contract Recorded | Permit # | Resource | Status |
|-----------------|----------------------------------------------------------|-----------------------------------|-----------------------------------------------------|-----------------|-------|------------|-----------------------------------|-----------------|-----------------------------|----------|----------|--------|
|                 | <b>Qualified Historic Unreinforced Masonry Buildings</b> |                                   |                                                     |                 |       |            |                                   |                 |                             |          |          |        |
|                 | Alpine Tobacco Company                                   | Sarah Karjo                       | 2151 Alpine Blvd                                    | Alpine          | 91901 | 403-25-021 | No                                | No              |                             |          |          |        |
|                 | N/A                                                      | LCDZ Investors, LLC               | 3845 Yaqui Pass                                     | Borrego         | 91403 | 200-09-061 | Yes                               | Yes             |                             |          |          |        |
|                 | N/A                                                      | Rankin Family Trust               | 39961 Old Hwy 80                                    | Boulevard       | 91905 | 612-07-013 | No                                | No              |                             |          |          |        |
|                 | N/A                                                      | Armando & Martha Hernandez        | 40080 Old Hwy 80                                    | Boulevard       | 91905 | 612-07-059 | No                                | No              |                             |          |          |        |
|                 | Campo Stone Store                                        | County Dept. of Parks             | 31130 Hwy 94                                        | Campo           |       |            | No                                | No              |                             |          |          |        |
|                 | Multi Suite Building                                     | Ronald E & Crystal A Wylie        | 101-05 Main Ave North                               | Fallbrook       | 92028 | 103-26-414 | No                                | No              |                             |          |          |        |
|                 | N/A                                                      | Sara Razavi & Mandana Babazadeh   | 121 S. Main Ave (aka 125 S. Main Ave)               | Fallbrook       | 92028 | 103-22-111 | No                                | Yes             |                             |          |          |        |
|                 | N/A                                                      | Herr Development Inc.             | 131 Beech Street                                    | Fallbrook       | 92028 | 104-05-306 | No                                | No              |                             |          |          |        |
|                 | N/A                                                      | Leidecker Ted                     | 27542 Old Hwy 80                                    | Guatay          | 91931 | 408-18-023 | No                                | No              |                             |          |          |        |
|                 | N/A                                                      | JFAJ Properties LP                | 27521 Old Hwy 80 (service station)                  | Guatay          | 91931 | 408-20-017 | No                                | No              |                             |          |          |        |
|                 | 44400 Old Hwy 80                                         |                                   | 44400 Old Hwy 80                                    | Jacumba         | 91934 |            | No                                | No              |                             |          |          |        |
|                 | 1205 Railroad Street                                     |                                   | 1205 Railroad Street                                | Jacumba         | 91934 |            | No                                | No              |                             |          |          |        |
|                 | Candied Apple Pastry Company                             |                                   | 2128 4th Street                                     | Julian          | 92036 |            | No                                | Yes             |                             |          |          |        |
|                 | Miner's Diner & Old Julian Drug Store & Candy Mine       |                                   | 2134 Main Street                                    | Julian          | 92036 |            | No                                | Yes             |                             |          |          |        |
|                 | Lakeside Automotive Group                                | Alberto Pereo                     | 9806 Maine Ave                                      | Lakeside        | 92040 |            | No                                | No              |                             |          |          |        |
|                 | Mataguay Boy Scouts                                      |                                   | 27955 Highway 79                                    | Santa Ysabel    | 92070 |            | No                                | No              |                             |          |          |        |
|                 | Coldwell Banker                                          | Francisco R B Trust               | 6015 Paseo Delicias                                 | Rancho Santa Fe | 92253 | 266-28-503 | Yes                               | Yes             |                             |          |          |        |
|                 | 16915 Avenida de Acacias                                 |                                   | 16915 Avenida de Acacias                            | Rancho Santa Fe | 92253 |            | No                                | No              |                             |          |          |        |
|                 | N/A                                                      | Rancho Santa Fe Association       | 17022 Avenida de Acacias                            | Rancho Santa Fe | 92253 | 266-13-104 | n/a                               | Yes             |                             |          |          |        |
|                 | Ramona Historical Society                                | Ramona Pioneer Historical Society | 645 Main Street                                     | Ramona          | 92065 | 281-34-323 | No                                | Yes             |                             |          |          |        |
|                 | 681 Main Street                                          |                                   | 681 Main Street                                     | Ramona          | 92065 |            | n/a                               | Yes             |                             |          |          |        |
|                 | 701-715 Main Street                                      | GMBC II                           | 701-715 Main Street                                 | Ramona          | 92065 | 281-31-302 | No                                | Yes             |                             |          |          |        |
|                 | Ramona Town Hall                                         | Ramona Town Hall, Inc.            | 719 Main Street (Town Hall)                         | Ramona          | 92065 | 281-31-328 | Yes                               | Yes             |                             |          |          |        |
|                 | Hwy 78/Hwy 79 (service station)                          |                                   | Hwy 78/Hwy 79 (service station)                     | Santa Ysabel    |       |            | No                                | Yes             |                             |          |          |        |
|                 | 30273 Hwy 78                                             |                                   | 30273 Hwy 78                                        | Santa Ysabel    |       |            | Yes                               | No              |                             |          |          |        |
|                 | 31652 Hwy 79 (incl URM additions to Lodge Building)      |                                   | 31652 Hwy 79 (incl URM additions to Lodge Building) | Warner Springs  |       |            | No                                | No              |                             |          |          |        |
|                 | Vallecito Stage Station                                  | County Dept. of Parks             |                                                     | Vallecito       |       |            | No                                | No              |                             |          |          |        |

**San Diego County Historic Property Listing**

| Resource Number | Resource Name                                            | Notes |
|-----------------|----------------------------------------------------------|-------|
|                 | <b>Qualified Historic Unreinforced Masonry Buildings</b> |       |
|                 | Alpine Tobacco Company                                   |       |
|                 | N/A                                                      |       |
|                 | N/A                                                      |       |
|                 | N/A                                                      |       |
|                 | Campo Stone Store                                        |       |
|                 | Multi Suite Building                                     |       |
|                 | N/A                                                      |       |
|                 | N/A                                                      |       |
|                 | N/A                                                      |       |
|                 | N/A                                                      |       |
|                 | 44400 Old Hwy 80                                         |       |
|                 | 1205 Railroad Street                                     |       |
|                 | Candied Apple Pastry Company                             |       |
|                 | Miner's Diner & Old Julian Drug Store & Candy Mine       |       |
|                 | Lakeside Automotive Group                                |       |
|                 | Mataguay Boy Scouts                                      |       |
|                 | Coldwell Banker                                          |       |
|                 | 16915 Avenida de Acacias                                 |       |
|                 | N/A                                                      |       |
|                 | Ramona Historical Society                                |       |
|                 | 681 Main Street                                          |       |
|                 | 701-715 Main Street                                      |       |
|                 | Ramona Town Hall                                         |       |
|                 | Hwy 78/Hwy 79 (service station)                          |       |
|                 | 30273 Hwy 78                                             |       |
|                 | 31652 Hwy 79 (incl URM additions to Lodge Building)      |       |
|                 | Vallecito Stage Station                                  |       |

## PCR Phone Call Log for Local Records Search

**Date: 6/10/2014**

Spoke with Gina Ruiz, City of Carlsbad.

The City does not have a historic preservation ordinance, thus, no historic landmarks or districts.

## **APPENDIX D – Native American Consultation Documentation**

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STATE OF CALIFORNIAEdmund G. Brown, Jr., Governor**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Boulevard, Suite 100  
West Sacramento, CA 95691  
(916) 373-3715  
Fax (916) 373-5471  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
E-mail [De\\_nahc@pacbell.net](mailto:De_nahc@pacbell.net)



June 19, 2014

Mr. Kyle Garcia, RPA  
**PCR SERVICES CORPORATION**  
ONE VENTURE, SUITE 150  
IRVINE, CA 92618

Sent FAX to 949-753-7002  
No. of Pages: 5

RE: Sacred Lands File Search and Native American Contacts list for the **"RMC Water and Environment Project, including Construction of Conveyance Pipelines, Pumping Stations and Water Treatment Plans Project;"** located in North County; San Diego County, California

Dear Mr. Garcia:

A record search of the NAHC Sacred Lands Inventory **failed to indicate** the presence of Native American traditional sites/places of the Project site(s) or 'areas of Potential effect' (APEs), submitted to this office. However, there are Native American cultural resources in close proximity to several sections provided for the search. Note also that the absence of archaeological features, Native American cultural resources does not preclude their existence at the subsurface level.

In the 1985 Appellate Court decision (170 Cal App 3<sup>rd</sup> 604), the Court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

When the project becomes public, please inform the Native American contacts as to the nature of the project (e.g. residential, renewable energy, infrastructure or other appropriate type). Attached is a list of Native American tribes, Native American individuals or organizations that may have knowledge of cultural resources in or near the proposed project area (APE). As part of the consultation process, the NAHC recommends that local government and project developers contact the tribal governments and Native American individuals on the list in order to determine if the proposed action might impact any cultural places or sacred sites. If a response from those listed on the attachment is not received in two weeks of notification, the NAHC recommends that a follow-up telephone call be made to ensure the project information has been received.

California Government Code Sections 65040.12(e) defines 'environmental justice' to provide "fair treatment of people...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." Also, Executive Order B-10-11 requires that state agencies "consult with Native American tribes, their elected officials and other representatives of tribal governments in order to provide meaningful input into...the development of legislation, regulations, rules and policies on matter that may affect tribal communities."

If you have any questions or need additional information, please contact me at (916) 373-3715.

Sincerely,



Dave Singleton  
Program Analyst

Attachments

**Native American Contacts  
San Diego County California  
June 19, 2014**

Barona Group of the Capitan Grande  
Clifford LaChappa, Chairperson  
1095 Barona Road Diegueno  
Lakeside , CA 92040  
sue@barona-nsn.gov  
(619) 443-6612  
619-443-0681

Kumeyaay Cultural Historic Committee  
Ron Christman  
56 Viejas Grade Road Diegueno/Kumeyaay  
Alpine , CA 92001  
(619) 445-0385

San Pasqual Band of Mission Indians  
Allen E. Lawson, Chairperson  
PO Box 365 Diegueno  
Valley Center, CA 92082  
allenl@sanpasqualband.com  
(760) 749-3200  
(760) 749-3876 Fax

Mesa Grande Band of Mission Indians  
Mark Romero, Chairperson  
P.O Box 270 Diegueno  
Santa Ysabel, CA 92070  
mesagrandeband@msn.com  
(760) 782-3818  
(760) 782-9092 Fax

Sycuan Band of the Kumeyaay Nation  
Daniel Tucker, Chairperson  
5459 Sycuan Road Diegueno/Kumeyaay  
El Cajon , CA 92019  
ssiiva@sycuan-nsn.gov  
619 445-2613  
619 445-1927 Fax

Pala Band of Mission Indians  
Historic Preservation Office/Shasta Gaughen  
35008 Pala Temecula Road, PMB Luiseno  
Pala , CA 92059 Cupeno  
PMB 50  
(760) 891-3515  
sgaughen@palatribe.com  
(760) 742-3189 Fax

Viejas Band of Kumeyaay Indians  
Anthony R. Pico, Chairperson  
PO Box 908 Diegueno/Kumeyaay  
Alpine , CA 91903  
jhagen@viejas-nsn.gov  
(619) 445-3810  
(619) 445-5337 Fax

Pechanga Band of Mission Indians  
Paul Macarro, Cultural Resources Manager  
P.O. Box 1477 Luiseno  
Temecula , CA 92593  
**(951) 770-8100**  
pmacarro@pechanga-nsn.  
gov  
(951) 506-9491 Fax

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.84 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed RMC Water and Environment Request for a Native American Contacts list and Sacred Lands File search in a project area that will involve Pipeline and Pumping station Construction; located in North and eastern San Diego County**

**Native American Contacts  
San Diego County California  
June 19, 2014**

Rincon Band of Mission Indians  
Vincent Whipple, Tribal Historic Preservation Officer  
1 West Tribal Road Luiseno  
Valley Center, CA 92082  
jmurphy@rincontribe.org  
(760) 297-2635  
(760) 297-2639 Fax

Rincon Band of Mission Indians  
Bo Mazzetti, Chairperson  
1 West Tribal Road Luiseno  
Valley Center, CA 92082  
bomazzetti@aol.com  
(760) 749-1051  
(760) 749-8901 Fax

Kwaaymii Laguna Band of Mission Indians  
Carmen Lucas  
P.O. Box 775 Diegueno-Kwaaymii  
Pine Valley, CA 91962  
(619) 709-4207

Ewiiapaayp Tribal Office  
Will Micklin, Executive Director  
4054 Willows Road Diegueno/Kumeyaay  
Alpine, CA 91901  
wmicklin@leaningrock.net  
(619) 445-6315  
(619) 445-9126 Fax

Kumeyaay Cultural Repatriation Committee  
Steve Banegas, Spokesperson  
1095 Barona Road Diegueno/Kumeyaay  
Lakeside, CA 92040  
sbenegas50@gmail.com  
(619) 742-5587  
(619) 443-0681 FAX

San Luis Rey Band of Mission Indians  
Cultural Department  
1889 Sunset Drive Luiseno  
Vista, CA 92081 Cupeno  
760-724-8505  
cjmojado@slrmissionindians.org  
760-724-2172 - fax

Pauma Valley Band of Luiseño Indians  
Bennaecalac  
P.O. Box 369 Luiseno  
Pauma Valley, CA 92061  
bennaecalac@aol.com  
(760) 617-2872  
(760) 742-3422 - FAX

Pechanga Band of Mission Indians  
Mark Macarro, Chairperson  
P.O. Box 1477 Luiseno  
Temecula, CA 92593  
(951) 770-6100  
mgoodhart@pechanga-nsn.gov  
(951) 695-1778 FAX

**This list is current only as of the date of this document.**

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**Native American Contacts  
San Diego County California  
June 19, 2014**

La Jolla Band of Mission Indians  
Lavonne Peck, Chairwoman  
22000 Highway 76 Luiseno  
Pauma Valley CA 92061  
rob.roy@lajolla-nsn.gov  
(760) 742-3771  
(760) 742-3790 - Tribal EPA  
(760) 742-1704 Fax

Kumeyaay Cultural Repatriation Committee  
Bernice Paipa, Vice Spokesperson  
P.O. 937 Diegueno/Kumeyaay  
Boulevard , CA 91905  
bernicepaipa@gmail.com

Ipay Nation of Santa Ysabel  
Clint Linton, Director of Cultural Resources  
P.O. Box 507 Diegueno/Kumeyaay  
Santa Ysabel, CA 92070  
cjlinton73@aol.com  
(760) 803-5694  
cjlinton73@aol.com

Kumeyaay Diegueno Land Conservancy  
Mr. Kim Bactad, Executive Director  
2 Kwaaypaay Court Diegueno/Kumeyaay  
El Cajon , CA 91919  
(619) 445-0238 - FAX  
(619) 659-1008 - Office  
kimbactad@gmail.com

Inter-Tribal Cultural Resource Protection Council  
Frank Brown, Coordinator  
240 Brown Road Diegueno/Kumeyaay  
Alpine , CA 91901  
frbrown@viejas-nsn.gov  
(619) 884-6437

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June 24, 2014

Mr. Kim Bactad , Executive Director  
Kumeyaay Diegueno Land Conservancy  
2 Kwaaypaay Court  
El Cajon, CA 91919

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Bactad:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Steve Banegas , Spokesperson  
Kumeyaay Cultural Repatriation Committee  
1095 Barona Road  
Lakeside, CA 92040

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Banegas:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Frank Brown , Coordinator  
Inter-Tribal Cultural Resource Protection Council  
240 Brown Road  
Alpine, CA 91901

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Brown:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Ms. Bennae Calac  
Pauma Valley Band of Luiseno Indians  
P.O. Box 369  
Pauma Valley, CA 92061

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Ms. Calac:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Ron Christman  
Kumeyaay Cultural Historic Committee  
56 Viejas Grade Road  
Alpine, CA 92001

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Christman:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Ms. Shasta Gaughen , Historic Preservation Office  
Pala Band of Mission Indians  
35008 Pala-Temecula Road  
PMB Box 445  
Pala, CA 92059

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Ms. Gaughen:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Clifford LaChappa , Chairperson  
Barona Group of the Capitan Grande  
1095 Barona Road  
Lakeside, CA 92040

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. LaChappa:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I



June 24, 2014

Mr. Allen E. Lawson , Chairperson  
San Pasqual Band of Mission Indians  
P.O. Box 365  
Valley Center, CA 92082

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Lawson:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Clint Linton , Director of Cultural Resources  
Ipay Nation of Santa Ysabel  
P.O. Box 507  
Santa Ysabel, CA 92070

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Linton:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Ms. Carmen Lucas  
Kwaaymii Laguna Band of Mission Indians  
P.O. Box 775  
Pine Valley, CA 91962

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Ms. Lucas:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Mark Macarro , Chairperson  
Pechanga Band of Mission Indians  
PO Box 1477  
Temecula, CA 92593

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Macarro:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Paul Macarro , Cultural Resources Manager  
Pechanga Band of Mission Indians  
PO Box 1477  
Temecula, CA 92593

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Macarro:

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Bo Mazzetti , Chairperson  
Rincon Band of Mission Indians  
1 West Tribal Road  
Valley Center, CA 92082

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Mazzetti:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Will Micklin , Executive Director  
Ewiiapaayp Tribal Office  
4054 Willows Road  
Alpine, CA 91901

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Micklin:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Ms. Bernice Paipa , Vice Spokesperson  
Kumeyaay Cultural Repatriation Committee  
P.O. Box 937  
Boulevard, CA 92040

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Ms. Paipa:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

As part of this effort, and in compliance with federal, state, and local environmental regulations, we are initiating correspondence and consultation efforts regarding the identification of cultural resources and sacred lands within this project site and vicinity.

In order to ensure that any areas containing cultural resources or sacred lands are considered, PCR requests any information you are willing to share regarding Native American or prehistoric resources (including properties, places, or archaeological sites) in the vicinity of the project site that may be affected by the proposed project. The project site is depicted on the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, California United States Geologic Society 7.5' topographic quadrangle maps (see Figure 1).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I



June 24, 2014

Ms. Lavonne Peck , Chairwoman  
La Jolla Band of Mission Indians  
22000 Highway 76  
Pauma Valley, CA 92061

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Ms. Peck:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

As part of this effort, and in compliance with federal, state, and local environmental regulations, we are initiating correspondence and consultation efforts regarding the identification of cultural resources and sacred lands within this project site and vicinity.

In order to ensure that any areas containing cultural resources or sacred lands are considered, PCR requests any information you are willing to share regarding Native American or prehistoric resources (including properties, places, or archaeological sites) in the vicinity of the project site that may be affected by the proposed project. The project site is depicted on the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, California United States Geologic Society 7.5' topographic quadrangle maps (see Figure 1).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Anthony R. Pico , Chairperson  
Viejas Band of Kumeyaay Indians  
P.O. Box 908  
Alpine, CA 91903

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Pico:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

As part of this effort, and in compliance with federal, state, and local environmental regulations, we are initiating correspondence and consultation efforts regarding the identification of cultural resources and sacred lands within this project site and vicinity.

In order to ensure that any areas containing cultural resources or sacred lands are considered, PCR requests any information you are willing to share regarding Native American or prehistoric resources (including properties, places, or archaeological sites) in the vicinity of the project site that may be affected by the proposed project. The project site is depicted on the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, California United States Geologic Society 7.5' topographic quadrangle maps (see Figure 1).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Mark Romero , Chairperson  
Mesa Grande Band of Mission Indians  
P.O. Box 270  
Santa Ysabel, CA 92070

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Romero:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

As part of this effort, and in compliance with federal, state, and local environmental regulations, we are initiating correspondence and consultation efforts regarding the identification of cultural resources and sacred lands within this project site and vicinity.

In order to ensure that any areas containing cultural resources or sacred lands are considered, PCR requests any information you are willing to share regarding Native American or prehistoric resources (including properties, places, or archaeological sites) in the vicinity of the project site that may be affected by the proposed project. The project site is depicted on the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, California United States Geologic Society 7.5' topographic quadrangle maps (see Figure 1).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Daniel Tucker , Chairperson  
Sycuan Band of the Kumeyaay Nation  
5459 Sycuan Road  
El Cajon, CA 92019

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Tucker:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

As part of this effort, and in compliance with federal, state, and local environmental regulations, we are initiating correspondence and consultation efforts regarding the identification of cultural resources and sacred lands within this project site and vicinity.

In order to ensure that any areas containing cultural resources or sacred lands are considered, PCR requests any information you are willing to share regarding Native American or prehistoric resources (including properties, places, or archaeological sites) in the vicinity of the project site that may be affected by the proposed project. The project site is depicted on the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, California United States Geologic Society 7.5' topographic quadrangle maps (see Figure 1).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Mr. Vincent Whipple , Tribal Historic Pres. Officer  
Rincon Band of Mission Indians  
1 West Tribal Road  
Valley Center, CA 92082

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear Mr. Whipple:

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

As part of this effort, and in compliance with federal, state, and local environmental regulations, we are initiating correspondence and consultation efforts regarding the identification of cultural resources and sacred lands within this project site and vicinity.

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Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

June 24, 2014

Cultural Department  
San Luis Rey Band of Mission Indians  
1889 Sunset Drive  
Vista, CA 92081

**Re: PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER  
PROJECT, COUNTY OF SAN DIEGO, CALIFORNIA**

Dear :

**PCR Services Corporation (PCR)** is preparing environmental documentation in compliance with the California Environmental Quality Act and the National Environmental Policy Act (NEPA) for the proposed North San Diego County Regional Recycled Water Project in northern San Diego County, California. Per RMC Water and Environment's request, PCR will analyze the project on a program-level of detail as the project components are conceptual in nature. The project components include the construction of regional conveyance pipelines and the construction of new facilities, including water recycling plants and storage tanks.

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Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at [k.garcia@pcrnet.com](mailto:k.garcia@pcrnet.com).

Sincerely,  
**PCR SERVICES CORPORATION**



Kyle Garcia  
Senior Archaeologist I

## Kyle Garcia

---

**From:** Carmen Mojado <cjmojado@slrmissionindians.org>  
**Sent:** Friday, June 27, 2014 5:11 PM  
**To:** Kyle Garcia  
**Subject:** North San Diego County Regional Recycled Water Project

Hi Kyle,

The San Luis Rey Band of Mission Indians is requesting at this time a Cultural Report that my have been done for the above mentioned project be sent to the Tribe for review. The Tribe will review the report and submit comments back to you in a timely manner.

Any questions please feel free to contact me at anytime.

Thank you,

Cami Mojado

## SAN LUIS REY BAND OF MISSION INDIANS

*1889 Sunset Drive • Vista, California 92081  
760-724-8505 • FAX 760-724-2172  
www.slrmissionindians.org*

July 1, 2014

Kyle Garcia  
Senior Archaeologist I  
PCR Services Corporation  
501 W. Broadway, Ste. 800  
San Diego, CA 92101

**VIA ELECTRONIC MAIL**  
**k.garcia@pcrnet.com**

**RE: TRIBAL RESPONSE REGARDING THE PROPOSED NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER PROJECT AND ITS POTENTIAL IMPACTS TO NATIVE AMERICAN CULTURAL RESOURCES IN LUISEÑO TERRITORY**

Dear Mr. Garcia:

We, the San Luis Rey Band of Mission Indians (“Tribe”) have received and reviewed your letter dated June 24, 2014 regarding the North San Diego County Regional Recycled Water Project (“Project”) as depicted on the Morro Hill, San Luis Rey, San Marcos, Valley Center, Encinitas, Rancho Santa Fe, Escondido, Del Mar, California topographical quadrangle maps (“Project Area”) and inquiry as to whether the Tribe possesses any information and/or concerns regarding cultural resources in the Project Area.

We are a northern San Diego County Tribe whose traditional territory includes Camp Pendleton, the current cities of Oceanside, Carlsbad, Vista, San Marcos and Escondido, as well as unincorporated areas in northern San Diego County, such as the communities of Fallbrook and Bonsall. We are resolute in the preservation and protection of cultural, archaeological and historical sites within all these jurisdictions.

Our Tribe has intimate knowledge about the many discoveries made throughout the Project Area and is aware of many cultural resource sites within the Project Area. We strongly urge caution in assessing the land encompassing the Project, as well as incorporating the presence of a Luiseño Native American monitor during all ground disturbing activities and cultural resource assessment surveys.

In regards to information our Tribe can provide regarding these cultural resources and sacred sites within the Project Area, we respectfully request that any further discussion be done in person. In addition, given the scope of the Project Area, we would appreciate the opportunity to review the Project’s plans and our concerns with the Project Applicant at your earliest convenience. Please contact our Cultural Resource Manager Cami Mojado at (760) 917-1736 or



via email at [cjmojado@slrmissionindians.org](mailto:cjmojado@slrmissionindians.org) to arrange a mutually acceptable meeting date and time.

Furthermore, the Tribe requests that any and all cultural resource surveys completed in the Project Area and/or for the benefit of this Project be provided to the Tribe's Cultural Department at 1889 Sunset Drive, Vista, CA 92081 as your earliest convenience. If digital copies are available, please send them directly to [cjmojado@slrmissionindians.org](mailto:cjmojado@slrmissionindians.org). If a cultural resource survey has not been completed as of today's date, then the Tribe respectfully requests that a Luiseño Native American monitor be present during any proposed survey of the Project properties.

We appreciate this opportunity to provide information and/or share our concerns regarding this Project. We thank you for your assistance in protecting our invaluable Luiseño cultural resources.

Sincerely,

A handwritten signature in black ink, appearing to read "Merri Lopez-Keifer". The signature is fluid and cursive, with a large initial "M" and a long, sweeping underline.

Merri Lopez-Keifer  
Tribal Counsel  
San Luis Rey Band of Mission Indians

cc: Melvin Vernon, Tribal Captain  
Carmen Mojado, Secretary of Government Relations and President of Saving Sacred Sites

# RINCON BAND OF LUISEÑO INDIANS

## Culture Committee

1 W. Tribal Road · Valley Center, California 92082 ·  
(760) 297-2621 or (760) 297-2622 & Fax:(760) 749-8901



July 11, 2014

Kyle Garcia  
PCR  
One Venture, Suite 150  
Irvine, CA 92618

**Re: North County Regional Recycled Water Project**

Dear Mr. Garcia:

This letter is written in response to a notification received dated June 24, 2014 in regards to the North County Regional Water Project. Rincon is submitting these comments concerning your projects potential impact on Luiseño cultural resources.

The Rincon Band has concerns for impacts to historic and cultural resources and the finding of items of significant cultural value that could be disturbed or destroyed and are considered culturally significant to the Luiseño people. This is to inform you, your identified location is within the Luiseño Aboriginal Territory and the tribe is concerned with the overall impact this project could have on the protection and preservation of Luiseño Cultural assets. The Rincon Band of Luiseño Indians would like to remain informed of any and all updates and changes in regards to this project.

If there are any questions or concerns please do not hesitate to contact the Rincon Cultural Resources Department at (760) 297-2635 and they will be happy to assist you.

Thank you for the consideration and the opportunity to protect and preserve our cultural resources.

Sincerely,



Rose Duro  
Rincon Culture Committee Chairman

# VIEJAS

TRIBAL GOVERNMENT

PO Box 908  
Alpine, CA 91903  
#1 Viejas Grade Road  
Alpine, CA 91901

Phone: 6194453810  
Fax: 6194455337  
viejas.com

July 28, 2014

Kylie Garcia  
One Venture, Suite150  
Irvine, CA 92618

RE: PCR

Dear Mr. Garcia,

The Viejas Band of Kumeyaay Indians ("Viejas") has reviewed the proposed project and at this time we have determined that the project site is has little cultural significance or ties to Viejas. The project site is not in Kumeyaay Territory. We, however, request to be informed of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains in order for us to reevaluate our participation in the government-to-government consultation process. Thank you

Sincerely,

VIEJAS BAND OF KUMEYAAY INDIANS

**PALA TRIBAL HISTORIC  
PRESERVATION OFFICE**



PMB 50, 35008 Pala Temecula Road  
Pala, CA 92059  
760-891-3510 Office | 760-742-3189 Fax

PALA THPO

July 31, 2014

Kyle Garcia, Senior Archaeologist I  
PCR Services Corporation  
One Venture, Suite 150  
Irvine, CA 92618

Re: Proposed North San Diego County Regional Recycled Water Project, County of San Diego,  
California

Dear Mr. Garcia,

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. It is, however, within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). As noted in your letter, the project is currently in the conceptual stages of development. As such, it is difficult for us to be specific about potential effects to cultural resources. We would like to consult with you on specific project components as they move toward the construction phase. At a minimum, we will require Native American monitoring for any ground-disturbing activity and the development of a plan for the treatment and disposition of unanticipated discoveries, including but not limited to human remains and objects of cultural patrimony. In some cases we may request changes in project plans to avoid areas of particular cultural significance or sensitivity. Please continue to consult with us as this project develops so that we may address concerns in the timeliest fashion possible.

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone at 760-891-3515 or by e-mail at [sgaughen@palatribe.com](mailto:sgaughen@palatribe.com).

Sincerely,

Shasta C. Gaughen, Ph.D.  
Tribal Historic Preservation Officer  
Pala Band of Mission Indians



## PECHANGA CULTURAL RESOURCES

*Temecula Band of Luiseño Mission Indians*

Post Office, Box 2183 • Temecula, CA 92593  
Telephone (951) 308-9295 • Fax (951) 506-9491

Chairperson:  
Mary Bear Magee

Vice Chairperson:  
Darlene Miranda

Committee Members:  
Evie Gerber  
Bridgett Barcello Maxwell  
Richard B. Searce, III

Director:  
Gary DuBois

Coordinator:  
Paul Macarro

Planning Specialist:  
Tuba Ebru Ozdil

Cultural Analyst:  
Anna Hoover

August 22, 2014

### VIA E-Mail and USPS

#### **RE: Request for Information for the Proposed North San Diego County Regional Recycled Water Project, County of San Diego, California [PCR Services]**

Dear Mr. Garcia;

The Pechanga Band of Luiseño Indians ("the Tribe") appreciates your request for information regarding the above referenced Project. After reviewing the provided maps and our internal documents, we have determined that the Project area is not within reservation lands although it is within our ancestral territory. At this time, we are interested in participating in this Project based upon traditional knowledge of the area, previously recorded sites and known Luiseño named places and villages within the identified Project areas on the map you provided for reference. The Tribe believes that the possibility for recovering surface and subsurface resources during ground-disturbing and construction of new facilities, including water recycling plants and storage tanks are high. Although it is our understanding that this Project is still in the early phases of environmental processing, we have concerns regarding the locations you provided as they are in very sensitive areas of Luiseño territory. We request that you and the Lead Agency continue to consult with the Tribe throughout the life of this Project so any proposed impacts to cultural and archaeological resources can be appropriately mitigated and avoided.

Therefore, the Tribe requests the following:

- 1) Notification once the Project begins the entitlement process, if it has not already;
- 2) Copies of all applicable archaeological reports, site records, proposed grading plans and environmental documents (EA/IS/MND/EIR, etc);
- 3) Government-to-government consultation with the Lead Agency; and
- 4) The Tribe believes that monitoring by a San Diego County qualified archaeologist and a professional Pechanga Tribe monitor may be required during earthmoving activities. Therefore, the Tribe reserves its right to make additional comments and recommendations once the environmental documents have been received and fully reviewed. Further, in the event that subsurface cultural resources are identified, the Tribe requests consultation with the Project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

As a sovereign governmental entity, the Tribe is entitled to appropriate and adequate government-to-government consultation regarding the proposed Project. We would like you and your client to know that the Tribe does not consider initial inquiry letters from project consultants to constitute appropriate government-to-government consultation, but rather tools to obtain further information about the Project area. Therefore, the Tribe reserves its rights to participate in the formal environmental review process, including government-to-government consultation with the Lead Agency, and requests to be included in all correspondence regarding this Project.

Please note that we are interested in participating in surveys within Luiseño ancestral territory. Prior to conducting any surveys, please contact the Cultural Department to schedule specifics. If you have any additional questions or comments, please contact me at [eozdil@pechanga-nasn.gov](mailto:eozdil@pechanga-nasn.gov) or 951-770-8113.

Sincerely,



Tuba Ebru Ozdil  
Planning Specialist

## **APPENDIX E – Paleontological Resources Records Search Results**

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SAN DIEGO NATURAL HISTORY MUSEUM  
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

13 June 2014

Kyle Garcia  
PCR Services Corporation  
One Venture, Suite 150  
Irvine, CA 92618

RE: Paleontological Records Search – North San Diego County Regional Recycled Water (RMC San Diego) Project

Dear Mr. Garcia:

This letter summarizes the results of a review of the paleontological locality and specimen records held in the Department of Paleontology at the San Diego Natural History Museum that might be pertinent to the North San Diego County Regional Recycled Water (RMC San Diego) Project. The alignments occur in a large swath of North San Diego County, from Oceanside in the north to Solana Beach in the south, and as far east as Escondido. Potential project alignments are scattered throughout the aforementioned cities, as well as in the cities of Vista, Encinitas, Carlsbad, and San Marcos.

**Existing Conditions** — Published geological reports (Kennedy and Tan, 2005a; and Kennedy and Tan, 2005b) that cover the entirety of this project reveal that the proposed project alignments are located in areas underlain primarily by Cenozoic sedimentary rocks and Mesozoic sedimentary, igneous, and metamorphic rocks. Exposed sedimentary rocks underlying the project are mapped as the late Holocene-age (less than 10,000 years old) alluvial flood plain deposits (Qa) and landslide deposits (Qls); the late Pleistocene to Holocene-age (less than 150,000 years old) young colluvial deposits (Qyc) and young alluvial flood plain deposits (Qya); the middle to late Pleistocene-age (150,000 to 780,000 years old) old paralic deposits (Qop2-4 and Qop6-7) and old alluvial flood plain deposits (Qoa); the early to middle Pleistocene-age (780,000 years to 2.5 million years old) very old alluvial deposits (Qvoa) and very old paralic deposits (Qvop10-13); the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation (Tsa); the middle Eocene-age (approximately 45 to 47 million years old) Friars Formation (Tf); the middle Eocene-age (approximately 48 to 49 million years old) Torrey Sandstone (Tt); the middle Eocene-age (approximately 49 to 50 million years old) Delmar Formation (Td); Mesozoic-age (65 to 250 million years old) undivided meta-sedimentary and meta-volcanic rocks (Mzu); the late Cretaceous-age (approximately 75 million years old) Point Loma Formation (Kp); and the late Cretaceous-age (approximately 80 million years old) Lusardi Formation (Kl).

Mesozoic igneous rocks underlying the project alignments include middle Cretaceous-age (approximately 120 million years old) generic rocks of the Peninsular Ranges Batholith: tonalite, undivided (Kt); granodiorite, undivided (Kgd); and gabbro, undivided (Kgb); and non-generic, middle Cretaceous-age formations which include: Leucogranodiorite of Lake Hodges



(Klh), Monzogranite of Merriam Mountain (Kmm), Granite of Dixon Lake (Kdl), and Granodiorite of Woodson Mountain (Kwm).

**Paleontological Resources** — Paleontological locality and specimen records at the San Diego Natural History Museum document one hundred and seventy-three fossil discovery sites within a quarter-mile radius of the proposed project alignments (see attached maps). One locality was discovered in Holocene-age (less than 10,000 years old) alluvium. This locality produced bones of a terrestrial vertebrate (e.g., dog). Twenty-five localities were discovered in late Pleistocene-age (80,000 to 220,000 years old) unnamed non-marine terraces, unnamed lagoonal deposits, and unnamed marine deposits. These localities produced leaf impressions of plants (e.g., flowering plants), shell remains of marine and freshwater invertebrates (e.g., shrimp, crabs, ostracods, bryozoans, barnacles, urchins, snails, mussels, oysters, clams, and foraminifera), fossilized remains of marine vertebrates (e.g., sharks, rays, and fish), and fossilized remains of terrestrial vertebrates (e.g., birds, frogs, salamanders, bison, camel, deer, insectivores, rabbits, horses, mastodons, rodents, pond turtles, snakes, and ground sloths).

Seventeen localities were discovered in the late Pleistocene-age (80,000 to 220,000 years old) Bay Point Formation. These localities produced impressions of plants (e.g., sea grass), shell remains and molds of marine invertebrates (e.g., segmented worms, barnacles, shrimp, crabs, ostracods, bryozoans, stony corals, urchins, snails, clams, mussels, oysters, chitons, tusk shells, and foraminifera), and mineralized remains of marine vertebrates (e.g., fish and rays). One locality was discovered in the marine deposits of the early Pleistocene-age (0.5 to 1.5 million years old) Lindavista Formation. This locality produced trace evidence of marine invertebrates (e.g., angelwing burrows). One locality was found in the fluvial deposits of the early Oligocene-age (approximately 30 million years old) Sespe/Vaqueros Formation. This locality produced fossilized remains of terrestrial vertebrates (e.g., rodents and reptiles).

One-hundred and three localities were discovered in the terrestrial, fluvial, estuarine, lagoonal, and marine deposits of the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation. Recovered fossils include leaf impressions and molds of plants (e.g., freshwater algae, willow, magnolia, and mangroves), trace fossils (e.g., coprolites and burrows), shell remains and mold impressions of freshwater and marine invertebrates (e.g., barnacles, segmented worms, shrimp, crabs, ostracods, bryozoans, brachiopods, stony corals, urchins, snails, oysters, mussels, clams, tusk shells, sand dollars, and sponges), fossilized remains of marine vertebrates (e.g., sharks, rays, and fish), and fossilized remains of terrestrial vertebrates (e.g., birds, amphibians, insectivores, rabbits, oreodonts, creodonts, primitive artiodactyls, camels, primitive carnivores, primates, marsupials, semi-aquatic placental mammals, hippo-like perissodactyls, brontotheres, rhinoceroses, early horses, tapirs, rodents, tortoises, softshell turtles, snakes, crocodylians, and lizards).

Four localities were discovered in marine deposits of the middle Eocene-age (48 to 49 million years old) Torrey Sandstone. These localities produced seed pod and leaf impressions of plants (e.g., flowering plants), internal and external molds of marine invertebrates (e.g., urchins, snails, mussels, clams, oysters, and crustaceans), and scales of marine vertebrates (e.g., fish). Three localities were discovered in estuarine deposits of the middle Eocene-age (49 to 50 million years old) Delmar Formation. These localities produced shell remains and mold impressions of marine invertebrates (e.g., oysters, clams, mussels, snails, and sponges), and mineralized remains of marine vertebrates (e.g., rays and fish). Finally, eighteen localities were discovered in marine deposits of the middle Cretaceous-age (approximately 75 million years old) Point Loma Formation. These localities produced fossilized roots and wood fragments of plants (e.g., vascular plants), and shell remains and mold impressions of marine invertebrates (e.g.,

segmented worms, shrimp, crabs, brachiopods, urchins, ammonites, nautiloids, snails, mussels, oysters, clams, and sponges).

**Impacts and Recommendation** — In some areas of the project, namely the eastern proposed alignments, the lack of recorded paleontological sites is largely due to the occurrence of plutonic rocks of the Peninsular Ranges Batholith. The high temperature and pressure conditions associated with the origin of these rocks at depth are responsible for the absence of fossils. Deméré and Walsh (1993) have assigned a zero paleontological sensitivity rating to the previously identified generic and non-generic Cretaceous rocks of the Peninsular Ranges Batholith. Negative impacts to paleontological resources during ground disturbance associated with this project are extremely unlikely in those areas.

However, negative impacts to significant paleontological resources could occur in those portions of the project underlain by sedimentary rocks. Due to their young age, the alluvial flood plain deposits (Qa), young colluvial deposits (Qyc), and young alluvial flood plain deposits (Qya) are assigned a low paleontological rating (Deméré and Walsh, 1993). Any biological material found in these deposits is likely to be modern to sub-fossil. The old paralic deposits (Qop2-4 and Qop6-7) and old alluvial flood plain deposits (Qoa) are age-equivalent and of a similar lithology to the late Pleistocene-age Bay Point Formation in San Diego County. Similarly, the very old paralic deposits (Qvop10-13) and the very old alluvial deposits (Qvoa) are age-equivalent and lithologically similar to the early Pleistocene-age Lindavista Formation in San Diego County. Deméré and Walsh (1993) have assigned a high paleontological sensitivity rating to the Bay Point Formation, the Friars Formation, the Delmar Formation, and the Point Loma Formation, a moderate to high paleontological sensitivity rating to the Santiago Formation, and a moderate paleontological sensitivity rating to the Lindavista Formation, the Torrey Sandstone, and the Lusardi Formation. Upon inspection of geologic maps, the Holocene-age landslide deposits (Qls) that the potential project alignments cross in scattered portions of the northwestern area of the project appear to be derived from old paralic deposits (Qop), very old paralic deposits (Qvop), and the Santiago Formation (Tsa), all of which, as previously stated, are assigned a moderate to high paleontological sensitivity rating. In addition, the meta-sedimentary portion of the undivided meta-sedimentary and meta-volcanic rocks (Mzu) has been known to produce important microfossils and marine macroinvertebrates, and is given a high paleontological sensitivity rating (Deméré and Walsh, 1993). Site investigation during project excavations will be required to determine whether or not the meta-sedimentary portion of this formation is being impacted. The meta-volcanic portion of this formation has a zero paleontological sensitivity rating.

Ground-disturbing activities associated with this project have the potential to cause negative impacts to significant paleontological resources preserved in deposits identified as having a moderate or high paleontological sensitivity rating. These ratings, combined with the proven fossil occurrences in the immediate project areas would suggest the implementation of a standard paleontological avoidance program consisting of excavation monitoring, fossil recovery, specimen preparation and curation, and production of a final report.

The information contained within this paleontological record search should be considered private and is the sole property of the San Diego Natural History Museum. Any use or reprocessing of information contained within this document beyond the scope of the North San Diego County Regional Recycled Water (RMC San Diego) Project is prohibited.

If you have any questions concerning these findings please feel free to contact me at 619-255-0320 or [nanderson@sdnhm.org](mailto:nanderson@sdnhm.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Nikki Anderson", is centered on a light gray rectangular background.

Nikki Anderson  
Lead Fossil Preparator  
Department of PaleoServices

References Cited:

- Deméré, T.A. and S.L. Walsh. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission 1-68.
- Kennedy, M.P. and Tan, S.S. 2005a. Geologic Map of the Oceanside 30' X 60' Quadrangle, California. California Geological Survey.
- Kennedy, M.P. and Tan, S.S. 2005b. Geologic Map of the San Diego 30' X 60' Quadrangle, California. California Geological Survey.



SAN DIEGO NATURAL HISTORY MUSEUM  
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

10 February 2015

Kyle Garcia  
PCR Services Corporation  
One Venture, Suite 150  
Irvine, CA 92618

RE: Paleontological Records Search – North San Diego County Regional Recycled Water (RMC San Diego) Amendment Project

Dear Mr. Garcia:

This letter summarizes the results of a review of the paleontological locality and specimen records held in the Department of Paleontology at the San Diego Natural History Museum that might be pertinent to the North San Diego County Regional Recycled Water (RMC San Diego) Amendment Project. The northernmost alignment straddles both the City of Oceanside and the City of Carlsbad, and is approximately 5.5 miles in length. It begins along South El Camino Real before turning east and paralleling Vista Way. The alignment then turns south on College Boulevard and again east on Lake Boulevard, which it parallels, until terminating at the intersection of Lake Boulevard and Cannon Road. The southern alignments accumulatively run for approximately 4 miles, and occur between Leucadia Boulevard to the north, and Manchester Avenue to the south, and straddle Interstate 5 to the east and west, in the City of Encinitas.

**Existing Conditions** — Published geological reports (Kennedy and Tan, 2005a) that cover the entirety of this project reveal that the proposed project alignments are located in areas underlain primarily by Cenozoic sedimentary rocks. Exposed sedimentary rocks underlying the project are mapped as the late Holocene-age (less than 10,000 years old) alluvial flood plain deposits (Qa); the middle to late Pleistocene-age (150,000 to 780,000 years old) old paralic deposits (Qop<sub>2-4</sub> and Qop<sub>6-7</sub>); the early to middle Pleistocene-age (780,000 years to 2.5 million years old) very old paralic deposits (Qvop<sub>10-11</sub> and Qvop<sub>13</sub>); the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation (Tsa); and the middle Eocene-age (approximately 48 to 49 million years old) Torrey Sandstone (Tt).

**Paleontological Resources** — Paleontological locality and specimen records at the San Diego Natural History Museum document twelve fossil discovery sites (see abbreviated locality descriptions) within a quarter-mile radius of the proposed project alignments (see attached maps). Three localities were discovered in deposits of late Pleistocene-age (10,000 to 500,000 years old) unnamed river terraces. These localities produced fossilized bones of terrestrial vertebrates (e.g., birds, deer, horses, camels, and bison). The remaining nine localities were discovered in the middle Eocene-age (approximately 40 to 49 million years old) Santiago Formation. Recovered fossils include leaf impressions of plants, trace fossils (e.g., coprolites

and burrows), shell remains and internal molds of freshwater and marine invertebrates (e.g., crustaceans, ostracods, foraminifera, snails, oysters, and clams), fossilized remains of marine vertebrates (e.g., bony and cartilaginous fish), and fossilized remains of terrestrial vertebrates (e.g., amphibians, bats, insectivores, arboreal mammals, oreodonts, creodonts, other primitive artiodactyls, primitive carnivores, primates, marsupials, rhinoceroses, tapirs, rodents, turtles, snakes, crocodylians, and lizards).

**Impacts and Recommendation** — Due to their young age, the alluvial flood plain deposits (Qa) are assigned a low paleontological rating (Deméré and Walsh, 1993), as any biological material found in these deposits is likely to be modern to sub-fossil. The old paralic deposits (Qop<sub>2-4</sub> and Qop<sub>6-7</sub>) are age-equivalent and of a similar lithology to the late Pleistocene-age Bay Point Formation in San Diego County. Similarly, the very old paralic deposits (Qvop<sub>10-11</sub> and Qvop<sub>13</sub>) are age-equivalent and lithologically similar to the early Pleistocene-age Lindavista Formation in San Diego County. Deméré and Walsh (1993) have assigned a high paleontological sensitivity rating to the Bay Point Formation (and therefore the old paralic deposits), a moderate to high paleontological sensitivity rating to the Santiago Formation, and a moderate paleontological sensitivity rating to the Lindavista Formation (and therefore the very old paralic deposits) and the Torrey Sandstone. Ground-disturbing activities associated with this project have the potential to cause negative impacts to significant paleontological resources preserved in deposits identified as having a moderate or high paleontological sensitivity rating. These ratings, combined with the proven fossil occurrences in the immediate project areas would suggest the implementation of a standard paleontological avoidance program consisting of excavation monitoring, fossil recovery, specimen preparation and curation, and production of a final report.

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If you have any questions concerning these findings please feel free to contact me at 619-255-0320 or [nanderson@sdnhm.org](mailto:nanderson@sdnhm.org).

Sincerely,

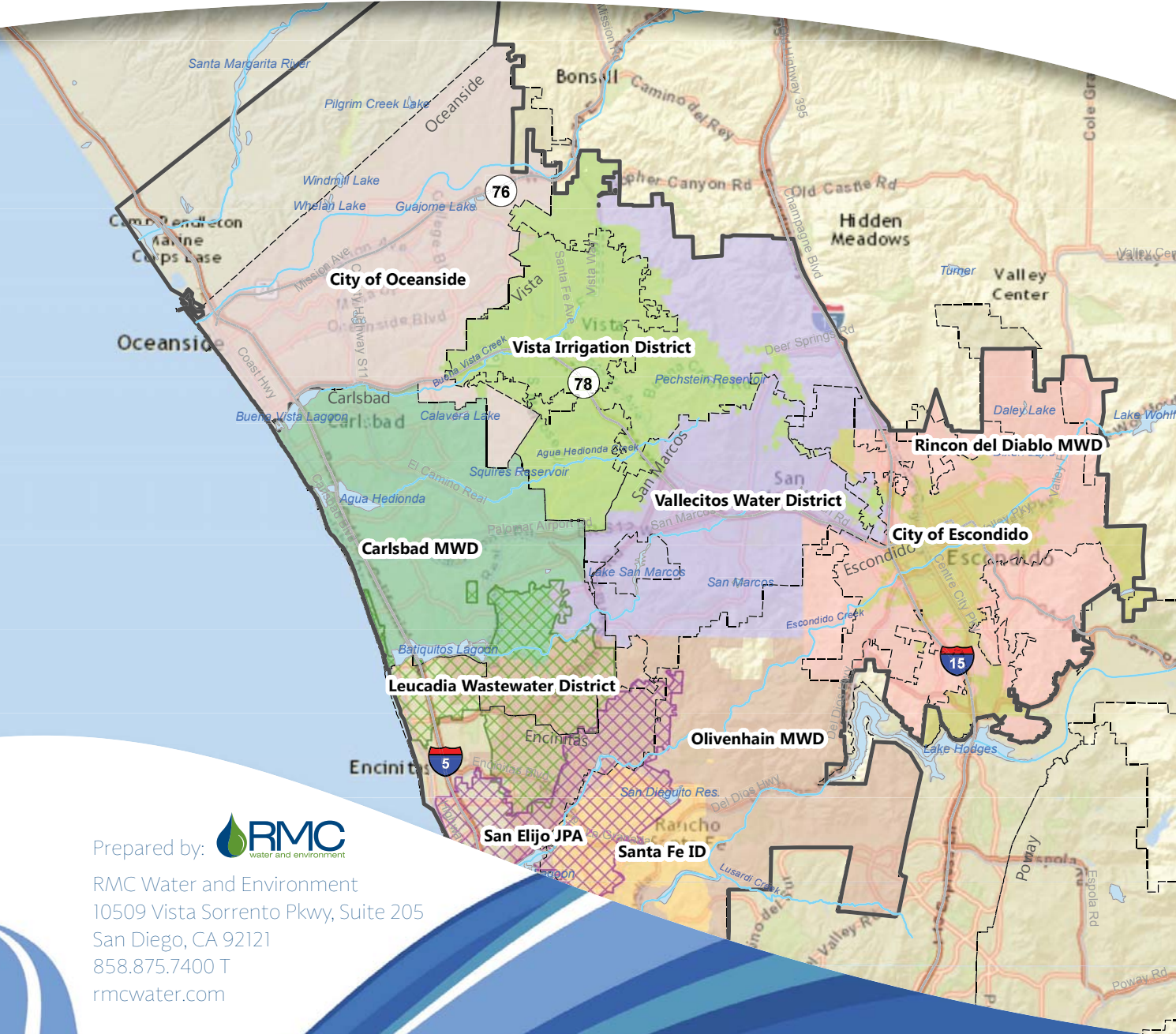


Nikki Anderson  
Lead Fossil Preparator  
Department of PaleoServices

References Cited:

- Deméré, T.A. and S.L. Walsh. 1993. Paleontological Resources, County of San Diego. Prepared for the San Diego Planning Commission 1-68.
- Kennedy, M.P. and Tan, S.S. 2005a. Geologic Map of the Oceanside 30' X 60' Quadrangle, California. California Geological Survey.

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