

EASTERN MUNICIPAL WATER DISTRICT SAN JACINTO VALLEY WATER BANKING – ENHANCED RECHARGE AND RECOVERY PROGRAM

Draft Program and Project Environmental Impact Report

April 2018

Prepared for
Eastern Municipal Water District



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GEO	Liquefaction Potential Maps
HAZ	Envirostor and GeoTracker Output
LU	Land Use Designation Maps
MAW	Mountain Avenue West Recharge Facility Interagency Agreement
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Acronym List

%g	percentage of gravity
° F	Fahrenheit
24/7	24 hours per day, seven days per week
AB	Assembly Bill
AB 52	Assembly Bill 52
AF	acre feet
AFY	acre-feet per year
AIA	airport influence area
ALA	American Lifelines Alliance
ALUCP	Airport Land Use Compatibility Plan
amsl	above mean sea level
APS	alternative planning strategy
AQMP	Air Quality Management Plan
ATCM	Airborne Toxic Control Measure
ATSF	Atchison, Topeka, and Santa Fe Railroad
B.P.	before present
BACT	Best Available Control Technology
Basin Plan	Santa Ana Regional Water Quality Control Board Water Quality Control Plan
BAU	Business as Usual
bgs	below ground surface
BMPs	Best Management Practices
BOR	U.S. Bureau of Reclamation
BSER	best system of emission reduction
BTU	British Thermal Unit
CAA	Clean Air Act
CAAA	CAA Amendments of 1990
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency

CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CAT	California Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
<u>CFCs</u>	Chlorofluorocarbons
CFG	California Fish and Game
CFR	Code of Federal Regulations
cfs	cubic feet/second
CGS	California Geological Survey
CH ₄	methane
CHRIS	California Historical Resources Information System
CMP	Congestion Management Program
CNEL	Community Noise Exposure
CNPS	California Native Plant Society
CNRP	Comprehensive Nutrient Reduction Plan
CO ₂	carbon dioxide
County	County of Riverside
CRA	Colorado River Aqueduct
CRHR	California Register of Historical Resources
CRMMP	Cultural Resources Mitigation and Monitoring Program

CVC	California Vehicle Code
CWA	Clean Water Act
CY	cubic yards
dB	decides
dBA	A-weighted decibels
DHS	California Department of Health Services
DOC	California Department of Conservation
DOF	Department of Finance
DPM	diesel particulate matter
DWR	California Department of Water Resources
EGUs	electric generating units
EIC	Eastern Information Center
EIR	Environmental Impact Report
EMWD	Eastern Municipal Water District
EO	Executive Order
EOP	Riverside County Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
Feasibility Study	Local Water Banking Program Feasibility Study
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FESA	federal Endangered Species Act
FILGHT	Facility Level Information on Greenhouse Gases Tool
FIRMs	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
GHG	greenhouse gases
gpm	gallons per minute
GRP	Groundwater Reliability Plus
GWh	gigawatt-hours
GWP	Global Warming Potential

HAPs	hazardous air pollutants
HCP	habitat conservation plan
HFCs	hydrofluorocarbons
HFD	Hemet Fire Department
hp	horsepower
HPD	Hemet Police Department
HSA	hollow stem auger
HUSD	Hemet Unified School District
HVWAP	Harvest Valley/Winchester Area Plan
HWFP	Hemet Water Filtration Plant
Hz	Hertz
I-10	Interstate 10
IBC	International Building Code
IFI	Important Farmlands Inventory
in/sec	inches per second
Inter-Agency Agreement	Mountain Avenue West Recharge Facility Inter-Agency Agreement
IOC	integrated operations center
IOU	investor-owned utilities
IPCC	Intergovernmental Panel on Climate Change
IRRP	Integrated Recharge and Recovery Program
ISO	Independent System Operator
ITP	Incidental Take Permit
kWh	kilowatt-hours
kWh/yr	kilowatt hours per year
LACM	Natural History Museum of Los Angeles County
LCFS	Low Carbon Fuel Standard
LESA	Land Evaluation and Site Assessment
LHMWD	Lake Hemet Municipal Water District
LSTs	localized significance thresholds
LUP	linear underground projects
MATES IV	Multiple Air Toxics Exposure Study IV

MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
mg/L	milligrams per liter
MLD	Most Likely Descendant
MMRP	mitigation monitoring and reporting program
MND	Mitigated Negative Declaration
MPOs	Metropolitan Planning Organizations
MS4	Municipal Separate Storm Sewer
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
MT	metric tons
MTCO ₂ eq	carbon dioxide-equivalent
MW	megawatts
MWD	Metropolitan Water District of Southern California
MWh	megawatt-hours
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	California Native American Heritage Commission
NCCP	National Communities Conservation Plan
NH ₃	ammonia
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO ₂	nitrogen dioxide
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	produce ozone

OEHHA	Office of Environmental Health Hazard Assessment
OFFROAD	off-road vehicle
OHSA	Office of Safety and Health Administration
OHWM	ordinary high water mark
OPR	Office of Planning and Research
Pb	lead
PCEs	Primary Constituent Elements
PFCs	perfluorocarbon
PGA	peak ground acceleration
Plan	Hemet/San Jacinto Water Management Plan
PM	Particulate Matter
PPV	peak particle velocity
PRC	Public Resources Code
Proposed Program	San Jacinto Valley Water Banking – Enhanced Recharge and Recovery Program
Proposed Project	San Jacinto Valley Water Banking ERRP – Phase 1 Project
RCA	Western Riverside County Regional Conservation Authority
RCFC&WCD	Riverside County Flood Control and Water Conservation District
RCFD	Riverside County Fire Department
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RCSD	Riverside County Sheriff’s Department
RCTC	Riverside County Transportation Commission
RES-BCT	Local Government Renewable Energy Bill Credit
Riverside CAP	County of Riverside Climate Action Plan
RMS	root mean square
ROGs	reactive organic gases
RPS	Renewables Portfolios Standard
RTA	Riverside Transit Agency
RTP	Regional Transportation Program
RTP/SCS	2016 Regional Transportation Plan/Sustainable Communities Strategy

RWQCB	Regional Water Quality Control Board
RWRFs	Regional Water Reclamation Facilities
SARCCUP	Santa Ana River Conservation & Conjunctive Use Program
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCEC	Southern California Earthquake Data Center
SCG	Southern California Gas Company
SCS	sustainable communities strategy
SDC	seismic design category
SF ₆	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act of 2014
SIP	State Implementation Plan
SJFD	City of San Jacinto Fire Department
SJPD	San Jacinto Police Department
SJUSD	San Jacinto Unified School District
SJVAP	San Jacinto Valley Area Plan
SKRHCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SLF	Sacred Lands File
SO ₂	sulfur dioxide
SO ₃	sulfur trioxide
SOC	Statement of Overriding Considerations
SO _x	sulfur oxides
SP	service population
SR	State Route
SRAAs	source receptor areas
SSC	California Species of Special Concern
Sub-Basin	Upper Pressure Sub-Basin

SVP	Society for Vertebrate Paleontology
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plans
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDS	total dissolved solids
TMDL	Total Maximum Daily Loads
UNFCCC	United Nations Framework Convention on Climate Change
Update	First Update to California’s Climate Change Scoping Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
Valley-Wide District	Valley-Wide Parks and Recreation District
VdB	Decibel notation
VDECS	Verified Diesel Emission Control Strategies
VMT	vehicle miles traveled
VOCs	volatile organic compounds
Watermaster	Hemet-San Jacinto Watermaster
WEAP	Worker Environmental Awareness Program
WLAs	waste load allocations
WMP	Water Management Plan
Working Group	GHG Significance Threshold Working Group
WRCC	Western Regional Climate Center
ZEV	zero emission vehicle
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter

EXECUTIVE SUMMARY

ES.1 Introduction

The Eastern Municipal Water District (EMWD) as the Lead Agency has prepared this Draft Environmental Impact Report (Draft EIR) to provide information about the potential effects on the local and regional environment associated with the San Jacinto Valley Water Banking – Enhanced Recharge and Recovery Program (San Jacinto Valley Water Banking ERRP; Proposed Program). The Proposed Program would allow EMWD to enhance current and future water supplies in the local groundwater basin by developing a groundwater water bank with total storage capacity of up to 90,000 acre feet (AF). Groundwater produced (extracted) by the Proposed Program would be used within EMWD’s service area; water could also be made available to EMWD’s sub-agencies or other regional water agencies through an exchange, with no physical export of local supplies. The Proposed Program would include development of recharge facilities, extraction and monitoring wells, treatment/blending and disinfection facilities, potable and raw water transmission pipelines, well water collector pipelines, laterals from the raw water pipeline to the recharge sites, and other conveyance facilities and appurtenances required to support the Proposed Program. EMWD is proposing to implement the San Jacinto Valley Water Banking ERRP in phases; the San Jacinto Valley Water Banking ERRP – Phase 1 Project (Proposed Project) would be the first installment of the Proposed Program.

This Draft EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code (PRC) Sections 21000 et. seq., and the State *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3. Because EMWD plans to construct the Proposed Program in phases over 20 to 30 years, specific locations of some components, such as extraction wells, are not yet known. Additionally, some pipeline alignments are preliminary and may change during the design process. For these reasons, a program-level analysis of impacts related to the larger Proposed Program is provided in this Draft EIR in accordance with CEQA Guidelines Section 15168. In addition to the program-level analysis, a project-level analysis which evaluates the construction and operation of the Proposed Project at a site-specific project level is included in this Draft EIR. The project-level analysis is consistent with *CEQA Guidelines* Section 15161 and 15378(a). The Proposed Program components are described further in Chapter 2 and shown in **Figure ES-1**.

ES.2 Project Background

The San Jacinto Valley Water Banking ERRP is a groundwater banking program. “Groundwater banking” is the practice of recharging specific amounts of water in a groundwater basin that can later be withdrawn and used by the entity that deposited the water (Pacific Institute, 2011). Groundwater banking uses local facilities and underground aquifers for percolation and storage

purposes as an alternative to, or in addition to, building aboveground storage. It allows flexibility to respond to seasonal and multi-year hydrologic variability, as water can be stored in wet periods, when water is abundant, for use in dry periods, when water may be in short supply. The recharged, or banked groundwater, may also be made available for purchase and beneficial use by other basin pumpers

ES.3 Objectives

The objectives of the Proposed Program and Proposed Project are as follows:

- Increase water supply reliability during droughts and emergencies.
- Overcome water shortages of up to 15 percent for up to three consecutive drought years during a regional water allocation cutback.
- Increase the amount of groundwater that can be pumped seasonally through recharge and storage of imported water.

ES.4 Program and Project Description

The Proposed Program would develop groundwater banking facilities in the within the Upper Pressure Sub-Basin (Sub-Basin), which has been adjudicated and is managed by the Hemet-San Jacinto Watermaster. The Proposed Program involves construction of facilities to deliver imported water for recharge at four new recharge sites, extract and treat the recharged water, and finally deliver the potable water supplies within EMWD's service area. To do this, the Proposed Program would include development of four recharge facilities: Mountain Avenue West, East, North, and South, up to 11 extraction wells, 16 shallow monitoring wells, seven multi-depth monitoring wells, treatment/blending and disinfection facilities, potable, raw, blowoff and well water collector pipelines and laterals, and other conveyance facilities and appurtenances. The entire Proposed Program anticipates groundwater extraction of up to 30,000 AFY. The Proposed Program facilities would be phased in over time to achieve the target storage capacity of up to 90,000 AF.

The Proposed Project would be implemented as the first phase of the Proposed Program and would implement groundwater recharge facilities at Mountain Avenue West to enable EMWD to recharge an average of approximately 7,000 to 30,000 AFY when recharge supplies are available, while relying on existing regional infrastructure to convey imported raw water to the proposed recharge basin. The Proposed Project also includes eight shallow monitoring wells, three multi-depth monitoring wells, three new groundwater extraction wells, treatment/blending and disinfection facilities at Hewitt & Evans, and raw water, blow-off, well water, and potable water conveyance pipelines to enable EMWD to initially extract and deliver up to 7,000 AFY to its existing potable water distribution system.

ES.5 Project Alternatives

An EIR must describe a range of reasonable alternatives to the Proposed Project or alternative project locations that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project. The alternatives analysis must include the “No Project Alternative” as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the proposed project were not approved (*CEQA Guidelines* §15126.6). The following alternatives are discussed further in Chapter 6, Alternatives Analysis.

No Project Alternative

Under the No Project Alternative, EMWD would not construct groundwater banking facilities and associated monitoring, extraction, and conveyance facilities proposed under the Proposed Program. The vacant land proposed for recharge basins, wells, and treatment facilities would remain undeveloped. The additional seasonal and extended water banking of up to 90,000 AFY would not occur, which would result in reduced capacity to augment the recharge, storage, and extraction capacities of EMWD’s existing groundwater production system. The benefits of the Proposed Program, which include improved groundwater quality and reduced water salinity, higher groundwater levels and lower pumping costs, increased groundwater availability, and drought-resilient supply reliability, would not occur. Additionally, the water that would have been stored in the groundwater basin as a result of the Proposed Program would not be available for use during an emergency or drought situation in future years.

Alternatives Rejected from Further Consideration

Additional alternatives considered but rejected from further consideration by EMWD include adding stormwater from the Meridian Channel as a recharge supply for the Mountain Avenue recharge facilities, and using an alternative recharge site located at the intersection of Soboba Street and Ramona Expressway southeast of the Proposed Program which would replace recharge facilities at Mountain Avenue North and Mountain Avenue East. These alternatives did not meet the project objectives, were found to result in significant environmental impacts, were not cost-effective, or were otherwise determined to be infeasible.

Summary of Alternatives Analysis

One of the primary purposes of the alternatives analysis is to identify project alternatives that may avoid or substantially lessen significant project impacts (*CEQA Guidelines* §15126.6). Potentially significant impacts would result from construction-related air emissions and temporary construction-related noise for the Proposed Program. Significant and unavoidable impacts were found for construction-related air emissions and temporary construction-related noise for the Proposed Project. CEQA requires that a Draft EIR shall assess the No Project Alternative. A comparison of the Proposed Program to the No Project Alternative presents a tradeoff between achieving project objectives and impacting the environment. The No Project Alternative would avoid all the environmental impacts of the Proposed Program but would not meet any of the

project objectives. The No Project Alternative also would forego any environmental benefits to the Sub-Basin, such as improving the static groundwater levels from recharge activities.

CEQA requires that an EIR identify the environmentally superior alternative of a project other than the No Project Alternative (*CEQA Guidelines* Section 15126.6(e)(2)). Although the No Project Alternative would result in fewer environmental impacts than the Proposed Program and the Proposed Project, both Program and Project would benefit the Sub-Basin through recharge and storage and enhance water supply reliability for EMWD. For this reason, the Proposed Program is considered the environmentally superior alternative.

ES.6 Areas of Controversy

During the NOP public review period and during additional community meetings held for the Proposed Program, concerns were raised regarding potential adverse impacts to the following: biological resources, groundwater storage capacity and pumping in the basin, noise and dust impacts, and visual impacts. These concerns have been addressed in Chapter 3 of this Draft EIR.

ES.7 Summary of Impacts

Table ES-1, at the end of this chapter, presents a summary of the impacts and mitigation measures identified for the proposed project. The complete impact statements and mitigation measures are presented in Chapter 3 of this Draft EIR. The level of significance for each impact was determined using significance criteria (thresholds) developed for each category of impacts; these criteria are presented in the appropriate sections of Chapter 3. Significant impacts are those adverse environmental impacts that meet or exceed the significance thresholds; less than significant impacts would not exceed the thresholds. **Table ES-1** indicates the measures that will be implemented to avoid, minimize, or otherwise reduce significant impacts to a less than significant level.

The CEQA Guidelines require that an EIR discuss the significant environmental effects of the proposed project (Section 15126.2(a)), which is summarized in **Table ES-1** and provided in Chapters 3 and 4 of the Draft EIR. The CEQA Guidelines also require that an EIR discuss the significant environmental effects which cannot be avoided (Section 15126.2(b)), and significant irreversible environmental changes which would be caused by the proposed project should it be implemented (Section 15126.2(c)). These are discussed below.

Significant Unavoidable Environmental Effects

As required by CEQA Guidelines Section 15126.2(b), an EIR must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the project is being proposed, notwithstanding their effect, should be described. Chapter 3 of this Draft EIR describes the potential environmental impacts of the Proposed Program and the Proposed Project and recommends mitigation measures to reduce impacts, where feasible. This Draft EIR identifies potentially significant impacts associated with temporary construction-related air emissions and

temporary construction-related noise for the Proposed Program. Significant and unavoidable impacts were found for temporary construction-related air emissions and temporary construction-related noise for the Proposed Project. All other potentially significant impacts are determined to be mitigated to less than significant levels with incorporation of mitigation measures.

Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines require that an EIR analyze the extent to which a project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. "Significant irreversible environmental changes" include the use of nonrenewable natural resources during the initial and continued phases of the project, should this use result in the unavailability of these resources in the future. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified.

Construction and operation activities for both the Proposed Program and the Proposed Project would require the commitment of renewable and non-renewable sources. Proposed Program and Proposed Project implementation would necessitate the consumption of resources including, but not limited to: building materials, fuel and operational materials/resources, energy resources, and transportation of persons and goods to and from the Proposed Program and Proposed Project sites. Construction activities would specifically require the use of concrete and asphalt, and would require the consumption of fossil fuels, including gasoline and oil, in order to provide power to construction vehicles and equipment. The majority of facilities constructed as part of the Proposed Program and Proposed Project, such as recharge basins, would involve reuse of excavated and stockpiled materials and would not result in an irretrievable commitment of resources. The use of nonrenewable resources for the implementation of the Proposed Program and the Proposed Project is justified and would not result in the unavailability of such resources.

ES.8 Organization of the Draft EIR

The chapters of this Draft EIR are as follows:

Executive Summary. This chapter summarizes the contents of the Draft EIR.

1. **Introduction and Background.** This chapter discusses the purpose of the Draft EIR, the CEQA process, and pertinent background information about EMWD and the Proposed Program and Proposed Project.
2. **Program and Project Description.** This chapter provides an overview of the Proposed Program and the Proposed Project, describes the need for and objectives of the Proposed Program, and provides detail on the characteristics of the Proposed Program and Proposed Project.
3. **Environmental Setting, Impacts and Mitigation Measures.** This chapter describes the baseline environmental setting and identifies impacts of the Proposed Program and Proposed Project for each of the following environmental resource areas: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials;

Hydrology and Water Quality; Land Use and Planning; Noise; Public Services and Recreation; Transportation and Traffic; and Utilities and Service Systems. Measures to mitigate the impacts of the Proposed Program and Proposed Project are presented for each resource area where significant potential impacts have been identified. References are included in each chapter.

4. **Cumulative Impacts Analysis.** This chapter describes the potential impacts of the Proposed Program and Proposed Project when considered together with combined impacts of other related projects in the Proposed Program and Proposed Project areas.
5. **Growth Inducement Potential.** This chapter summarizes population projections and water demands within the EMWD service area and describes the potential for the Proposed Program as a whole to induce growth.
6. **Alternatives Analysis.** This chapter presents an overview of the alternatives development process and describes the alternatives to the Proposed Program that were considered.
7. **Report Preparers.** This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.

ES.9 References

Pacific Institute, 2011. *Improving Water Management through Groundwater Banking: Kern County and the Rosedale-Rio Bravo Water Storage District*. Pacific Institute Farm Water Success Stories: Groundwater Banking.

**TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Aesthetics				
Impact AES-1: Implementation of the Proposed Program and the Proposed Project could have a substantial adverse effect on a scenic vista.	None required.	Less than Significant	None required.	Less than Significant
Impact AES-2: Implementation of the Proposed Program and the Proposed Project could substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	None required.	Less than Significant	None required.	No Impact
Impact AES-3: Implementation of the Proposed Program and the Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.	AES-PMM-1: Design of Aboveground Structures. For future projects implemented under the Proposed Program, EMWD shall ensure that the design of all aboveground structures (pump stations and treatment/ blending and disinfection facilities) shall be consistent with the general building style of the existing site and surroundings to ensure compatibility with visual character of the immediate neighborhood, to the extent feasible.	Less than Significant with Mitigation	AES-MM-1: Design of Aboveground Structures. EMWD shall ensure that the design of all aboveground structures associated with the Proposed Project shall be consistent with the general building style of the existing site and surroundings to ensure compatibility with visual character of the immediate neighborhood.	Less than Significant with Mitigation

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact AES-4: Implementation of the Proposed Program and the Proposed Project could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.</p>	<p>AES-PMM-2: Nighttime Construction. For future projects implemented under the Proposed Program, all nighttime construction lighting and temporary or permanent security lighting installed on new facilities shall be attached to motion sensors and shielded and directed downward to avoid light spill onto neighboring properties.</p>	<p>Less than Significant with Mitigation</p>	<p>AES-MM-2: Nighttime Construction. All nighttime construction lighting and temporary or permanent security lighting installed on new facilities shall be attached to motion sensors and shielded and directed downward to avoid light spill onto neighboring properties.</p>	<p>Less than Significant with Mitigation.</p>
<p>Agriculture and Forestry Resources</p>				
<p>Impact AGR-1: Implementation of the Proposed Program and the Proposed Project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant.</p>
<p>Impact AGR-2: Implementation of the Proposed Program and the Proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.</p>	<p>None required.</p>	<p>No Impact</p>	<p>None required.</p>	<p>No Impact</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact AGR-3: Implementation of the Proposed Program and the Proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.</p>	None required.	No Impact	None required.	No Impact
<p>Impact AGR-4: Implementation of the Proposed Program and the Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use.</p>	None required.	No Impact	None required.	No Impact
<p>Impact AGR-5: Implementation of the Proposed Program and the Proposed Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Air Quality				
<p>Impact AQ-1: Implementation of the Proposed Program and the Proposed Project could conflict with or obstruct implementation of the applicable air quality plan.</p>	<p>AQ-PMM-1: Tier 4 Rated Engines. For Program components as currently described, EMWD shall require the construction contractor to use off-road equipment that meets the EPA certified Tier 4 final engines or engines that are certified to meet or exceed the emission ratings for EPA Tier 4 final engines.</p> <p>AQ-PMM-2: On-Road Haul Trucks. For Program components as currently described, EMWD and the construction contractor shall ensure that the contracted haul fleet for import and export of materials and soil operate vehicles that have the newest available engines (currently 2012 engines).</p> <p>AQ-PMM-3: Additional Analysis. Prior to construction of future Program facilities, a supplemental analysis shall be conducted to determine the potential air quality impacts from each facility based on the actual schedule and activities to be conducted.</p>	<p>Potentially Significant with Mitigation during construction; Less than Significant during operation</p>	<p>AQ-MM-1: Tier 4 Rated Engines. EMWD shall require that the construction contractor ensures that all off-road equipment be required to have EPA certified Tier 4 final engines or engines that are certified to meet or exceed the emission ratings for EPA Tier 4 final engines. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by CARB regulations. During construction, the construction contractor shall maintain a list of all operating equipment in use on the project site for verification. The construction equipment list shall state the makes, models, and numbers of construction equipment on-site. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.</p> <p>AQ-MM-2: On-Road Haul Trucks. EMWD and the construction contractor shall ensure that the contracted haul fleet for import and export of materials and soil operate vehicles that have 2012 or newer engines. Should a fleet that comprises all 2012 or newer vehicles not be available, then preference shall be given to the contractor with the newest haul fleet that will be dedicated to the Proposed Program.</p>	<p>Significant and Unavoidable with Mitigation for construction; Less than Significant during operation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact AQ-2: Implementation of the Proposed Program and the Proposed Project could violate any air quality standard or contribute substantially to an existing or projected air quality violation.</p>	<p>Implement Mitigation Measures AQ-PMM-1 through AQ-PMM-3.</p>	<p>Potentially Significant with Mitigation during construction; Less than Significant during operation</p>	<p>Implement Mitigation Measures AQ-MM-1 and AQ-MM-2.</p>	<p>Significant and Unavoidable with Mitigation for construction; Less than Significant during operation</p>
<p>Impact AQ-3: Implementation of the Proposed Program and the Proposed Project could result in a 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 releasing emissions which exceed quantitative thresholds for ozone precursors).</p>	<p>Implement Mitigation Measures AQ-PMM-1 through AQ-PMM-3.</p>	<p>Potentially Significant with Mitigation during construction; Less than Significant during operation</p>	<p>Implement Mitigation Measures AQ-MM-1 and AQ-MM-2.</p>	<p>Significant and Unavoidable with Mitigation for construction; Less than Significant during operation</p>
<p>Impact AQ-4: Implementation of the Proposed Program and the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.</p>	<p>Implement Mitigation Measures AQ-PMM-1 through AQ-PMM-3.</p>	<p>Potentially Significant with Mitigation during construction; Less than Significant during operation</p>	<p>Implement Mitigation Measures AQ-MM-1 and AQ-MM-2.</p>	<p>Significant and Unavoidable with Mitigation during construction; Less than Significant during operation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact AQ-5: Implementation of the Proposed Program and the Proposed Project could create objectionable odors affecting a substantial number of people.</p>	None required.	Less than Significant	None required.	Less than Significant.
Biological Resources				
<p>Impact BIO-1: Implementation of the Proposed Program and the Proposed Project could 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 (CDFW) or U.S. Fish and Wildlife Service (USFWS).</p>	<p>BIO-PMM-1: Future Surveys. Given that future projects to be implemented under the Proposed Program would be constructed over a 20- to 30-year timeline, a general biological resources survey shall be conducted at each Proposed Program facility location to confirm previously known species occurrences or to establish presence of new species. If special-status species are detected, preconstruction surveys, focused surveys and/or trapping efforts shall be implemented as indicated in Mitigation Measures BIO-PMM-2 through BIO-PMM-5, or as determined by EMWD depending on the species present.</p> <p>BIO-PMM 2: Focused Trapping Efforts. For future projects to be constructed as part of the Proposed Program at Mountain Avenue South and Mountain Avenue North and in areas determined to potentially contain San Bernardino kangaroo rat, Stephens' kangaroo rat, and Los Angeles pocket mouse, presence/absence shall be confirmed with a focused trapping effort by a USFWS-permitted biologist. If San Bernardino kangaroo rat or Stephens' kangaroo rat are determined to be present and would be impacted by the Proposed Program, an Incidental Take Permit (ITP) from CDFW and USFWS would be required, which would include measures to mitigate for impacts to both species. CDFW would not require an ITP for impacts to San Bernardino kangaroo rat since it is listed as a California SSC.</p>	Less than Significant with Mitigation	<p>BIO-MM-1: Focused Burrowing Owl Surveys. Focused protocol surveys for burrowing owl shall be conducted prior to initiation of the Proposed Project in areas that contain suitable habitat for the species. The focused protocol surveys shall be conducted by a knowledgeable biologist following protocol outlined in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If burrowing owl is observed during the focused surveys and found to be potentially impacted by the Proposed Project, additional avoidance and mitigation measures will be required. Avoidance measures include constructing Proposed Project facilities outside the breeding season, establishing a suitable buffer around an active burrow, restricting activities around certain times of year, and excluding and relocating owls. A Burrow Exclusion Plan approved by CDFW will be required to implement exclusion and relocation. Permanent impacts to land that previously contained burrowing owls may also require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation with CDFW.</p> <p>BIO-MM-2: Preconstruction Surveys. EMWD shall conduct pre-construction surveys for coastal whiptail, coast horned lizard, California horned lark, and San Diego black-tailed jackrabbit to determine if these species are present within the Proposed Project impact areas for extraction and conveyance facilities. If any of these species are present, construction BMPs and WEAP training shall be implemented during construction activities to avoid</p>	Less than Significant with Mitigation

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
	<p>Formal consultation with both USFWS and CDFW would also be required through Section 10 of the FESA and Section 2081 of CFG Code. Agency consultation and permitting would require demonstration of adequate mitigation to reduce impacts and would also require the preparation of a HCP. If Los Angeles pocket mouse is found during trapping, impacts to this species would be reduced through implementation of BIO-PMM 3 below.</p> <p>BIO-PMM 3: Preconstruction Surveys. For all future projects to be constructed as part of the Proposed Program, EMWD shall conduct pre-construction surveys, as necessary, for species found during surveys conducted under BIO-PMM-1. If species are present, such as Los Angeles pocket mouse, construction Best Management Practices (BMPs) (such as limiting vehicle speed and covering trenched areas) and Worker Environmental Awareness Program (WEAP) training conducted by a knowledgeable biologist shall be implemented during construction activities to avoid and minimize potential impacts to these species and reduce impacts to a less than significant level.</p> <p>BIO-PMM 4: Focused Burrowing Owl Surveys. Burrowing owl habitat identified by surveys conducted in BIO-PMM-1 for future projects to be implemented under the Proposed Program will require focused protocol surveys for burrowing owl, to be conducted by a qualified biologist following protocol outlined in the most recent CDFW report for burrowing owl mitigation (currently: 2012 Staff Report on Burrowing Owl Mitigation). If burrowing owl is observed during the focused surveys and found to be potentially impacted by the Proposed Program, additional avoidance and mitigation measures will be required, such as constructing Proposed Program facilities outside the breeding season, establishing a</p>		<p>and minimize potential impacts to these species. Example BMPs to be implemented during construction include limiting vehicle speed onsite to 15 miles per hour, covering trenches and open pits, if trenches are left open adding wooden ramps in the trench to allow small mammals to escape, temporarily fencing work areas using silt fencing, and cleaning up all trash and debris daily. Additional avoidance measures may include establishing a buffer around the species an onsite monitoring should a population of a special-status species be found. Additionally, the WEAP training will be conducted by a knowledgeable biologist to identify species that could be impacted and summarize the construction BMPs to be implemented. Construction personnel will be instructed to not directly harm any special-status species onsite by halting activities until the species can move to offsite areas or contact a qualified biologist to move the species out of harm's way.</p> <p>BIO-MM-3: Nesting Birds. Construction of the Proposed Project shall avoid the general avian nesting season of February through August.</p> <p>If construction of Proposed Project facilities that contain or are immediately adjacent to suitable nesting habitat must occur during the general avian nesting season, a pre-construction clearance survey should be conducted within 10 days prior to the start of construction activities to determine if any active nests or nesting activity is occurring on or within 500 feet of the Proposed Project. If no sign of nesting activity is observed, construction may proceed without potential impacts to nesting birds. If an active nest is observed during the pre-construction clearance survey, an adequate buffer should be established around the active nest depending on sensitivity of the species and proximity to Proposed Project impact areas. Typical buffer distances include up to 300-feet for passerines and up to 500-feet for raptors, but can be reduced as deemed appropriate by a monitoring biologist. On site construction monitoring may also be required to ensure that no direct or indirect impacts occur to the active nest. Proposed Project activities may</p>	

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
	<p>suitable buffer around an active burrow, restricting activities around certain times of year, and excluding and relocating owls. A Burrow Exclusion Plan approved by CDFW will be required to implement exclusion and relocation. Permanent impacts to land that previously contained burrowing owls may also require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation with CDFW.</p> <p>BIO-PMM-5: Nesting Birds. Construction of the future projects part of the Proposed Program shall avoid work during the general avian nesting season (February through August). If construction of Proposed Program facilities must occur during the general avian nesting season, a pre-construction clearance survey should be conducted within 10 days prior to the start of construction activities to determine if any active nests or nesting activity occurs on or within 500 feet of the Proposed Program components. If no sign of nesting activity is observed, construction may proceed without potential impacts to nesting birds.</p> <p>If an active nest is observed during the pre-construction clearance survey, an adequate buffer should be established around the active nest depending on sensitivity of the species and proximity to Proposed Program impact areas and as deemed appropriate by a monitoring biologist. On site construction monitoring may also be required to ensure that no direct or indirect impacts occur to the active nest. Program activities may encroach into the buffer only at the discretion of the monitoring biologist. The buffer should remain in place until the nest is no longer active as determined by the monitoring biologist.</p>		<p>encroach into the buffer only at the discretion of the monitoring biologist. The buffer should remain in place until the nest is no longer active as determined by the monitoring biologist.</p>	

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact BIO-2: Implementation of the Proposed Program and the Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or USFWS.</p>	None required.	No Impact	None required.	No Impact
<p>Impact BIO-3: Implementation of the Proposed Program and the Proposed Project would not 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..</p>	None required.	No Impact	None required.	No Impact

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact BIO-4: Implementation of the Proposed Program and the Proposed Project could 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>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact BIO-5: Implementation of the Proposed Program and the Proposed Project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact BIO-6: Implementation of the Proposed Program and the Proposed Project would not conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.</p>	None required.	No Impact	None required.	No Impact

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Cultural Resources				
<p>Impact CUL-1: Implementation of the Proposed Program and the Proposed Project could cause a substantial adverse change in the significance of a historical resource.</p>	<p>CUL-PMM-1: Historic Resources Assessment. Prior to development of future projects implemented under the Proposed Program within 100 feet of structures that are more than 45 years old, EMWD shall retain a qualified architectural historian to conduct a historic resources assessment. All identified historic resources shall be assessed for the Proposed Program's potential to result in direct and/or indirect effects to those resources and any historic resource that may be affected shall be evaluated for its potential significance (i.e., listing in the CRHR) prior to EMWD's approval of project plans and publication of subsequent CEQA documents. The qualified architectural historian shall provide recommendations for avoiding or minimizing impacts, or for the treatment of historical resources that will be impacted by the Proposed Program.</p> <p>CUL-PMM-2: Archaeological Resources Assessment. Prior to development of future projects implemented under the Proposed Program that involve ground disturbance, EMWD shall retain a Qualified Archaeologist to conduct a Phase 1 Archaeological Resources Assessment. The Assessment shall provide recommendations regarding archaeological and Native American monitoring, protection of avoided resources, and/or recommendations for additional work or treatment of significant resources (i.e., resources that qualify as historical resources or unique archaeological resources under CEQA) that will be affected by the Proposed Program.</p>	<p>Less than Significant with Mitigation</p>	<p>CUL-MM-1: Archaeological Sensitivity Training. Prior to the start of any ground-disturbing activity, a Qualified Archaeologist shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains.</p> <p>CUL-MM-2: Cultural Resources Mitigation and Monitoring Program. Prior to the start of any ground-disturbing activity, the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on Proposed Project design plans. The CRMMP shall include provisions for archaeological monitoring of all ground disturbance related to construction of the Proposed Project, procedures to be followed in the event of discovery of archaeological resources, and protocols for Native American coordination and input, including review of documents. The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and provisions for future Native American monitoring in the event that resources of Native American origin are discovered. The CRMMP shall include provisions for Native American monitoring during testing or data recovery efforts for resources that are Native American in origin.</p> <p>CUL-MM-3: Archaeological Monitoring. All Project-related ground disturbance shall be monitored by archaeological monitor(s) familiar with the types of resources that could be encountered</p>	<p>Less than Significant with Mitigation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
			<p>and shall work under the direct supervisor of the Qualified Archaeologist. Archaeological monitor(s) shall be empowered to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with EMWD, and Native American representatives in the event the resource is Native American in origin. The Qualified Archaeologist may reduce the amount of monitoring that is required in certain areas if it is determined that the potential to encounter archaeological resources in that area is low based on observations of soil stratigraphy and other factors.</p>	
			<p>CUL-MM-4: Archaeological Discovery. In the event archaeological resources are encountered during construction, activity in the vicinity of the find shall cease, and the protocols and procedures for discoveries outlined in the CRMMP shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant, the archaeologist shall develop an appropriate treatment plan for the resource in accordance with the CRMMP. The Qualified Archaeologist shall also determine the level of archaeological monitoring that is warranted during future ground disturbance in the area, and whether work may proceed in other parts of the Proposed Project area while treatment for archaeological resources is being carried out.</p>	

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact CUL-2: Implementation of the Proposed Program and the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource.</p>	<p>Implement Mitigation Measure CUL-PMM-2.</p>	<p>Less than Significant with Mitigation</p>	<p>Implement Mitigation Measures CUL-MM-1 through CUL-MM-4.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact CUL-3: Implementation of the Proposed Program and the Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<p>CUL-PMM-3: Paleontological Monitoring. For all future projects implemented as part of the Proposed Program, EMWD shall retain a Qualified Paleontologist prior to the start of earth moving activities to attend any pre-grade construction meetings to determine when and where excavations will occur below a depth of 3 feet below the existing ground surface. All excavations below this depth shall be monitored by a Qualified Paleontologist or Qualified Monitor. The paleontologist, in consultation with EMWD may adjust the level of monitoring, as warranted.</p> <p>In the event of unanticipated discovery of paleontological resources when a paleontological monitor is not present, the contractor shall cease ground-disturbing activities within 50 feet of the find until it can be assessed by the Qualified Paleontologist and recovery and reporting measures can be implemented, if necessary.</p> <p>CUL-PMM-4: Paleontological Sensitivity Training. Prior to start of earth moving activities of all futures projects implemented as part of the Proposed Program, the Qualified Paleontologist shall conduct pre-construction worker sensitivity training that covers what types of paleontological resources could be encountered during excavations, what to do in case an unanticipated discovery is made by a worker, and laws protecting paleontological resources. All construction personnel shall be</p>	<p>Less than Significant with Mitigation</p>	<p>CUL-MM-5: Paleontological Monitoring. Prior to the start of earth moving activities, EMWD shall retain a Qualified Paleontologist to attend any pre-grade construction meetings to determine when and where excavations will occur below a depth of 3 feet below the existing ground surface. Working with EMWD and the construction crew, the Qualified Paleontologist shall determine a paleontological monitoring schedule.</p> <p>The Qualified Paleontologist, or a paleontological monitor working under the direct supervision of the Qualified Paleontologist, shall monitor all ground-disturbing activity below a depth of 3 feet below the existing ground surface. The location, duration, and timing of monitoring shall be determined by the Qualified Paleontologist designated for the Proposed Project in consultation with the EMWD and shall be based on a review of geologic maps and grading plans. During the course of monitoring, if the Qualified Paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, increased, or discontinued, the paleontologist, in consultation with EMWD may adjust the level of monitoring, as warranted.</p> <p>CUL-MM-6: Paleontological Sensitivity Training. Prior to start of earth moving activities, the Qualified Paleontologist shall conduct pre-construction worker paleontological resources sensitivity training. This training shall include information on what types of paleontological resources could be encountered during excavations, what to do in case an unanticipated discovery is made by a worker, and laws protecting paleontological resources. All</p>	<p>Less than Significant with Mitigation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
	<p>informed of the possibility of encountering fossils and instructed to immediately inform the construction foreman or supervisor if any bones or other potential fossils are unexpectedly unearthed in an area where a paleontological monitor is not present.</p>		<p>construction personnel shall be informed of the possibility of encountering fossils and instructed to immediately inform the construction foreman or supervisor if any bones or other potential fossils are unexpectedly unearthed in an area where a paleontological monitor is not present.</p> <p>CUL-MM-7: Unanticipated Paleontological Discovery. In the event of unanticipated discovery of paleontological resources when a paleontological monitor is not present, the contractor shall cease ground-disturbing activities within 50 feet of the find until it can be assessed by the Qualified Paleontologist. The Qualified Paleontologist shall assess the find, implement recovery and reporting measures, if necessary, and determine if paleontological monitoring is warranted once work resumes.</p>	
<p>Impact CUL-4: Implementation of the Proposed Program and the Proposed Project could disturb any human remains, including those interred outside of formal cemeteries.</p>	<p>CUL-PMM-5: Human Remains. If human skeletal remains are uncovered during implementation of any future project part of the Proposed Program, EMWD shall immediately halt work and contact the Riverside County coroner to determine whether the remains are human. If the County Coroner determines that the remains are Native American, they shall contact the NAHC, as required by law. The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD) of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. EMWD shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations.</p>	<p>Less than Significant with Mitigation</p>	<p>CUL-MM-8: Human Remains. If human skeletal remains are uncovered during Proposed Project implementation, EMWD shall immediately halt work, contact the Riverside County coroner to determine whether the remains are human, and follow the procedures and protocols outlined in the CRMMP (see Mitigation Measure CUL-MM-2). If the County Coroner determines that the remains are Native American, they shall contact the NAHC as required by law. The NAHC shall then identify the person(s) thought to be the MLD of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. EMWD shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations.</p>	<p>Less than Significant with Mitigation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Geology, Soils, and Seismicity				
<p>Impact GEO-1a: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	Less than Significant	None required.	No Impact
<p>Impact GEO-1b: Implementation of the Proposed Program and the Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact GEO-1c: Implementation of the Proposed Program and the Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.</p>	<p>GEO-PMM-1: Soils Reports and Geotechnical Investigation. For all future projects implemented under the Proposed Program, a soils report and geotechnical investigation report shall be prepared by a California licensed geotechnical engineer. These reports shall evaluate various geotechnical characteristics including existing liquefaction risk, expansive soils, and soil stability. The reports shall provide recommendations for facility design per these findings; these recommendations shall be incorporated into facility design.</p>	<p>Less than Significant with Mitigation</p>	<p>GEO-MM-1: Soils Reports and Geotechnical Investigation. A soils report and geotechnical investigation report shall be prepared by a California licensed geotechnical engineer for all Project facilities with potential to encounter shallow groundwater or expansive soils. These reports shall evaluate various geotechnical characteristics including existing liquefaction risk, expansive soils, and soil stability, and whether the operation of Project facilities would exacerbate an existing risk of liquefaction or soil instability or create a new risk. The reports and evaluation shall provide recommendations for facility design per these findings; these recommendations shall be incorporated into facility design.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact GEO-1d: Implementation of the Proposed Program and the Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Impact GEO-2: Implementation of the Proposed Program and the Proposed Project could result in substantial soil erosion or the loss of topsoil.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact GEO-3: Implementation of the Proposed Program and the Proposed Project could 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.</p>	<p>GEO-PMM-2: Groundwater Monitoring. For all future projects implemented under the Proposed Program, EMWD shall monitor groundwater levels to identify if and when levels reach below historical low levels. If monitoring data show that groundwater levels have reached historically low levels, EMWD shall reduce recovery operations to prevent subsidence from occurring.</p>	<p>Less than Significant with Mitigation</p>	<p>GEO-MM-2: Groundwater Monitoring. EMWD shall monitor groundwater levels to identify if and when levels reach below historical low levels. If monitoring data show that groundwater levels have reached historically low levels, EMWD shall reduce recovery operations to prevent subsidence from occurring.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact GEO-4: Implementation of the Proposed Program and the Proposed Project could 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.</p>	<p>Implement Mitigation Measure GEO-PMM-1.</p>	<p>Less than Significant with Mitigation</p>	<p>Implement Mitigation Measure GEO-MM-1.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact GEO-5: Implementation of the Proposed Program and the Proposed Project would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.</p>	<p>None required.</p>	<p>No Impact</p>	<p>None required.</p>	<p>No Impact</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Greenhouse Gas Emissions				
Impact GHG-1: Implementation of the Proposed Program and the Proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	None required.	Less than Significant	None required.	Less than Significant
Impact GHG-2: Implementation of the Proposed Program and the Proposed Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	None required.	Less than Significant	None required.	Less than Significant.
Impact ENERGY-1: The Proposed Program and Proposed Project could be inconsistent with applicable plans for conserving energy and State and federal energy standards, and could result in impacts on energy demand and supplies and infrastructure.	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Hazards and Hazardous Materials				
Impact HAZ-1: Implementation of the Proposed Program and the Proposed Project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None required.	Less than Significant	None required.	Less than Significant
Impact HAZ-2: Implementation of the Proposed Program and the Proposed Project could 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.	None required.	Less than Significant	None required.	Less than Significant
Impact HAZ-3: Implementation of the Proposed Program and the Proposed Project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact HAZ-4: Implementation of the Proposed Program and the Proposed Project would not 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 not create a significant hazard to the public or the environment.</p>	None required.	No Impact	None required.	No Impact
<p>Impact HAZ-5: 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 or located within the vicinity of a private airstrip, the Proposed Program and the Proposed Project could result in a safety hazard for people residing or working in the project area.</p>	None required.	Less than Significant	None required	No Impact
<p>Impact HAZ-6: Implementation of the Proposed Program and the Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.</p>	Implement Mitigation Measure TRAF-PMM-1.	Less than Significant with Mitigation	Implement Mitigation Measure TRAF-MM-1.	Less than Significant with Mitigation

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact HAZ-7: Implementation of the Proposed Program and the Proposed Project could 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.</p>	<p>HAZ-PMM-1: Implement Fire Hazard Reduction Measures. During construction of facilities located in areas designated as moderate, high, or very high fire hazard severity zone by CAL FIRE, EMWD shall require that all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the Proposed Program facilities, contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.</p>	<p>Less than Significant with Mitigation</p>	<p>HAZ-MM-1: Implement Fire Hazard Reduction Measures. During construction of facilities located in areas designated as moderate, high, or very high fire hazard severity zone by CAL FIRE, EMWD shall require that all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the Proposed Project facilities, contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.</p>	<p>Less than Significant with Mitigation</p>
Hydrology and Water Quality				
<p>Impact HYD-1: Implementation of the Proposed Program and the Proposed Project could violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact HYD-2: I Implementation of the Proposed Program and the Proposed Project could 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).</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact HYD-3: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact HYD-4: Implementation of the Proposed Program and the Proposed Project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course 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.</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact HYD-5: Implementation of the Proposed Program and the Proposed Project could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact HYD-6: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	No Impact	None required.	No Impact
<p>Impact HYD-7: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact HYD-8: Implementation of the Proposed Program and the Proposed Project would not result in inundation by seiche, tsunami, or mudflow.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Lane Use and Planning				
Impact LU-1: Implementation of the Proposed Program and the Proposed Project would not physically divide an established community.	None required.	No Impact	None required.	No Impact
Impact LU-2: Implementation of the Proposed Program and the Proposed Project could 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 an environment effect.	None required.	Less than Significant	None required.	Less than Significant
Impact LU-3: Implementation of the Proposed Program and the Proposed Project could conflict with any applicable habitat conservation plan or natural community conservation plan.	None required.	No Impact	None required.	No impact

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Noise				
<p>Impact NOI-1: Implementation of the Proposed Program and the Proposed Project could 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.</p>	<p>NOI-PMM-1: Operational Noise Standards. For all future projects implemented under the Proposed Program, EMWD shall ensure that new aboveground facilities are designed such that operational noise complies with applicable noise standards at the property boundary.</p>	<p>Potentially Significant with Mitigation during Construction; Less than Significant with Mitigation during Operation</p>	<p>NOI-MM-1: Operational Noise Standards. EMWD shall ensure that new aboveground Project facilities are designed such that operational noise complies with applicable noise standards at the property boundary.</p>	<p>Significant and Unavoidable with Mitigation during Construction; Less than Significant with Mitigation during Operation</p>
<p>Impact NOI-2: Implementation of the Proposed Program and the Proposed Project could expose persons to or generate excessive groundborne vibration or groundborne noise levels.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Impact NOI-3: Implementation of the Proposed Program and the Proposed Project could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>Implement Mitigation Measure NOI-PMM-1.</p>	<p>Less than Significant with Mitigation</p>	<p>Implement Mitigation Measure NOI-MM-1.</p>	<p>Less than Significant with Mitigation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact NOI-4: Implementation of the Proposed Program and the Proposed Project could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.</p>	<p>NOI-PMM-2: Construction-Related Noise Measures. For future projects implemented under the Proposed Program that are in close proximity to sensitive receptors, EMWD shall require the construction contractor to implement BMPs that ensure the following:</p> <ul style="list-style-type: none"> a. Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest to the Proposed Program site. b. Locate equipment staging areas at the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the Proposed Program site. c. Ensure appropriate maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers approved mufflers and baffles. d. Install sound-control devices in all construction equipment, no less effective than those provided on the original equipment. 	<p>Potentially Significant with Mitigation</p>	<p>NOI-MM-2: Construction-Related Noise Measures. To reduce temporary construction-related noise impacts, EMWD shall require the construction contractor to implement BMPs that ensure the following:</p> <ul style="list-style-type: none"> a. Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest to the Proposed Program site. b. Locate equipment staging areas at the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the Proposed Program site. c. Ensure appropriate maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers approved mufflers and baffles. d. Install sound-control devices in all construction equipment, no less effective than those provided on the original equipment. 	<p>Significant and Unavoidable with Mitigation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact NOI-5: 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, or within the vicinity of a private airstrip, implementation of the Proposed Program and the Proposed Project could expose people residing or working in the project area to excessive noise levels.</p>	None required.	Less than Significant	None required.	No Impact
<p>Public Services and Recreation</p>				
<p>Impact PS-1: The Proposed Program and Proposed Project could result in the provision of, or the need for, new or physically altered police or fire protection facilities, the construction of which could cause environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police services.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact PS-2: The Proposed Program and the Proposed Project would not result in the provision of, or the need for, new school facilities, the construction of which could cause environmental impacts, in order to maintain acceptable performance objectives for the school district.</p>	None required.	No Impact	None required.	No Impact
<p>Impact PS-3: The Proposed Program and the Proposed Project could result in the provision of, or the need for, new or physically altered parks and recreation facilities, the construction of which could cause environmental impacts, in order to maintain acceptable performance objectives for parks and recreation.</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact REC-1: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	Less than Significant	None required.	Less than Significant

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact REC-2: Implementation of the Proposed Program and the Proposed Project could include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.</p>	None required.	Less than Significant	None required.	Less than Significant
Transportation and Traffic				
<p>Impact TRAF-1: Implementation of the Proposed Program and the Proposed Project could 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.</p>	<p>TRAF-PMM-1: Traffic Control Plan. For future projects implemented under the Proposed Program that require construction within roadways, EMWD shall require the construction contractor to prepare a Traffic Control Plan prior to construction. The Traffic Control Plan shall be prepared in accordance with the local jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.</p>	Less than Significant with Mitigation	<p>TRAF-MM-1: Traffic Control Plan. Prior to the start of construction of the conveyance facilities, EMWD shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan shall show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of San Jacinto. The Traffic Control Plan shall be prepared in accordance with the City of San Jacinto's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. In addition, EMWD shall provide written notice at least two weeks prior to the start of construction to</p>	Less than Significant with Mitigation.

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
			<p>owners/occupants along streets to be affected during construction.</p> <p>During construction, EMWD will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, EMWD shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The Traffic Control Plan shall include provisions to ensure that the construction of the conveyance pipelines do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.</p> <p>EMWD shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for Proposed Program facility construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the Proposed Program area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.</p>	

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact TRAF-2: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact TRAF-3: Implementation of the Proposed Program and the Proposed Project could 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.</p>	None required.	Less than Significant	None required.	No Impact
<p>Impact TRAF-4: Implementation of the Proposed Program and the Proposed Project could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p>	Implement Mitigation Measure TRAF-PMM-1.	Less than Significant with Mitigation	Implement Mitigation Measure TRAF-MM-1.	Less than Significant with Mitigation

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Impact TRAF-5: Implementation of the Proposed Program and the Proposed Project could result in inadequate emergency access.	Implement Mitigation Measure TRAF-PMM-1.	Less than Significant with Mitigation	Implement Mitigation Measure TRAF-MM-1.	Less than Significant with Mitigation
Impact TRAF-6: Implementation of the Proposed Program and the Proposed Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Implement Mitigation Measure TRAF-PMM-1.	Less than Significant with Mitigation	Implement Mitigation Measure TRAF-MM-1.	Less than Significant with Mitigation
Utilities and Service Systems				
Impact UTIL-1: Implementation of the Proposed Program and the Proposed Project would not exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.	None required.	No Impact	None required.	No Impact

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact UTIL-2: Implementation of the Proposed Program and the Proposed Project would not 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.</p>	None required.	No Impact	None required.	No Impact
<p>Impact UTIL-3: Implementation of the Proposed Program and the Proposed Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.</p>	None required.	No Impact	None required.	No Impact
<p>Impact UTIL-4: Implementation of the Proposed Program and the Proposed Project would not require new or expanded water entitlements.</p>	None required.	No Impact	None required.	No Impact

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact UTIL-5: Implementation of the Proposed Program and the Proposed Project could result in determination by the wastewater treatment provider that it has adequate capacity to serve projected demand in addition to the provider's existing commitments.</p>	None required.	No Impact	None required.	No Impact
<p>Impact UTIL-6: Implementation of the Proposed Program and the Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.</p>	None required.	Less than Significant	None required.	Less than Significant
<p>Impact UTIL-7: Implementation of the Proposed Program and the Proposed Project could comply with federal, state, and local statutes and regulations related to solid waste.</p>	None required.	Less than Significant	None required.	Less than Significant

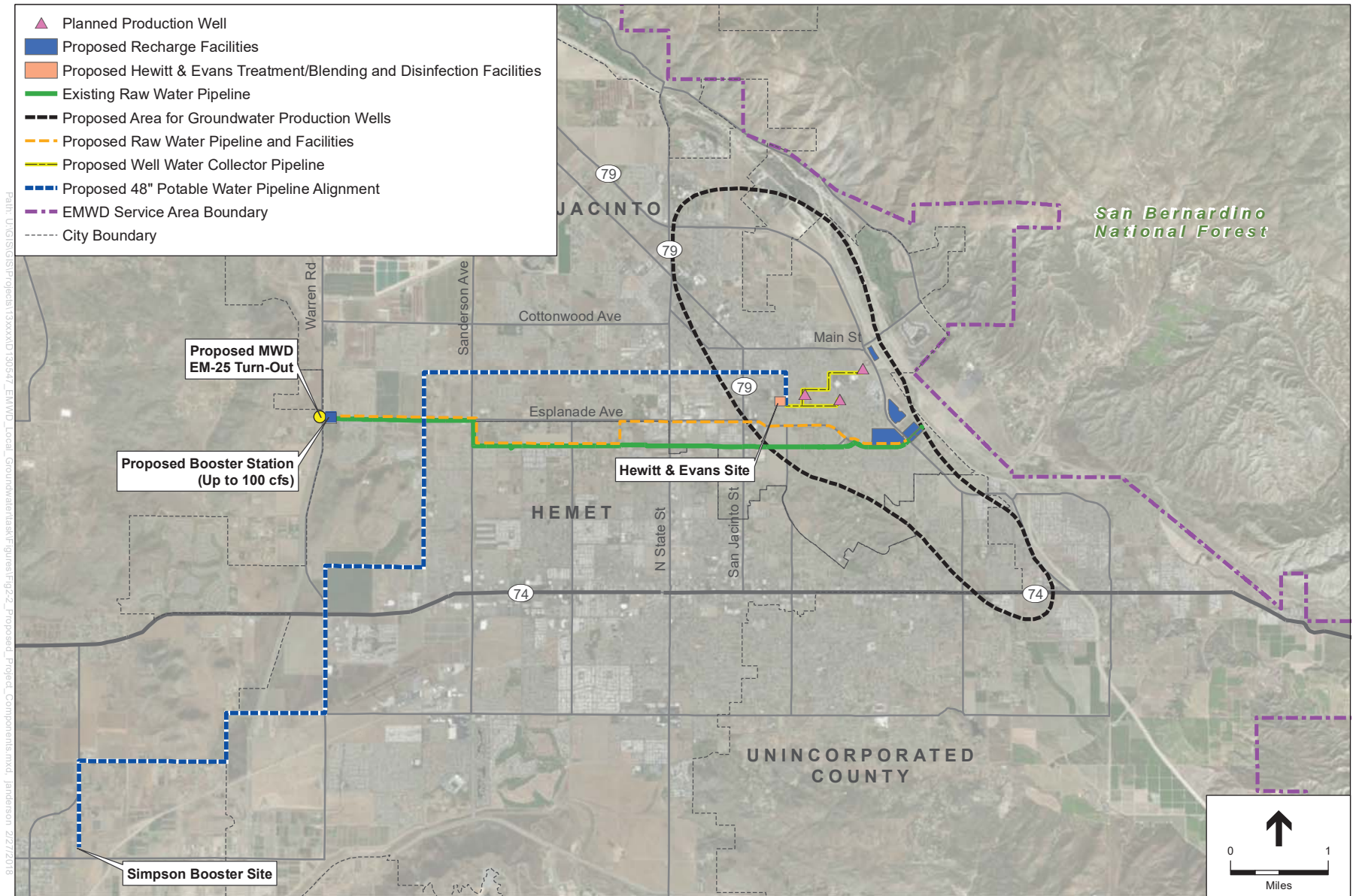
Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Cumulative Impacts				
Impact CUM 4-1: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative long-term impacts to aesthetics.	Implement Mitigation Measure AES-PMM-1 and AES-PMM-2 .	Less than Significant with Mitigation	Implement Mitigation Measure AES-MM-1 and Mitigation Measure AES-MM-2 .	Less than Significant with Mitigation
Impact CUM 4-2: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope would not result in cumulative long-term impacts to agriculture and forestry resources.	None required.	Less than Significant	None required.	Less than Significant
Impact CUM 4-3: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short- and long-term impacts to biological resources.	Implement Mitigation Measures PMM-BIO-1 through PMM-BIO-5 .	Less than Significant with Mitigation	Implement Mitigation Measures MM-BIO-1 through MM-BIO-3 .	Less than Significant with Mitigation

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact CUM 4-4: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative long-term impacts to cultural resources.</p>	<p>Implement Mitigation Measures CUL-PMM-1 through CUL-PMM-5.</p>	<p>Less than Significant with Mitigation</p>	<p>Implement Mitigation Measures CUL-MM-1 through CUL-MM-8.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact CUM 4-5: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to geology, soils, and seismicity.</p>	<p>Implement Mitigation Measures GEO-PMM 1 and GEO-PMM-2.</p>	<p>Less than Significant with Mitigation</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Impact CUM 4-6: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the Climate Change scope could result in cumulative long-term impacts to GHG emissions and energy.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact CUM 4-7: Concurrent construction of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term impacts to hazards and hazardous materials.</p>	<p>Implement Mitigation Measure HAZ-PMM-1.</p>	<p>Less than Significant with Mitigation</p>	<p>Implement Mitigation Measure HAZ-MM-1.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact CUM 4-8: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hydrology and water quality.</p>	<p>None required.</p>	<p>Less than Significant</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Impact CUM 4-9: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to land use and planning.</p>	<p>Implement Mitigation Measures AES-PMM-1 and AES-PMM-2.</p>	<p>Less than Significant with Mitigation</p>	<p>Implement Mitigation Measures AES-MM-1 and AES-MM-2.</p>	<p>Less than Significant with Mitigation</p>

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
Impact CUM 4-10: Concurrent construction of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term impacts to noise.	Implement Mitigation Measure NOI-PMM-1 and NOI-PMM-2 .	Less than Significant with Mitigation	None required.	Less than Significant
Impact CUM 4-11: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope would not result in cumulative short-term and long-term impacts to public services and recreation.	None required.	Less than Significant	None required.	Less than Significant
Impact CUM 4-12: Concurrent construction of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term impacts to traffic and transportation.	Implement Mitigation Measure TRAF-PMM-1 .	Less than Significant with Mitigation	Implementation of Mitigation Measure TRAF-MM-1 .	Less than Significant with Mitigation

Potential Impact	Program Mitigation Measure	Program Significant Determination	Project Mitigation Measure	Project Significance Determination
<p>Impact CUM 4-13: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to utilities and service systems.</p>	None required.	Less than Significant	None required.	Less than Significant



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SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure ES-1
Proposed Program Facilities

CHAPTER 1

Introduction and Background

1.1 Introduction

The Eastern Municipal Water District (EMWD) is proposing to construct and operate the San Jacinto Valley Water Banking – Enhanced Recharge and Recovery Program (San Jacinto Valley Water Banking ERRP; Proposed Program) in western Riverside County (**Figure 1-1**). The Proposed Program would allow EMWD to enhance current and future water supplies in the local groundwater basin by developing a groundwater water bank with total storage capacity of up to 90,000 acre feet (AF). Groundwater produced (extracted) by the Proposed Program would be used within EMWD’s service area; water could also be made available to EMWD’s sub-agencies or other regional water agencies through an exchange, with no physical export of local supplies. The Proposed Program would include development of recharge facilities, extraction and monitoring wells, treatment/blending and disinfection facilities, potable and raw water transmission pipelines, well water collector pipelines, laterals from the raw water pipeline to the recharge sites, and other conveyance facilities and appurtenances required to support the Proposed Program. EMWD is proposing to implement the San Jacinto Valley Water Banking ERRP in phases; the San Jacinto Valley Water Banking ERRP – Phase 1 Project (Proposed Project) would be the first installment of the Proposed Program.

1.2 Purpose of the Draft EIR

EMWD as the Lead Agency has prepared this Draft Environmental Impact Report (EIR) to provide the public, trustee agencies, and other responsible agencies with information about the potential effects on the local and regional environment associated with construction and operation of the Proposed Program and Proposed Project. This Draft EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code (PRC) Sections 21000 et. seq., and the State *CEQA Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3.

This Draft EIR describes the environmental impacts of the Proposed Program and Proposed Project and suggests mitigation measures where necessary to reduce impacts to a less than significant level. The impact analyses are based on a variety of sources, including publicly-available documents, agency consultation, technical studies and field surveys.

The EMWD Board of Directors, as the decision-making body for the Lead Agency, independently shall consider and certify this Draft EIR prior to approving the Proposed Program or Proposed Project. The Lead Agency shall certify that this Draft EIR has been completed in

compliance with CEQA and that the Draft EIR reflects its independent judgment and analysis (*CEQA Guidelines* §15090(a)).

1.3 Program-level and Project-level Analyses in this Draft EIR

The *CEQA Guidelines* Section 15165 indicates that a Lead Agency should prepare a single Program EIR when individual projects or phases of projects are to be undertaken to comprise a larger project. A Program EIR may be prepared on a series of actions that can be characterized as one large project and are related geographically and as logical parts in the chain of contemplated actions (*CEQA Guidelines* Section 15168). For the Proposed Program, the larger project includes construction and operation of groundwater recharge facilities, monitoring and extraction wells, treatment/blending and disinfection facilities, and water conveyance facilities, which together comprise the San Jacinto Valley Water Banking ERRP (see **Table 1-1**). EMWD plans to construct the Proposed Program in phases over 20 to 30 years. Because of the long-term phasing of projects to be implemented under the Proposed Program, specific locations of some components, such as extraction wells, are not yet known. Additionally, some pipeline alignments are preliminary and may change during the design process. For these reasons, a program-level analysis of impacts related to the larger Proposed Program is provided in this Draft EIR in accordance with *CEQA Guidelines* Section 15168. The advantages of a program-level analysis include providing more comprehensive consideration of alternatives and cumulative impacts than would be possible for individual actions, and avoiding duplicative reconsideration of basic policy considerations, while also reducing paperwork.

EMWD has identified the first phase of the Proposed Program to initiate the San Jacinto Valley Water Banking ERRP. The first phase is referred to as the Proposed Project and is analyzed at the project-level in this Draft EIR due to the level of detail available at this time. Project-level analyses examine all phases of a project, including planning, construction, and operation, at a site-specific level. This Draft EIR evaluates construction and operation of the Proposed Project at a site-specific project level, including the Mountain Avenue West recharge facilities, 11 monitoring and 3 extraction wells, the Hewitt and Evans treatment/blending and disinfection facility, and some water conveyance pipelines (see **Table 1-1**). These components are described further in Chapter 2 and shown in **Figure 2-3**. The project-level analysis is consistent with *CEQA Guidelines* Section 15161 and 15378(a).

Subsequent project-level environmental review may be required for the remaining phases of the Proposed Program as their locations and features are determined during the design process. The subsequent project-level review would be conducted pursuant to *CEQA Guidelines* Section 15168(c) to determine if the activity would have effects that were not examined in this Draft EIR. Also, feasible and relevant mitigation measures and alternatives developed in this Draft EIR shall be incorporated into subsequent actions. This Draft EIR would provide the basis for any future project-level CEQA analysis required pursuant to *CEQA Guidelines* Section 15168(d).

**TABLE 1-1
SUMMARY OF PROPOSED PROGRAM AND PROPOSED PROJECT FACILITIES**

Facility Type	Proposed Program Total	Proposed Project
Recharge Facilities	<ul style="list-style-type: none"> • 4 Recharge Facilities: Mountain Avenue East, West, North, South • Laterals from the existing and proposed Raw Water Pipeline to the recharge facilities • Onsite piping connecting the laterals to the desilting and recharge ponds 	<ul style="list-style-type: none"> • 1 Recharge Facility: Mountain Avenue West • Lateral(s) from the existing raw water pipeline to the Mountain Avenue West recharge facility • Onsite piping connecting the laterals to the desilting and recharge ponds
Monitoring Facilities	<ul style="list-style-type: none"> • 16 Shallow Monitoring Wells • 7 Multi-depth Monitoring Wells 	<ul style="list-style-type: none"> • 8 Shallow Monitoring Wells • 3 Multi-depth Monitoring Wells
Extraction Facilities	<ul style="list-style-type: none"> • Up to 11 Extraction Wells • Treatment/Blending and disinfection Facilities at Hewitt & Evans including a pumping station 	<ul style="list-style-type: none"> • 3 Extraction Wells • Treatment/Blending (if needed) and disinfection Facilities at Hewitt & Evans including a pumping station
Conveyance Facilities	<ul style="list-style-type: none"> • MWD Turn-out EM-25 • Raw Water Feeder #2 Transmission Pipeline • Pumping Station • Well water collector pipelines from each extraction well to the treatment/blending and disinfection facilities • Potable Water Conveyance Pipeline • Blow-off pipelines 	<ul style="list-style-type: none"> • Well water collector pipelines from each extraction well to the treatment/blending and disinfection facilities • Potable Water Conveyance Pipeline • Blow-off pipelines

1.4 Organization of this Draft EIR

The chapters of this Draft EIR are as follows:

Executive Summary. This chapter summarizes the contents of the Draft EIR.

- 1. Introduction and Project Background.** This chapter discusses the purpose of the Draft EIR, the CEQA process, and pertinent background information about EMWD and the Proposed Program.
- 2. Project Description.** This chapter provides an overview of the Proposed Program and the Proposed Project, describes the need for and objectives of the Proposed Program, and provides detail on the characteristics of the Proposed Program and Proposed Project.
- 3. Environmental Setting, Impacts and Mitigation Measures.** This chapter describes the baseline environmental setting and identifies impacts of the Proposed Program and Proposed Project for each of the following environmental resource areas: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Public Services and Recreation; Transportation and Traffic; Tribal Cultural Resources, and Utilities and Service

Systems. Measures to mitigate the impacts of the Proposed Program and Proposed Project are presented for each resource area where significant potential impacts have been identified.

4. **Cumulative Impacts Analysis.** This chapter describes the potential impacts of the Proposed Program and Proposed Project when considered together with combined impacts of other related projects in the Proposed Program and Proposed Project areas.
5. **Growth Inducement Potential.** This chapter summarizes population projections and water demands within the EMWD service area and describes the potential for the Proposed Program as a whole to induce growth.
6. **Alternatives Analysis.** This chapter presents an overview of the alternatives development process and describes the alternatives to the Proposed Program that were considered.
7. **Report Preparers.** This chapter identifies those involved in preparing this Draft EIR, including persons and organizations consulted.

1.5 CEQA Process

1.5.1 Public Scoping

Notice of Preparation

In accordance with Section 15082 of the *CEQA Guidelines*, a Notice of Preparation (NOP) of a Draft EIR was prepared and circulated for review by applicable local, state and federal agencies and the public (See **Appendix NOP**). On June 29, 2015, the NOP was mailed to interested parties, responsible and trustee agencies. A Notice of Completion (NOC) was sent to the State Clearinghouse for distribution of the NOP to relevant state agencies. The NOP was made available for public review on EMWD's internet site: www.emwd.org.

The NOP provided a general description of the facilities associated with the San Jacinto Valley Water Banking ERRP, a summary of the probable environmental effects of the project to be addressed in the Draft EIR, and figures showing the project location. The NOP provided the public and interested public agencies with the opportunity to review the facilities to be constructed as part of the San Jacinto Valley Water Banking ERRP and to provide comments or concerns on the scope and content of the environmental review document including: alternatives, mitigation measures, and significant effects to be analyzed in depth in the Draft EIR.

The 30-day project scoping period, which began with the distribution of the NOP, remained open through July 30, 2015. During the scoping period, seventeen comment letters were received from the following: California Department of Fish and Wildlife, California Department of Transportation District 8, County of Riverside Transportation, Hemet-San Jacinto Watermaster, Lake Hemet Municipal Water District, Riverside County Flood Control and Water Conservation District, South Coast Air Quality Management District, City of San Jacinto, Pechanga Cultural Resources, Rincon Band of Luiseño Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseño Indians, Ed and Jan Myers, Helen Poddoubnyi, and Frank and Ann Stella. The comment letters are included in Appendix NOP along with the NOP.

Project Meetings

A community meeting was held on February 7, 2018, at 6:00 p.m. Park Hill Elementary School in San Jacinto to review the Proposed Program and Proposed Project components, and to discuss the elements and contents of a Draft EIR document. As part of the presentation, attendees were given information on how to provide comments to EMWD throughout the CEQA process.

1.5.2 Draft EIR

This Draft EIR contains a description of the Proposed Program and Proposed Project, description of the baseline environmental setting for each resource listed in the Appendices F and G of the *CEQA Guidelines*, identification of project impacts (direct, indirect, and cumulative), mitigation measures for impacts found to be significant, and an analysis of project alternatives.

The *CEQA Guidelines* Section 15125(a) requires that a Draft EIR include a description of the physical environmental conditions as they exist when the NOP is published. This environmental setting typically constitutes the baseline against which the lead agency compares the physical environmental changes that may occur as a result of the project and determines whether such impacts are significant. The baseline environmental conditions for the analysis included within this Draft EIR are generally from June 2015, when the NOP was published.

Significance criteria have been developed for each environmental resource analyzed in this Draft EIR, based on Appendices F and G of the *CEQA Guidelines*. Impacts are categorized as follows:

- **Significant and Unavoidable:** mitigation might be recommended but impacts are still significant.
- **Potentially Significant:** mitigation might be recommended but impacts are potentially significant at the programmatic level.
- **Less than Significant with Mitigation:** potentially significant impact but mitigated to a less than significant level;
- **Less than Significant:** mitigation is not required under CEQA but may be recommended; or
- **No Impact:** impacts would not occur or project has features that prevent impacts.

CEQA requires that a lead agency avoid or substantially lessen significant impacts where feasible (*CEQA Guidelines* Section 15091 and Section 15092). This Draft EIR identifies potentially significant impacts associated with temporary construction-related air emissions and temporary construction-related noise for the Proposed Program. Significant and unavoidable impacts were found for temporary construction-related air emissions and temporary construction-related noise for the Proposed Project. All other potentially significant impacts are determined to be mitigated to less than significant levels with incorporation of mitigation measures.

1.5.3 Public Review

A Notice of Availability (NOA) indicating this Draft EIR is available for public review is being circulated to local, state and federal agencies, and to interested organizations and individuals who may wish to review and comment on the Draft EIR. Additionally, the NOA is being distributed to residents and occupants in close proximity to Proposed Program and Proposed Project facilities.

The Draft EIR is available electronically at: <https://www.emwd.org/about-emwd/public-notice>. Hard copies of the Draft EIR are available for review at the following two local area libraries and at EMWD:

San Jacinto Public Library
595 S San Jacinto Ave
San Jacinto, CA 92583

Hemet Public Library
300 E Latham Ave
Hemet, CA 92543

EMWD
2270 Trumble Road
Perris, CA 92570

Publication of this Draft EIR marks the beginning of a 45-day public review period, beginning April 3, 2018 and ending May 18, 2018, during which written comments may be submitted at any time. Written comments on the Draft EIR must be received at the following address prior to the end of the 45-day review period on May 18, 2018:

Susan Ahn
Principal Water Resources Specialist
Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572
CEQA@emwd.org

During the 45-day review period, one public hearing will be held to present the results of the Draft EIR and allow for the submittal of verbal or written comments. The meeting will be held as follows:

DATE: April 18, 2018
TIME: 9:00 a.m.
LOCATION: Eastern Municipal Water District
Board Room
2270 Trumble Road, Perris, CA 92570

1.5.4 Final Environmental Impact Report Publication

Upon completion of the comment period for the Draft EIR, EMWD will publish a Final EIR. The Final EIR will include responses to all comments received on the Draft EIR during the public comment period. The Final EIR will be provided to all commenting agencies at least 10 days prior to the scheduled EMWD Board of Directors hearing to consider certification of the Final EIR and approval or denial of the Proposed Program and Proposed Project.

As the decision-making body of the lead agency, the EMWD Board of Directors will consider the Final EIR for certification (*CEQA Guidelines* Section 15090). The EMWD Board of Directors will certify that it has reviewed and considered the information contained in the Final EIR, that the Final EIR reflects the lead agency's independent judgment and analysis, and that the Final EIR has been completed in compliance with CEQA. Once the Final EIR has been certified, the lead agency may proceed to consider approval of the Proposed Program and Proposed Project. Prior to approval, the lead agency must make written Findings with respect to each significant environmental effect identified in the Draft EIR in accordance with Section 15091 of the *CEQA Guidelines*.

CEQA requires that the lead agency neither approve nor implement a project unless the project's significant environmental effects have been reduced to a less than significant level, essentially "eliminating, avoiding, or substantially lessening" the expected impacts. If the lead agency approves the project despite residual significant impacts that cannot be mitigated to a less than significant level, the agency must state the reasons for its action in writing in a Statement of Overriding Considerations (SOC). As defined in *CEQA Guidelines* Section 15093, a SOC balances the benefits of a project against its unavoidable environmental consequences. The SOC must be included in the record of the Proposed Program and Proposed Project approval.

Within five working days after the EMWD Board of Directors has approved the Proposed Program and Proposed Project, the lead agency will file a Notice of Determination with the Riverside County Clerk and the State Clearinghouse (*CEQA Guidelines* Section 15094).

1.5.5 Mitigation Monitoring and Reporting Program

State law requires lead agencies to adopt a mitigation monitoring and reporting program (MMRP) for those changes to the project that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The *CEQA Guidelines* do not require that the specific reporting or monitoring program be included in the Draft EIR.

Throughout this Draft EIR, however, proposed mitigation measures, as well as monitoring and reporting requirements, have been clearly identified and presented in language that will facilitate establishment of a monitoring program. All adopted measures will be included in a MMRP to verify compliance. The MMRP may be included as an attachment to the Final EIR.

1.6 Project Background and Context

The San Jacinto Valley Water Banking ERRP is a groundwater banking program. "Groundwater banking" is the practice of recharging specific amounts of water in a groundwater basin that can later be withdrawn and used by the entity that deposited the water (Pacific Institute, 2011). Groundwater banking uses local facilities and underground aquifers for percolation and storage purposes as an alternative to, or in addition to, building aboveground storage. It allows flexibility to respond to seasonal and multi-year hydrologic variability, as water can be stored in wet periods, when water is abundant, for use in dry periods, when water may be in short supply. The recharged, or banked groundwater, may also be made available for purchase and beneficial use by other basin pumpers.

1.6.1 Eastern Municipal Water District

EMWD was organized as a Municipal Water District in 1950 for the primary purpose of importing Colorado River water to its service area in order to augment local water supplies. EMWD's four primary product and service categories include providing potable (drinking quality) water, wastewater collection and treatment, recycled water and conservation, as well as water, wastewater, and recycled connections within a 555 square-mile service area within Riverside County. Along with the implementation of its recycled water services and systems, EMWD continues to develop a diverse mix of supplies including the use of imported water and groundwater recharge. Currently, Metropolitan Water District of Southern California (MWD) serves as EMWD's primary water importer, providing up to 75 percent of its water supply

through the Colorado River Aqueduct and its connections to the State Water Project. Approximately 25 percent of EMWD's potable water demand is supplied by EMWD groundwater wells found mostly in the Hemet and San Jacinto areas (EMWD, 2016).

Hemet/San Jacinto Water Management Plan

The Hemet/San Jacinto Water Management Plan (Plan) was developed in order to provide a foundation that guides and supports responsible water management in the Hemet/San Jacinto Groundwater Management Area, which covers the Hemet South, Hemet North, Canyon, and San Jacinto Upper Pressure sub-basins (see **Figure 2-1**). EMWD is one of the key stakeholders in the Plan, along with Lake Hemet Municipal Water District, City of Hemet, and City of San Jacinto. The Plan outlines its goals to support successful water management and offers a roadmap for implementation of solutions that will ensure adequate and reliable sources of water supply for the Management Area. The goals of the Plan include addressing pumping overdraft and declining groundwater levels, protecting and enhancing current and future water supply, and developing cost-effective methods of water management (WRIME, 2007). Long term groundwater management includes plans for artificial recharge using MWD replenishment water via permanent facilities through the Integrated Recharge and Recovery Program. For any agency that pumps in excess of its adjusted base production right plus any carry-over water the agency has in storage, the Plan imposes replenishment fees that the Watermaster can use to pay for replenishment water, thereby keeping the basin sustainable. EMWD's groundwater rights under the Plan include a long-term adjusted base production right of 7,303 acre-feet per year (AFY). EMWD can avoid paying replenishment fees by recharging imported MWD water in advance of the need to pump groundwater beyond the adjusted base production right.

Local Water Banking Program Feasibility Study

EMWD conducted a study in 2014 to identify a reasonable preferred project for water banking opportunities in the San Jacinto Upper Pressure area and determine the facilities needed for conveyance, recharge, and extraction of banked water. The Local Water Banking Program Feasibility Study (Feasibility Study) evaluated and assessed this need through tasks presented in five technical memorandums, which included recharge scenarios, extraction scenarios, banking alternatives, water supply options, and preferred project/next steps.

The approach developed cost curves for a range of recharge and extraction facilities and groundwater banking alternatives. The Feasibility Study determined that a groundwater banking program of 20,000 to 30,000 AFY would be feasible, but additional facilities would be needed to recharge and extract these quantities of water. The amount of groundwater banking would be used to help offset anticipated cutbacks of 15 percent over a 3-year period of projected imported water supplies by 2035 (RMC, 2014).

EMWD's Brackish Groundwater Desalination Program

EMWD's Desalination Program produces potable water from otherwise unusable brackish groundwater through two reverse osmosis desalters in the City of Menifee. Brackish water is more saline than freshwater but much less salty than seawater. The Desalination Program will ultimately remove up to 50,000 tons of salt from the groundwater basin every year and generate up to 15,000 AFY of desalinated potable water. EMWD disposes the collected salt-concentrated

brine through pipelines to treatment facilities for reduction and subsequent discharge out through the existing Inland Empire Brine Line. In addition, the program assists with salinity management in the area to allow for the expansion of water recycling and the protection of high-quality groundwater. The strategy of the program is to encourage EMWD to become less reliant on imported water and become more self-reliant on the local area's water resources (EMWD, 2013).

1.7 References

Eastern Municipal Water District. *EMWD Desalination Program*. June 2013.

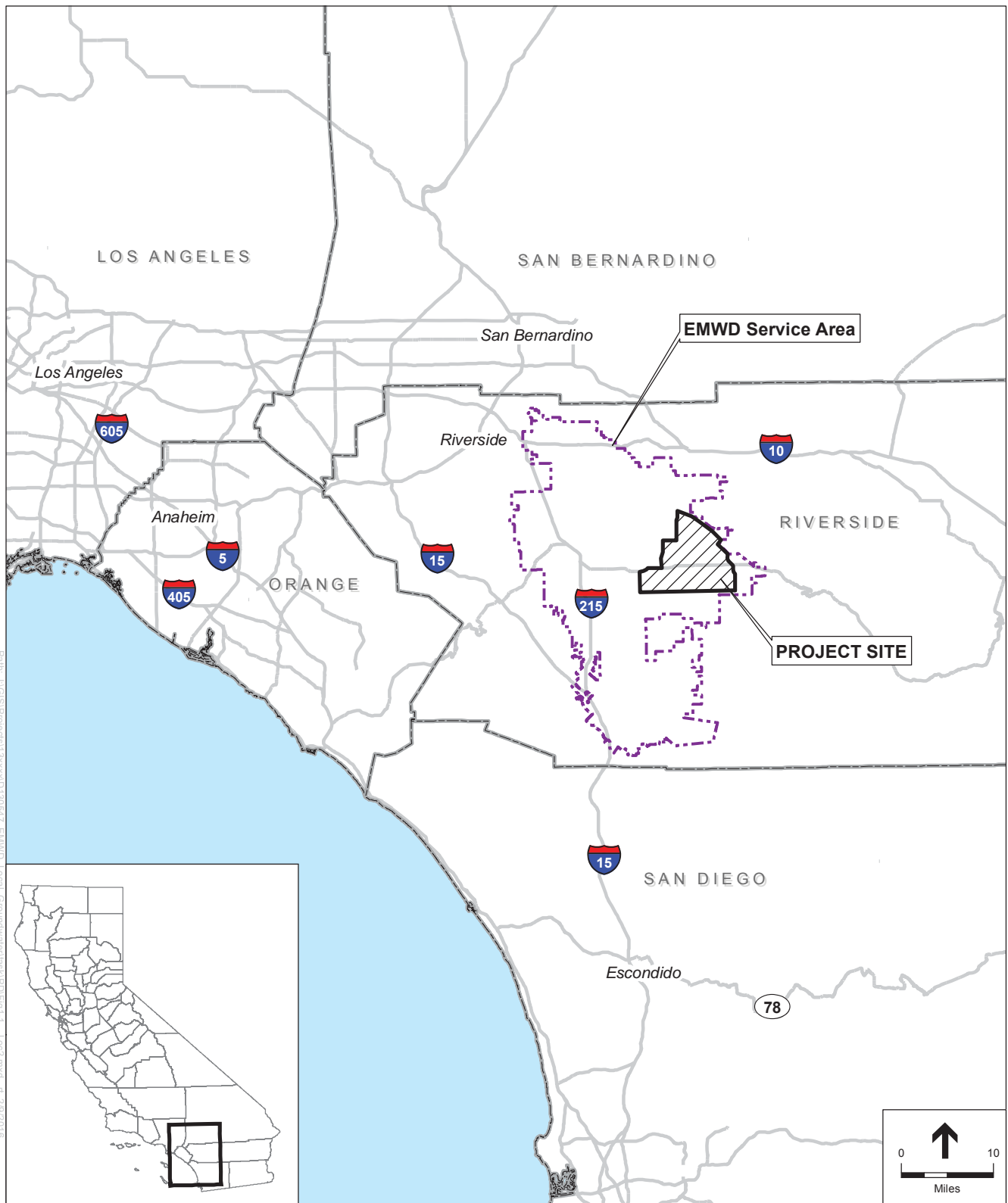
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Eastern Municipal Water District – Water Supply. < <http://www.emwd.org/services/drinking-water-service/water-supply>>. Accessed January 14, 2016.

Pacific Institute, 2011. *Improving Water Management through Groundwater Banking: Kern County and the Rosedale-Rio Bravo Water Storage District*. Pacific Institute Farm Water Success Stories: Groundwater Banking.

RMC Water and Environment. *EMWD Local Water Banking Program Feasibility Study*. Prepared for Eastern Municipal Water District, September 9, 2014.

Water Resource & Information Management Engineering, Inc. (WRIME). *Hemet/San Jacinto Water Management Plan*. November 7, 2007.



SOURCE: ESRI.

EMWD San Jacinto Valley ERRP . 130547.05

Figure 1-1
Regional Location

CHAPTER 2

Program and Project Description

2.1 Overview and Location

EMWD is proposing to construct and operate the San Jacinto Valley Water Banking – Enhanced Recharge and Recovery Program (San Jacinto Valley Water Banking ERRP; Proposed Program). The Proposed Program would aid in enhancing current and future water supplies by recharging imported water into the local groundwater basin. Groundwater produced (extracted) by the Proposed Program would be used within EMWD’s service area; water could also be made available to EMWD’s sub-agencies or other regional water agencies through an exchange, with no physical export of local supplies. EMWD is proposing to implement the San Jacinto Valley Water Banking ERRP in phases; the San Jacinto Valley Water Banking ERRP – Phase 1 Project (Proposed Project) would be the first installment of the Proposed Program.

The Proposed Program would develop a groundwater water bank with total storage capacity of up to 90,000 AF. The maximum recharge capacity for the Proposed Program is expected to be up to 70,000 acre-feet per year. The 70,000 AFY planned recharge capacity does not include the existing recharge capacity of 30,000 AFY at EMWD’s Integrated Recharge and Recovery Program (IRRP) ponds. The maximum extraction capacity of the Proposed Program would be approximately 30,000 AFY. This would be in addition to the current EMWD production of groundwater supplies. The Proposed Program would include development of recharge facilities, extraction and monitoring wells, treatment/blending and disinfection facilities, potable and raw water transmission pipelines, blow-off and well water collector pipelines, laterals from the raw water pipeline to the recharge sites, and other conveyance facilities and appurtenances required to support the Proposed Program. Additionally, the Proposed Program could include the use of public rights-of-way or the acquisition of property or easements for the construction and maintenance of Proposed Program facilities.

The agencies providing the imported water include, but are not limited to, MWD as well as other California water agencies or private suppliers with excess supplies via the State Water Project (SWP) (e.g. San Bernardino Valley Municipal Water District).

The Proposed Program overlies the San Jacinto Groundwater Basin and would be located on the east side of the basin (**Figure 2-1**), specifically within the Upper Pressure Sub-Basin (Sub-Basin), which has been adjudicated and is managed by the Hemet-San Jacinto Watermaster (Watermaster).

Currently, the Watermaster is implementing the Plan to address overdraft within the adjudicated area, and EMWD is a party to the Watermaster and is a signatory to the Plan. EMWD would also enter into a groundwater storage agreement with the Watermaster. Should the Watermaster as a separate entity, or any of the municipal agencies, want to lease the facilities for their own recharge operations, EMWD would consider the request and enter discussions with the goal of providing benefit to the individual agency and the overall groundwater basin.

The Proposed Program is also located within the Santa Ana River watershed. EMWD is signatory to a cooperative imported water recharge agreement with several Santa Ana River Watershed agencies and the Santa Ana Regional Water Quality Control Board. The cooperative agreement seeks to manage the amount of salts imported and recharged into local groundwater basins.

2.2 Objectives

The objectives of the Proposed Program and Proposed Project are as follows:

- Increase water supply reliability during droughts and emergencies.
- Overcome water shortages of up to 15 percent for up to three consecutive drought years during a regional water allocation cutback.
- Increase the amount of groundwater that can be pumped seasonally through recharge and storage of imported water.

2.3 Purpose and Need

The Proposed Program is part of an overall program that EMWD is calling Groundwater Reliability Plus (GRP). GRP is a group of projects that will improve the quality and quantity of the water in the local Sub-Basin. The benefits of GRP within the Sub-Basin include improved groundwater quality and reduced water salinity, higher groundwater levels resulting in lower pumping costs, increased groundwater availability, and drought-resilient supply reliability.

The Proposed Program would construct new groundwater banking facilities in the Sub-Basin, which will be used for both seasonal and extended water banking to augment the recharge, storage, and extraction capacities of EMWD's existing groundwater production system. Seasonal water banking consists of annual recharge and withdrawals of water to and from the Sub-Basin. Seasonal water banking would replenish the Sub-Basin with imported water during wet and average precipitation years, and the recharged water would be extracted during the same year, or following year, it was put into the Sub-Basin. Extended water banking consists of replenishing the Sub-Basin with imported water during wetter-than-average years. Stored water could be used during an emergency or drought situation in future years. The extended water banking component provides an opportunity for a collaborative, watershed-scale approach toward long-term groundwater basin management with the participating agencies of the Santa Ana Watershed Project Authority, which includes EMWD.

2.4 Description of Proposed Program Facilities

The Proposed Program would develop groundwater banking facilities in the Sub-Basin. The Proposed Program involves construction of facilities to deliver imported water for recharge at four new recharge sites, extract and treat the recharged water, and finally deliver the potable water supplies within EMWD's service area. To do this, the Proposed Program would include development of recharge facilities, extraction and monitoring wells, treatment/blending and disinfection facilities, potable, raw, blowoff and well water collector pipelines and laterals, and other conveyance facilities and appurtenances. The entire Proposed Program anticipates groundwater extraction of up to 30,000 AFY. The Proposed Program facilities would be phased in over time to achieve the target storage capacity of up to 90,000 AF.

For the Proposed Program, construction of facilities would occur within public rights-of-way, or within property or easements currently owned by EMWD, or acquired by EMWD. All facilities to be constructed as part of the Proposed Program are shown on **Figure 2-2**.

2.4.1 Recharge

The Proposed Program would develop a groundwater water bank with combined total storage capacity of up to 90,000 AF. The maximum amount of recharge capacity for the Proposed Program is expected to be up to 70,000 AFY. Recharge facilities would be constructed on EMWD-owned property in San Jacinto to percolate imported water. The recharge facility locations were chosen because they are within an area that exhibits the highest potential for recharge from the ground surface based on its interconnectivity with underlying aquifers. The Sub-Basin has undergone significant groundwater extraction over the last 100 years resulting in an estimated current available storage capacity in excess of 300,000 AF.

Initially, the existing raw water pipeline along Esplanade Avenue (see **Figure 2-2**) would supply raw SWP water from MWD's Lakeview Pipeline located on the western side of the City of San Jacinto to the Mountain Avenue West recharge site, which would be the first recharge facility constructed as part of the Proposed Program. Eventually, under future phases of the Proposed Program, a new raw water pipeline would be constructed to provide increased capacity for delivery of imported raw water to the Mountain Avenue recharge sites (See Section 2.4.4.1). Raw water would percolate into the underlying groundwater basin where it would be stored as groundwater. The stored groundwater could then be pumped out of the groundwater basin using existing or proposed extraction wells, and if necessary treated before delivery within the potable water system.

Recharge Facilities

Four new recharge facilities would be constructed as part of the Proposed Program: Mountain Avenue West, East, North, and South (see **Figure 2-3**). The approximate acreages for the recharge sites are as follows:

- Mountain Avenue West: 39 acres
- Mountain Avenue North: 11 acres

- Mountain Avenue East: 24 acres
- Mountain Avenue South: 11 acres

All four recharge sites are located on vacant and undeveloped land and are generally surrounded by residential development and the San Jacinto riverbed. Each of the four facilities would use approximately 60 to 90 percent of the property for active recharge activities, with the remaining area for appurtenant facilities. The recharge facilities would be subdivided into two or more ponds to promote desilting and to allow for periodic maintenance. Mountain Avenue West would include three or four recharge ponds and one desilting pond; Mountain Avenue East could include two ponds; Mountain Avenue North would consist of one pond due to size constraints; and Mountain Avenue South could include two or three ponds. The ponds would be surrounded by berms approximately 3 to 8 feet tall relative to the surrounding ground surface; berms would be of sufficient height and width to support anticipated loading exerted by maintenance equipment and the recharge water in the basins. The depth of the ponds would be 10 to 15 feet below the surrounding ground surface for a total depth of 13 to 23 feet below the berms. The perimeter and internal berms would be constructed with materials from within the proposed recharge sites to the maximum extent possible. Security fencing would surround each recharge facility to restrict access.

Access roads up to 25-foot wide would be installed on the recharge site, as well as around the perimeter of each pond, to allow inspection and facilitate maintenance of the ponds and other onsite facilities.

2.4.2 Monitoring

The Proposed Program would include the construction and operation of a total of 16 shallow and seven (7) multi-depth monitoring wells to monitor groundwater levels, movement/migration of the recharged water, and water quality. Proposed locations for these wells are shown on **Figure 2-3** and included in **Table 2-1**.

TABLE 2-1
SUMMARY OF PROPOSED MONITORING FACILITIES

Facility Type	Shallow Monitoring Wells	Multi-depth Monitoring Wells
Mountain Avenue West	8	3
Mountain Avenue North	3	2
Mountain Avenue East	2	1
Mountain Avenue South	3	1
TOTAL	16	7

Shallow Monitoring Facilities

Shallow monitoring wells (up to 200 feet deep) would allow monitoring of shallow groundwater levels around the recharge sites to ensure that nearby structures such as buildings are protected. The above ground portion of the shallow monitoring wells includes a vertical pipe standing about 2 to 3 feet above ground surface and would be protected by traffic bollards. The wells would be located to avoid buried utilities. Approximate locations for the shallow monitoring wells are shown in **Figure 2-3**.

The shallow monitoring wells would be equipped with monitoring equipment that would send data back to the EMWD integrated operations center (IOC). The IOC would have a plan that would define operational adjustments to be made at any time if rising groundwater levels were observed. The IOC operations manual would likely include but not be limited to the following:

- Reduction or cessation of recharge operations should water levels reach 70 feet below ground surface (bgs);
- Should water levels reach 50 feet bgs, groundwater extraction wells would be incrementally activated to reduce water levels in the area; and
- If water levels do not begin to decrease within a week of an initial set of extraction wells being pumped, additional wells would be activated until the groundwater level mound dissipates to an acceptable level of at least 60 feet bgs.

Multi-depth Monitoring Facilities

Multi-depth monitoring wells (up to 1,200 feet deep) would be installed between areas of recharge and groundwater extraction to provide data points related to groundwater elevation, groundwater movement and water quality in multiple aquifers in the area. Each multi-depth monitoring well site would occupy an area of approximately 50 feet by 50 feet. Multi-depth monitoring wells would include a vertical pipe standing about 2 to 3 feet above ground surface and would be protected by traffic bollards. Approximate locations for the multi-depth monitoring wells are shown in **Figure 2-3**.

2.4.3 Extraction

Water stored in the San Jacinto Groundwater Basin as a result of recharge activities at the Mountain Avenue recharge facilities would be extracted for treatment and distribution within EMWD's service area. The maximum extraction capacity of the Proposed Program would be approximately 30,000 AFY. This extraction capacity is in addition to EMWD's existing extraction capacity.

Extraction Wells

Up to 11 extraction wells would be constructed as part of the Proposed Program at locations to be determined but shown within the area identified on **Figure 2-2**. Each proposed groundwater extraction well would be located at least 1,000 feet from existing active extraction wells. Each extraction well facility would occupy an area of approximately one acre and would include a

block wall pump building. A photo and design layout of an example extraction well are shown in **Figure 2-4**.

Security fencing would be installed along the perimeter of the property with access gates as needed. The type of fencing, such as split-face block walls or chain link fencing, would be consistent with the general style of the surrounding the area.

Treatment/Blending and Disinfection Facilities

Groundwater extracted from the Sub-Basin will require disinfection and may require treatment and/or blending prior to introduction into EMWD's existing potable water system. If the water quality does not meet drinking water standards, then centralized blending and treatment facilities would be constructed to treat the water for naturally occurring constituents such as iron and manganese (see general location on **Figure 2-3**). Treatment for iron or manganese typically includes filtering the water through specialized sand bed filters and/or blending with other supply sources. A photo and design layout of an example treatment facility is shown on **Figure 2-5**. The site would also include disinfection facilities. Disinfection would be performed using chlorine or chloramine, used to neutralize pathogenic microorganisms. In addition, a forebay or above ground storage tank and pumping station with discharge pipeline (see section 2.4.4.3) would be constructed to convey the treated water to the existing potable water system. The existing onsite shop building would also be expanded for storage of equipment and materials.

2.4.4 Conveyance

The Proposed Program would include construction of a new raw water pipeline to deliver imported water to the recharge facilities, blow-off pipelines to purge the extraction wells upon startup, well water collector pipelines to convey the extracted groundwater to the treatment/blending and disinfection facilities, and new potable water transmission pipelines to deliver the treated/potable water to customers in EMWD's existing service area. Conveyance facilities are shown on **Figure 2-2** and **Figure 2-3**.

Raw Water Conveyance

The MWD Inland Feeder pipeline currently runs through the western part of San Jacinto, bringing SWP water into the Proposed Program area. As part of the Proposed Program, a new raw water transmission pipeline would connect to a new proposed turn-out (interconnection) on the existing MWD Inland Feeder – EM-25 – to deliver imported SWP water to the four Mountain Avenue recharge facilities (**Figure 2-2**). The proposed Raw Water Feeder #2 would be constructed within the public rights-of-way along Esplanade Avenue from the proposed EM-25 to the intersection of Esplanade Avenue and Sanderson Avenue, south on Sanderson Avenue to Commonwealth Avenue, east to Palm Avenue, north to Esplanade Avenue, east to Mountain Avenue. From this intersection the proposed Raw Water Feeder #2 would follow Mountain Avenue north from Esplanade Avenue to approximately 100 feet south of Lake Park Drive. The proposed Raw Water Feeder #2 would measure up to 60 inches in diameter with an estimated length of up to 33,000 linear feet and a conveyance capacity of 100 cubic feet/second (cfs). The proposed EM-25 would be constructed near the intersection of Esplanade Avenue and Warren Road.

A new 3,000 horsepower pumping station would be required to move water from the existing MWD Inland Feeder through the proposed EM-25 interconnection with MWD and the proposed Raw Water Feeder #2 to the proposed Mountain Avenue recharge facilities. The pumping station would be located near EM-25 and would have a footprint of approximately 200 feet by 200 feet, including at a minimum security fencing, electrical service, above and below grade piping, and up to five pumping units. Facilities such as surge tanks, back-up generators, and service buildings may be included among facilities that are identified and located during the preliminary and final designs.

Lateral pipes would connect the four recharge facilities to the proposed Raw Water Pipeline in Esplanade Avenue. When in operation, the recharge basins would receive imported raw water from the Raw Water Pipelines through the laterals up to 300-feet long. The laterals would be up to 36-inches in diameter and supply water to onsite pipes. The onsite piping would convey the water through a flow meter and a flow/pressure control valves before being discharged into a desilting basin. The desilting basin helps manage naturally occurring sediment in the raw water. Water would flow from the desilting basin into the recharge ponds through onsite gravity pipes.

Well Water Conveyance

New well water collector pipelines would be required to connect each proposed groundwater extraction well to the proposed treatment/blending and disinfection facilities. Based on location and well production rates, pipelines would be approximately 12-inches to 48-inches in diameter. Pipelines would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD. Subsequent to treatment/blending and disinfection, pipelines would deliver the treated water to EMWD's existing potable water distribution network (see Section 2.4.4.3).

Blow-off Conveyance

New pipelines would be required to connect each proposed groundwater extraction well to a discharge location, which could be a recharge facility, a temporary holding basin at the well site, or to a storm drain. Based on location and well production rates, pipelines would be approximately 12-inches in diameter. Pipelines would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD.

Potable Water Conveyance

New potable water transmission pipelines measuring up to 48-inches in diameter would be installed to deliver treated/potable groundwater to EMWD's service area. This pipeline would transmit water from the proposed treatment/blending and disinfection facilities located at Hewitt and Evans in the city of San Jacinto to EMWD's customers in San Jacinto Valley and, at times, to EMWD's Perris Valley service area through the existing booster pumping station located at Simpson Road and Patterson Avenue in the Winchester area of unincorporated Riverside County. The proposed alignment of the new potable water conveyance pipeline is shown on **Figure 2-2**. The estimated length of new potable water pipeline for the Proposed Program would be 70,000 total linear feet. Lateral pipes would connect the potable water transmission pipeline to the

existing potable water system at various locations along its alignment. The laterals would be up to 30-inches in diameter and not more than 1,000-feet long.

2.5 Description of the Proposed Project

The Proposed Project would be implemented as the first phase of the Proposed Program and would implement groundwater recharge facilities at Mountain Avenue West to enable EMWD to recharge an average of approximately 7,000 to 30,000 AFY when recharge supplies are available, while relying on existing regional infrastructure to convey imported raw water to the proposed recharge basin. The Proposed Project also includes three new groundwater extraction wells, associated pipelines, monitoring wells, and treatment/blending and disinfection facilities to enable EMWD to initially extract and deliver up to 7,000 AFY to its existing potable water distribution system. **Table 2-2** includes the facilities to be constructed as part of the total Proposed Program and the Proposed Project.

**TABLE 2-2
SUMMARY OF PROPOSED PROGRAM AND PROPOSED PROJECT FACILITIES**

Facility Type	Proposed Program Total	Proposed Project
Recharge Facilities	<ul style="list-style-type: none"> 4 Recharge Facilities: Mountain Avenue East, West, North, South Laterals from the existing and proposed Raw Water Pipeline to the recharge facilities Onsite piping connecting the laterals to the desilting and recharge ponds 	<ul style="list-style-type: none"> 1 Recharge Facility: Mountain Avenue West Lateral(s) from the existing raw water pipeline to the Mountain Avenue West recharge facility Onsite piping connecting the laterals to the desilting and recharge ponds
Monitoring Facilities	<ul style="list-style-type: none"> 16 Shallow Monitoring Wells 7 Multi-depth Monitoring Wells 	<ul style="list-style-type: none"> 8 Shallow Monitoring Wells 3 Multi-depth Monitoring Wells
Extraction Facilities	<ul style="list-style-type: none"> Up to 11 Extraction Wells Treatment/Blending and disinfection Facilities at Hewitt & Evans including a pumping station 	<ul style="list-style-type: none"> 3 Extraction Wells Treatment/Blending and disinfection Facilities at Hewitt & Evans including a pumping station
Conveyance Facilities	<ul style="list-style-type: none"> MWD Turn-out EM-25 Raw Water Feeder #2 Transmission Pipeline Pumping Station Well water collector pipelines from each extraction well to the treatment/blending and disinfection facilities Potable Water Conveyance Pipeline Blow-off pipelines 	<ul style="list-style-type: none"> Well water collector pipelines from each extraction well to the treatment/blending and disinfection facilities Potable Water Conveyance Pipeline Blow-off pipelines

2.5.1 Recharge Facility

The Mountain Avenue West recharge facility would be constructed on EMWD-owned property in the City of San Jacinto (see **Figure 2-6**). Mountain Avenue West is approximately 39 acres of vacant undeveloped land, surrounded by residential development to the west, north, and south, and Ramona Expressway and the San Jacinto riverbed to the east. Approximately 60 to 90 percent of the property would be used for active recharge activities, with the remaining area for appurtenant facilities. Based on preliminary design, Mountain Avenue West would be divided into four ponds: one desilting pond to promote the removal of fine particles in the raw water and three recharge ponds. The ponds would be surrounded by berms approximately 3 to 8 feet tall relative to the surrounding ground surface. The depth of the ponds would be 10 to 15 feet relative to the surrounding ground surface for a total depth of 13 to 23 feet below the berms. The perimeter and internal berms would be constructed with materials from within the proposed Mountain Avenue West recharge site to the maximum extent possible. Berms would be of sufficient height and width to support anticipated loading exerted by maintenance equipment and the recharge water in the ponds. The estimated capacity of the proposed Mountain Avenue West recharge facility would range between 7,000 to 30,000 AFY.

One lateral pipeline would be built to connect the Mountain Avenue West recharge facility to the existing raw water supply pipeline within Esplanade Avenue adjacent to the recharge facility (see **Figure 2-3**). A separate lateral located at the northeast corner of the recharge area would be constructed to accommodate future supply sources that may be considered at a later date. Once the lateral is within the recharge site, a pipeline would convey the recharge water through a series of devices that would meter and regulate the flow and pressure. The pipeline would then connect to a desilting pond. The recharge water would enter the desilting pond through an air gap, which is used to prevent the reverse flow of water back into the pipeline. To prevent erosion within the desilting pond, rip rap would be installed below the discharge point of the air-gap.

A discharge pipe would connect to three laterals to convey the water from the desilting pond to the recharge ponds. Rip-rap would be installed where the recharge water enters each recharge pond to eliminate erosion. An overflow outlet would be constructed at the base of each sub-basin, allowing water to flow into other nearby recharge facilities or flood control structures if water depth exceeds the design depth within these facilities.

Access roads up to 25-feet wide would be installed on the recharge site, as well as around the perimeter of each pond, to allow inspection and facilitate maintenance of the ponds and other onsite facilities. Ramps would be constructed to assist with annual basin cleanouts. Public amenities would be added to the Mountain Avenue West recharge facility consistent with the *Mountain Avenue West Recharge Facility Inter-Agency Agreement, dated November 2014* (Inter-Agency Agreement) between EMWD and the City of San Jacinto (included in **Appendix MAW**). These amenities include, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage (see **Figure 2-7** for conceptual profiles of the amenities around the recharge area). These amenities will be installed along the perimeter of the Mountain Avenue West site outside of a wrought-iron perimeter fence (see **Figure 2-8** for a visual simulation of the amenities and recharge area). Upon completion, the

perimeter amenities would be dedicated to the City of San Jacinto in accordance with the Inter-Agency Agreement. Easements would be retained by EMWD to facilitate ingress/egress to the site and maintenance of the facilities.

Access to the Mountain Avenue West facilities would be provided by up to two ingress/egress vehicle access locations: one from Esplanade Avenue and one from Ramona Expressway (see **Figure 2-3**). A 125-foot setback would be provided from the wrought iron fence around the perimeter of the ponds to the existing residential block wall located north of the site. Low-pathway lighting would be installed along the existing residential block wall shielded down towards the walking path. Additionally, to facilitate remote monitoring of the facilities, up to two poles with security video cameras-mounted to the poles would be installed at a height of approximately 12 feet.

2.5.2 Monitoring Facilities

Shallow Monitoring Facilities

As described previously in Section 2.4.2.1, up to eight shallow monitoring wells (up to 200 feet deep) would be installed around the periphery of Mountain Avenue West equipped with monitoring equipment that would send data back to the EMWD IOC. Shallow monitoring wells located on EMWD property would be pipes standing about 2 to 3 feet above ground surface and surrounded by traffic bollards. The wells would be sited to avoid buried utilities. A depiction of potential shallow monitoring well locations is shown on **Figure 2-6**.

Multi-depth Monitoring Facilities

As described previously in Section 2.4.2.2, three (3) multi-depth monitoring wells (up to 1,200 feet deep) would be installed along the perimeter of the Mountain Avenue West recharge site to provide data points related to groundwater elevation, groundwater movement and water quality in multiple aquifers in the area. Each multi-depth monitoring well site would be located on EMWD-owned property and would occupy an area of approximately 50 feet by 50 feet. These multi-depth monitoring wells include a vertical pipe standing about 2 to 3 feet above ground surface and surrounded by traffic bollards. A depiction of potential multi-depth monitoring well locations is shown in **Figure 2-6**.

2.5.3 Extraction Facilities

Extraction Wells

The Proposed Project would involve construction of three (3) new groundwater extraction wells (Wells 201, 202, and 203) at locations shown in **Figure 2-9**. The estimated capacity of each well would be approximately 1,000 to 3,000 gallons per minute (gpm), and each well would produce 1,600 to 4,800 AFY. Each extraction well would occupy an area of approximately one acre, including a concrete-block wall pump building. Security fencing would be installed along the perimeter of the property with access gates as needed. The type of fencing, such as split-face block walls or chain link fencing, would be consistent with the general style of the surrounding the area.

A photo and design layout of an example extraction well are shown in **Figure 2-4**. The estimated total capacity of the proposed groundwater extraction facilities would be up to 7,000 AFY.

Treatment/Blending and Disinfection Facilities

As described previously in Section 2.4.3.2, treatment/blending (if needed) and disinfection facilities would be constructed at the Hewitt and Evans site (see **Figure 2-8**), which is an EMWD-owned property. The existing Hewitt and Evans site currently contains one production well and one monitoring well, storage areas, a blow-off pond, utility infrastructure, and underground pipelines. Several existing facilities would be integrated into the new facility onsite as shown on **Figure 2-9**.

Groundwater extracted from the Sub-Basin will require disinfection and may require treatment and/or blending prior to introduction into EMWD's existing potable water system. If the water quality does not meet drinking water standards, then a centralized treatment facility would be constructed to treat the water for naturally occurring constituents such as iron and manganese. Treatment for iron or manganese typically includes filtering the water through specialized sand bed filters and/or blending with other supply sources to reduce constituent concentrations to levels that meet health and regulatory standards. A photo and design layout of an example treatment facility is shown on **Figure 2-5**. The site would also include disinfection facilities. Disinfection would be performed using chlorine or chloramine, used to neutralize pathogenic microorganisms. In addition, a forebay or above ground storage tank and pumping station with discharge pipeline (see section 2.5.4.3) would be constructed to convey the treated water to the existing potable water system. The existing onsite shop building would also be expanded for storage of equipment and materials. The height of buildings and equipment at the Hewitt and Evans site would not exceed 22 feet, except for vents and other appurtenances that could be on the roof.

2.5.4 Conveyance Facilities

The Proposed Project would use existing and new pipelines to convey water. Water supply to the recharge facility would use the existing raw water pipeline located in Esplanade Avenue to deliver imported water to the Mountain Avenue West recharge facility. Blow-off pipelines would be constructed to allow the extraction wells to be purged upon startup. New well water collector pipelines would be constructed to convey the extracted groundwater to the proposed treatment/blending and disinfection facilities, and new potable water transmission pipelines would be constructed to deliver the treated/potable water to customers in EMWD's existing service area. Pipelines would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD. Existing and proposed conveyance facilities for the Proposed Project are shown in **Figure 2-2** and **Figure 2-3**.

Raw Water Conveyance

Raw water is currently conveyed from the existing EM-14 interconnection with MWD at MWD's Lakeview Pipeline, through the Warren Booster Pumping Station, east along the existing 39-inch diameter raw water pipeline to the Hemet Water Filtration Plant (HWFP), where it reduces to a

33-inch diameter raw water pipeline and continues onto EMWD's IRRP recharge basins, Corwin Booster Pumping Station, and Lake Hemet Municipal Water District (LHMWD). This existing raw water pipeline will be used to convey the imported raw water supplies from the existing interconnection with MWD at EM-14 to the Mountain Avenue West recharge facility (See **Figure 2-2**).

A lateral pipe would be constructed to connect the existing raw water pipeline in Esplanade Avenue to the proposed Mountain Avenue West recharge facility. When in operation, the recharge ponds would receive imported raw water from the existing raw water pipeline through the lateral, which would be up to 300-feet long. The lateral would be up to 36 inches in diameter and supply water to onsite pipes. The onsite piping would convey the water through a flow meter and a flow/pressure control valve before being discharged into a desilting pond. The desilting pond helps manage naturally occurring sediment in the raw water. Water would flow from the desilting pond into the recharge ponds through onsite gravity pipes.

Well Water Conveyance

New discharge pipelines would be required to connect the proposed groundwater extraction wells to the proposed treatment/blending and disinfection facilities located at the Hewitt and Evans site (see **Figure 2-9**). Well discharge pipelines would be 12 inches to 48 inches in diameter and located within public rights-of-way and property or easements owned by EMWD or acquired by EMWD.

Blow-off Conveyance

New pipelines would be required to connect each proposed groundwater extraction well to a discharge location, which would be via connection to an existing pipeline to a recharge facility, or a temporary holding basin at the well site, or to an existing storm drain. The route for the blow-off conveyance pipelines would follow the routes shown on **Figure 2-9** for well water collector pipelines or alternate well water collector pipelines. Based on location and well production rates, pipelines would be approximately 12-inches to 18 inches in diameter. Pipelines would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD.

Potable Water Conveyance

A new potable water transmission pipeline measuring up to 48-inches in diameter would be installed to deliver treated/potable groundwater to EMWD's service area. This pipeline would convey water from the proposed treatment/blending and disinfection facilities located at Hewitt and Evans in the City of San Jacinto to existing EMWD's potable water distribution system, serving customers in San Jacinto Valley. The proposed alignment of the new potable water conveyance pipeline is shown on **Figure 2-10**. The estimated length of new potable water pipeline for the Proposed Project is 500 linear feet.

2.6 Construction of the Proposed Program and Project

2.6.1 Construction Schedule

EMWD intends to implement the Proposed Project as the first phase of the Proposed Program. The Proposed Project will be constructed over a three-year timeframe. The Proposed Project will be followed by future phases of the Proposed Program to be implemented over the next 20 to 30 years.

Proposed Project

Recharge Facilities

It is anticipated that construction of the Proposed Project facilities would begin in the fall of 2018. The Mountain Avenue West recharge facility may be constructed concurrently, which, along with supporting infrastructure, would take about 12 months to construct.

Monitoring Facilities

Shallow and multi-depth monitoring wells also would be installed simultaneously with the recharge facilities, and are anticipated to be constructed over the same 12-month period beginning in the fall of 2018.

Shallow Monitoring Facilities

Construction of shallow monitoring wells would be accomplished by use of a hollow stem auger (HSA) drill rig and support vehicles. The construction area would be approximately 80 feet long by 20 feet wide with each well requiring about 4 days to construct. During construction of the wells the exhaust from the drill rigs would be oriented away from residences and work areas would be defined to mitigate noise and access would be restricted to only authorized individuals to minimize construction hazards. Drill crews and consultants would address any members of the public before the public would reach a hazardous area. Construction of each shallow well would occur between 7:00 a.m. and 6:00 p.m. Monday through Saturday.

Multi-Depth Monitoring Facilities

Multi-depth monitoring wells would be constructed using the same general methods as extraction wells (see below). Multi-depth monitoring wells would be constructed to ground surface with above ground completions extending about 2 to 3 feet above grade with traffic bollards installed around each for safety of the wellhead. A 50-foot by 50-foot area of access would be required to allow temporary sampling equipment to be installed and removed from these wells on an annual or semi-annual basis. Wells would avoid nearby buried utilities and structures, such as homes, and be on property owned by EMWD.

Multi-depth monitoring well construction durations are highly variable based on the sediments encountered while drilling. It is anticipated that each well would require a minimum of 3 weeks to construct, develop, and test. During this time drilling operations would be anticipated to be continuous operations, 24 hours per day, seven days per week (24/7) for 1 to 2 weeks, with

additional nighttime activities occurring over approximately 12 weeks. The remainder of construction time will occur between 7:00 am and 6:00 pm Monday through Saturday.

Extraction Facilities

The Proposed Project includes construction of three new extraction wells. The three wells would be constructed at the same time. As a result, extraction facilities would be constructed beginning in the fall of 2018.

Construction activities associated with extraction well installation would include drilling, well testing, and start up. Construction equipment required for drilling could include a drilling rig, compressor, and generator. In addition, construction of wells would require the temporary installation of field offices, sanitary facilities, baker tanks for water clarification, water discharge piping, water discharge pond, and perimeter chain link fence surrounding entire work site.

The overall construction duration for each well is anticipated to be approximately three years, including well testing and start up. Well drilling would require continuous operation of the drill rig for 1 to 2 weeks with additional nighttime activities occurring over approximately 12 weeks. A sound wall would be erected prior to construction activities to minimize noise and neighborhood disturbance, if necessary, depending on well locations relative to nearby homes. The sound walls would also contain fugitive nighttime lighting and, along with application of water, fugitive dust from leaving the sites.

Treatment/Blending and Disinfection Facilities

The treatment/blending and disinfection facilities would be located at the Hewitt and Evans site and would take about two years to construct. Construction would likely occur simultaneously with the well head facilities construction beginning in the fall of 2018.

Conveyance Facilities

The existing raw water pipeline would be used to convey imported water to the Mountain Avenue West recharge facility. A lateral would be constructed from the existing pipeline to the onsite facilities. Construction of the lateral pipe, which would connect the existing raw water pipeline to the Mountain Avenue West recharge facility, would be built simultaneously with the recharge ponds and appurtenant facilities.

The blow-off pipelines for the Proposed Project, which allow purge-water from the wells at startup to be discharged to a recharge facility, a storm drain or onsite holding pond, would be constructed simultaneously with the construction of the well head facilities beginning in the fall of 2018.

The well collector pipelines for the Proposed Project, which connect the extraction wells to the treatment/blending and disinfection facilities, would be constructed simultaneously with the construction of the well head facilities beginning in the fall of 2018.

The discharge pipeline from the treatment/blending and disinfection facilities to the potable water distribution system would be constructed with the treatment/blending and disinfection facilities beginning in the fall of 2018.

Future Program Phases

Recharge Facilities

The Mountain Avenue North, East, and South recharge facilities would be constructed as part of the future phases of the Proposed Program, and are estimated to begin in 2025 through 2045. The three recharge facilities would take approximately 12 months to construct and could occur simultaneously.

Extraction Facilities

Eight additional extraction wells would be constructed during the future Proposed Program phases. Drilling and well head construction requires about three years for each well, and two to three wells would be constructed at the same time. Future phases of two to three extraction well facilities could be constructed starting in 2025 and continuing in phases through 2045.

Treatment/Blending and Disinfection Facilities

The treatment/blending and disinfection facilities would be constructed to allow expansion of the facilities by adding modules to the base system during future phases. Future phases of treatment/blending and disinfection expansion would require 12 to 18 months to complete construction. The first expansion of the treatment/blending and disinfection facilities could be initiated in 2025 and continuing in phases through 2045.

Conveyance Facilities

The interconnection to MWD, EM-25, pumping station, and raw water pipeline, would be constructed as part of future phases of the Proposed Program. Future phases of the Raw Water Feeder #2 conveyance pipeline would include the EM-25 interconnection, pumping station, and raw water pipeline to the existing Hemet Filtration Plant where it would connect to the existing raw water pipeline. This work associated with the Raw Water Feeder #2 conveyance pipeline could be initiated in 2019 and construction would last about 18 months. Additional future phases would include extending the raw water pipeline to all of the Mountain Avenue recharge facilities. Additional future phases could be initiated in 2030 and the duration would be about 18 months.

Future well collector pipelines would be built simultaneously with the future extraction wells. Blow-off and well collector pipelines would be constructed as two or three pipelines at a time, and would require about 12 months to complete construction. Future phases of two to three well collector pipelines could be constructed in 2025 and continuing in phases through 2045.

The new potable water conveyance pipeline would be constructed in multiple phases. Future phases could be initiated in 2025 with additional phases through 2045. Each phase of construction could require 1 to 2 years to complete.

2.6.2 Recharge Facilities

Construction of the future Proposed Program recharge facilities would include excavation of a total of about 80 percent of each recharge site. The depth of excavation at each sub-basin would be 10 to 15 feet relative to the surrounding ground surface. Based on preliminary design information, Mountain Avenue West could require between 387,592 cubic yards and 492,103 cubic yards of grading and soil displacement; the volume of grading and soil displacement for the other recharge sites would be determined during future phases of the Proposed Program. Based on preliminary geotechnical information previously obtained for all of the recharge sites, the amount of excavation required would be less than the excavation required at Mountain Avenue West, based on site acreage. In addition, approximately 25.3 acres of graded gravel access roads would be required at Mountain Avenue West. Ramps would also be constructed into the recharge basins to assist with maintenance of the ponds. Excess spoils (soils) would be stockpiled on-site and used to construct the berms around the proposed ponds. Pond inlets would be constructed at each site. Supporting infrastructure for each of the recharge facilities would include internal pipelines, flow meters, flow/pressure control structures (such as valves and air gaps), SCADA and meters to monitor recharge operations, internal roadways, power poles with security cameras, lights, fences, and materials/equipment storage.

During construction of the recharge ponds and supporting infrastructure, work areas would be defined to mitigate noise and construction hazards.

Construction would require use of work trucks, graders, earthmovers, backhoes, excavators, water trucks, vibratory compactors, and welding materials along with supporting equipment. Large dump trucks or dirt transporters may be required if there is an excess of materials that are required to be moved offsite.

The recharge facility construction is planned first at Mountain Avenue West with supporting infrastructure and planned amenities, followed by future Proposed Program facilities at Mountain Avenue North, East, and South. Recharge facility construction would consist primarily of onsite grading, excavation, berm construction, and export of soils. The soils in this area are of high quality for construction purposes therefore it is anticipated that the soils will be purchased and moved offsite by a private company rather than disposed at a landfill. Water would be used for dust suppression during each portion of facility construction. Soil binder may also be used for dust suppression.

Amenities would be constructed simultaneously with the Mountain Avenue West recharge facility.

2.6.3 Monitoring Facilities

Shallow Monitoring Facilities

Construction of shallow monitoring wells would be accomplished by use of a HAS drill rig and support vehicles. The construction area would be approximately 80 feet long by 20 feet wide with each well requiring about 4 days to construct. During construction of the wells the exhaust from

the drill rigs would be oriented away from residences and work areas would be defined to mitigate noise and access would be restricted to only authorized individuals to minimize construction hazards. Drill crews and consultants would address any members of the public before the public would reach a hazardous area. Construction of each shallow well would occur between 7:00 a.m. and 6:00 p.m. Monday through Saturday.

Multi-depth Monitoring Facilities

Multi-depth monitoring wells would be constructed using the same general methods as extraction wells (see Section 2.6.4.1). Multi-depth monitoring wells would be constructed to ground surface with above ground completions extending about 2 to 3 feet above grade with traffic bollards installed around each for safety of the wellhead. A 50-foot by 50-foot area of access would be required to allow temporary sampling equipment to be installed and removed from these wells on an annual or semi-annual basis. Wells would avoid nearby buried utilities and structures, such as homes, and be on property owned by EMWD.

Multi-depth monitoring well construction durations are highly variable based on the sediments encountered while drilling. It is anticipated that each well would require a minimum of 3 weeks to construct, develop, and test. During this time drilling operations would be anticipated to be continuous operations, 24/7 for 1 to 2 weeks, with additional nighttime activities occurring over approximately 12 weeks. The remainder of construction time will occur between 7:00 am and 6:00 pm Monday through Saturday.

2.6.4 Extraction Facilities

Extraction Wells

Construction activities associated with extraction well installation would include drilling, well testing, and start up. Construction equipment required for drilling could include a drilling rig, compressor, and generator. In addition, construction of wells would require the temporary installation of field offices, sanitary facilities, baker tanks for water clarification, water discharge piping, water discharge pond, and perimeter chain link fence surrounding entire work site.

The overall construction duration for each well is anticipated to be approximately three years, including well testing and start up. Well drilling would require continuous operation of the drill rig for 1 to 2 weeks with additional nighttime activities occurring over approximately 12 weeks. A sound wall would be erected prior to construction activities to minimize noise and neighborhood disturbance, if necessary, depending on well locations relative to nearby homes. The sound walls would also contain fugitive nighttime lighting and, along with application of water, fugitive dust from leaving the sites.

Treatment/Blending and Disinfection Facilities

Construction duration for the treatment/blending and disinfection facilities (forebay and/or sand beds) at Hewitt and Evans would be approximately two years. The site would require a footprint of approximately 2 acres for construction and subsequent operation. Construction would entail site clearing/preparation, grading and excavation, facility installation, start up, and testing.

2.6.5 Conveyance Facilities

Construction of proposed pipelines would involve trenching using a conventional cut and cover technique. Dewatering may be required depending on location. Pipelines would be installed primarily within existing roadway right-of-ways and on property or easements owned by EMWD or acquired by EMWD. The trenching technique would include saw cutting of the pavement where applicable, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition.

Trench width and depth would generally depend on the size of the pipe to be installed, which would range from 12 inches to 60 inches. The construction corridor would be wide enough to accommodate the trench and to allow for staging areas and vehicle access. Offsite construction staging areas would be identified by contractors for pipe lay-down, soil stockpiling, and equipment storage. The length of an open trench would not exceed 100 feet at any time, and on average 40 to 120 feet of pipeline would be installed per day. Construction of each size pipeline would have different excavation depth and width requirements as well as varying rates of planned progress, as provided in **Table 2-3**.

**TABLE 2-3
TYPICAL PIPELINE CONSTRUCTION REQUIREMENTS AND PROGRESS RATES**

Pipeline Size	Depth of Cover Over Pipeline (Feet)	Typical Depth of Excavation ¹ (Feet)	Typical Width of Construction Area ² (Feet)	Typical Rate of Progress ³ (Feet per Day)
Up to 30-inch	4.5 to 6	9 to 10.5	15 to 25	80 to 120
48-inch	4.5 to 6	10.5 to 12	15 to 30	60 to 100
60-inch	4.5 to 6	12 to 14	20 to 35	40 to 60

¹ In all cases above the trench would be excavated approximately 2-feet below the bottom (invert) of the pipeline for bedding installation. Also, the above depths are typical for industry. The actual depth will vary as it highly depends on above ground features, soil conditions, design complexity, appurtenances, number of utilities, and location of utilities.

² The width noted above is typical and the minimum amount width necessary based on ideal conditions for construction. The actual will vary as it highly depends on available space in public rights-of-way, above ground features, property ownership location and type, terrain, alignment location, soil conditions, design complexity, required appurtenances, number of utilities, and location of utilities.

³ The actual production will vary as it highly depends on soil conditions, traffic conditions, design complexity, type of material used (i.e., PVC or CML&C), appurtenances, number of utilities, and location of utilities.

Trenches would be backfilled at the end of each work day or temporarily closed by covering with steel trench plates. The construction equipment needed for pipeline installations generally includes: backhoes, excavators, dump trucks, shoring equipment, steam roller, and plate compactor. Approximately five (5) to 10 workers would be required during various phases of pipeline installation. Excavated soils would be reused as backfill and otherwise disposed offsite. Once constructed, pipelines would be contained entirely underground.

Work within roadways would require closure of traffic lanes, but not complete roadway closures. Traffic control would be necessary during pipeline construction within roadways. Typically, two (2) to four (4) workers would be required for traffic control during pipeline installation. Equipment necessary for traffic control includes changeable message signs, delineators, arrow

boards, and K-Rails. The traffic control plan for each pipeline project would be coordinated with the applicable jurisdictions, including the City of San Jacinto, the City of Hemet, and unincorporated portions of Riverside County.

2.7 Operation and Maintenance

2.7.1 Recharge Facilities

The following is a simplified description of the operational and maintenance process for recharge basins, which includes filling, infiltration, drying, and cleaning. During the filling stage, raw water from the supply pipeline would be diverted from an inlet or sediment management basin through on-site piping and discharged into the active recharge ponds. Water discharged into the recharge basins would infiltrate through the basin bottoms into the underlying groundwater aquifer. There would be overlap between filling the ponds and infiltration through the soil into the underlying aquifer. Water would begin infiltrating through the soil as soon as it enters a recharge basin, meaning that filling and infiltration may occur simultaneously while a recharge basin is active. In the event that supply rates of raw water exceed infiltration rates, flow control valves would be adjusted to match the flow rate to the infiltration rate. In addition, overflow pipelines and/or structures would be used to transfer water between the ponds.

During infiltration, sediment deposition on the bottom of the recharge basins, and microbial and plant growth would begin to reduce infiltration rates by essentially “clogging” the recharge ponds. This reduction in infiltration would be overcome by eliminating all flow into a recharge pond and allowing the pond to dry out and be cleaned by removing debris clogging the system. This cleanout would occur at least annually during dry years, and 2-4 times per year during wet years. Once recharge basins have dried, aquatic plant material and other debris present along the bottom of the ponds would be removed by scrapers and stockpiled on site for later disposition. Once the sediment has been removed, the bottom of the ponds and side slopes would be regraded, as well as perimeter access roads. All pipes, transfer structures, flow control equipment, and electrical equipment would be inspected and maintained. Due to the division of ponds within each of the four recharge facilities, the cleanout would not halt the ability for water to be recharged. Generally, frequency of cleanouts would be determined by the infiltration rate decay of the basins, as well as the weather conditions during the drying and cleaning period. Additionally, silt collected at the desilting basins would be hauled off-site approximately every three to six months.

EMWD is an active member of the Watermaster and anticipates working with the other member agencies of the Watermaster to utilize the recharge facilities to the greatest extent possible. The Watermaster includes representatives from EMWD, LHMWD, the Cities of Hemet and San Jacinto as well as a private groundwater producer. EMWD is working with the Watermaster to secure a storage agreement that would explain the terms and conditions associated with storing water in the Basin. Should the Watermaster as a separate entity, or any of the municipal agencies, want to lease the facilities for their own recharge operations, EMWD would consider the request and enter discussions with the goal of providing benefit to the individual agency and the overall groundwater basin.

The pipelines and laterals associated with the recharge facilities would be contained entirely underground and would require minimal maintenance.

2.7.2 Monitoring Facilities

Shallow and multi-depth monitoring wells would be instrumented with transducers to provide continuous data collection. Wells would also be outfitted with SCADA sensors to relay water levels and flow rates in real time to the EMWD IOC. EMWD's IOC would be able to alert water operations personnel should critical water levels in the ground be observed or exceeded. The alerts would cause the water operators to change recharge and/or extraction activities to avert or mitigate high water levels in a timely fashion.

2.7.3 Extraction Facilities

Extraction Wells

All extraction wells would require maintenance once every five (5) years and would include maintenance of various pump and well appurtenances. On occasion, unscheduled maintenance or repair of facilities may be required; replacement or repair of the pump, motor or other appurtenances of the well would be conducted as needed. The proposed extraction wells are expected to last approximately 40 years. When needed, wells would be replaced at the same location with similar or updated technology.

Extraction wells in the Proposed Program would be operated to recover up to 30,000 AF annually. Additionally, these wells may be operated to reduce water levels should recharge operations lead to raising groundwater, mitigating an unanticipated rise in water levels near ground surface.

Pipelines connecting extraction wells and recharge basins to EMWD's potable water distribution system would be contained entirely underground and would require minimal maintenance.

Treatment/Blending and Disinfection Facilities

Operation of the proposed Treatment/Blending and Disinfection Facilities would involve onsite chemical use and storage. Chemicals would be stored in a chemical room within the proposed building at the site. An inventory of chemicals that would be stored and used at the facility is provided in **Table 2-4**. Each chemical would be stored in aboveground tanks in a dedicated containment area with secondary containment areas to confine accidental spills and prevent exposure to the environment. The containment areas would be sized to accommodate storage tank volumes and sprinkler system operations to prevent accidental spills. Delivery frequency for each chemical is listed in **Table 2-4**.

**TABLE 2-4
CHEMICAL INVENTORY – CHEMICAL STORAGE ROOM**

Chemical	Purpose	Concentration	Storage (gallons) ^a	Delivery Frequency (truck trips)
Sodium Hypochlorite	Chlorine Disinfection	12.5%	8,000	1 per month
Sodium Hypochlorite (alternative: On-Site Generation)	Chlorine Disinfection	0.8%	16,000	2 per month (salt deliveries)
Sodium Hydroxide (Caustic Soda)	pH Adjust	50%	1,000	1 per month
Liquid Ammonium Sulfate	Chloramine Disinfection	40%	2,000	1 per month

^a Chemical storage volume is based on the flow rate for the Proposed Project and projected average chemical dose.

2.7.4 Energy Consumption

The Proposed Program would require annual operation of 11 extraction wells, booster pump stations, and treatment/blending and disinfection facilities. As shown below in **Table 2-5**, the annual energy needs for the Proposed Program is 64,923,000 kilowatt hours per year (kWh/yr). The Proposed Project would involve operation of 3 extraction wells, booster pump stations, and the treatment/blending, disinfection and pumping facilities at Hewitt and Evans. The total annual energy consumption for the Proposed Project as shown in **Table 2-5** is 21,405,375 kWh/yr.

**TABLE 2-5
ESTIMATED ENERGY NEEDS FOR PROPOSED PROGRAM AND PROPOSED PROJECT**

Facility Type	Proposed Program (kWh/yr)	Proposed Project (kWh/yr)
Extraction Wells	28,754,000	7,842,000
Booster Pump Station	13,100,000	4,912,500
Treatment/Blending and Disinfection facility	23,069,000	8,650,875
TOTAL	64,923,000	21,405,375

2.8 Proposed Program and Project Approvals

As Lead Agency, EMWD may use this Draft EIR, as part of the Final EIR (see Chapter 1) to approve the Proposed Program and Proposed Project, make Findings regarding identified impacts, and if necessary, adopt a Statement of Overriding Considerations regarding these impacts. The EMWD Board of Directors has the authority to certify the Final EIR. This Draft EIR evaluates the Proposed Program at a program level and the Proposed Project at a project level in accordance with CEQA. Implementation of the Proposed Project would proceed upon certification of the Final EIR by EMWD Board of Directors and approval of the Proposed Project. Depending on the location of future wells, monitoring facilities, and conveyance facilities that are analyzed at a program-level,

additional environmental analysis will be required before construction of future phases and facilities associated with the Proposed Program.

Other approvals required may include the following:

- Regional Water Quality Control Board – Storm Water Pollution Prevention Plans (SWPPP)
- MWD – approval to deliver, exchange, and convey water
- City of San Jacinto – Local easements, encroachment permits, hauling permits
- City of Hemet – Local easements, encroachment permits,
- County of Riverside – Local easements, well drilling permits
- Watermaster – Storage Agreement
- California Department of Water Resources – Permit to Recharge
- California Division of Drinking Water – Potable well operating permit
- South Coast Air Quality Management District – Permit to Construct, Permit to Operate, Dust Control permits

2.9 References

Dudek, 2017. *San Jacinto Valley Enhanced Recharge & Recovery Program: Volume 1 – Preliminary Design Report*, April 2017.

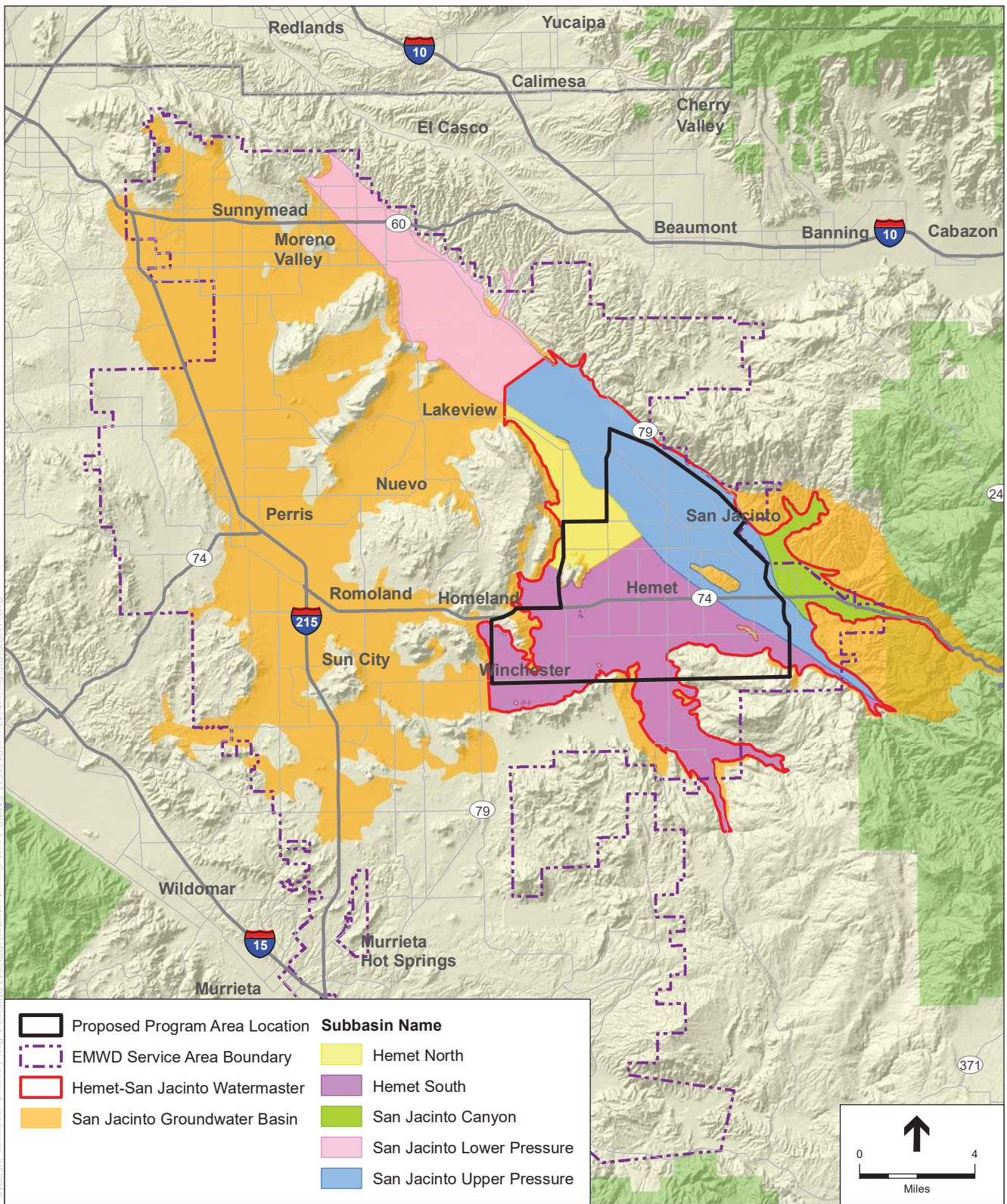
RMC, 2013. EMWD Local Water Banking Program Feasibility Study, Final Technical Memorandum No. 1: Recharge Scenarios, October 4, 2013.

RMC, 2013. EMWD Local Water Banking Program Feasibility Study, Draft Technical Memorandum No. 2: Extraction Scenarios, October 21, 2013.

RMC, 2013. EMWD Local Water Banking Program Feasibility Study, Draft Technical Memorandum No. 3: Banking Alternatives, December 2, 2013.

RMC, 2013. EMWD Local Water Banking Program Feasibility Study, Draft Technical Memorandum No. 4: Water Supply Options, October 17, 2013.

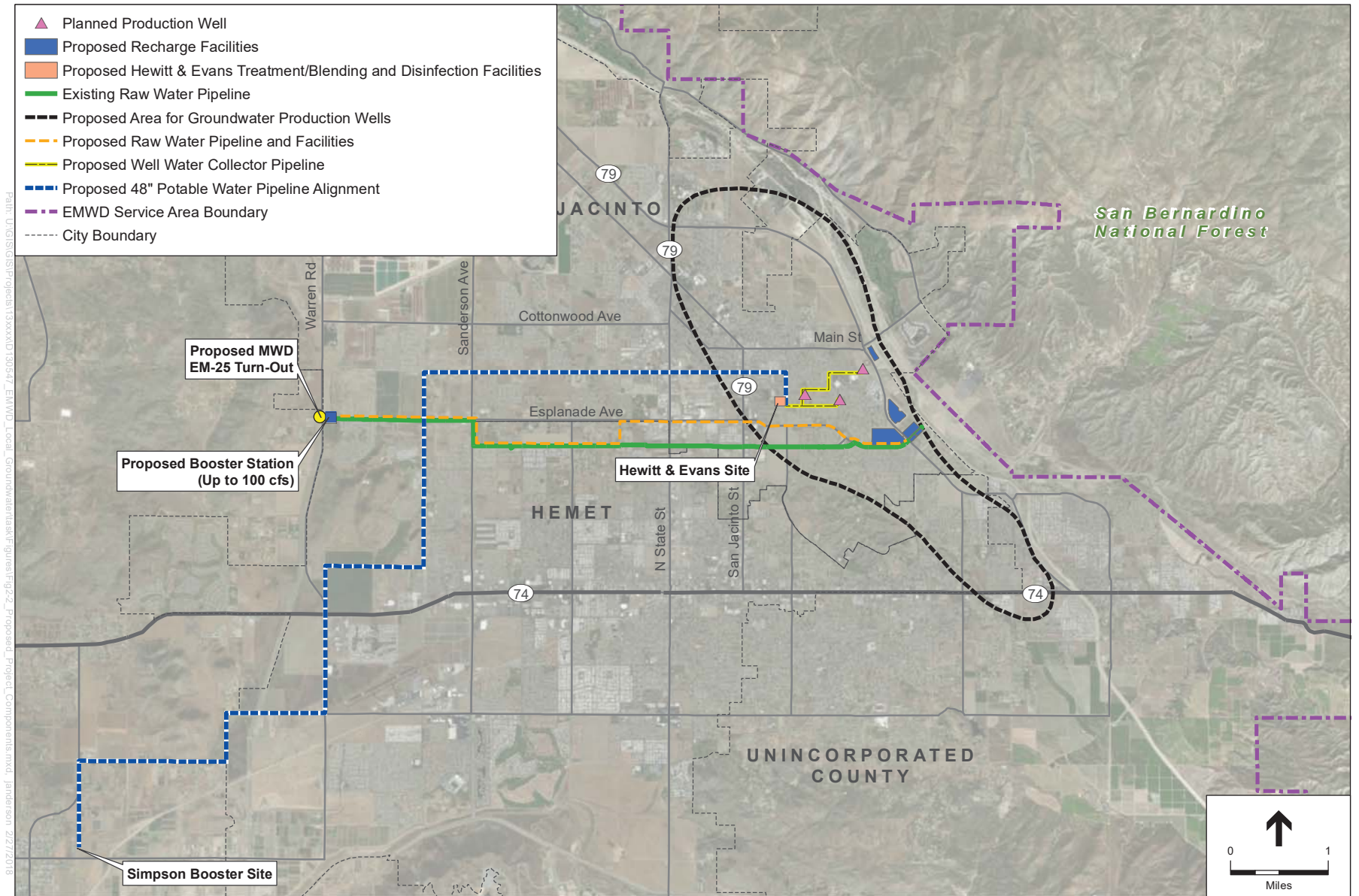
RMC, 2014. EMWD Local Water Banking Program Feasibility Study, Draft Technical Memorandum No. 5: Preferred Project and Next Steps, May 19, 2014.



SOURCE: ESRI.

EMWD San Jacinto Valley ERRP . 130547.05

Figure 2-1
Proposed Program Area Location



SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 2-2
Proposed Program Facilities



Path: U:\GIS\GIS\Projects\130547\130547_01\EMWD_Local_GroundwaterTask\PD\2017\FD\Fig2-3_ProposedRawWaterFacilities.mxd; Jaridson; 10/11/2017

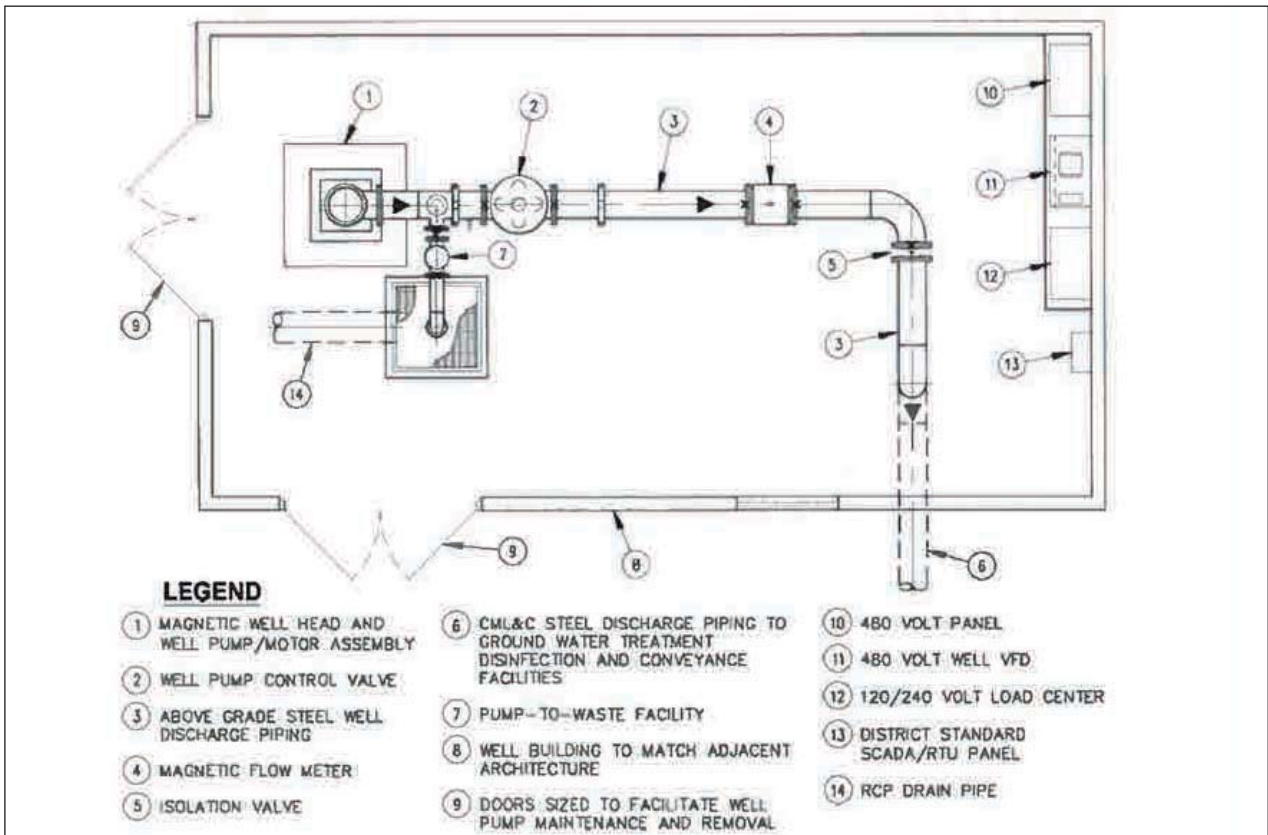
SOURCE: ESRI

EMWD San Jacinto Valley ERRP . 130547.05

Figure 2-3
Proposed Program Facilities in East San Jacinto Area



Conceptual Well Facility



Conceptual Well Facility

SOURCE: EMWD

EMWD San Jacinto Valley ERRP . 130547.05
Figure 2-4
 Conceptual Recovery Well Facility



SOURCE: EMWD

EMWD San Jacinto Valley ERRP . 130547.05

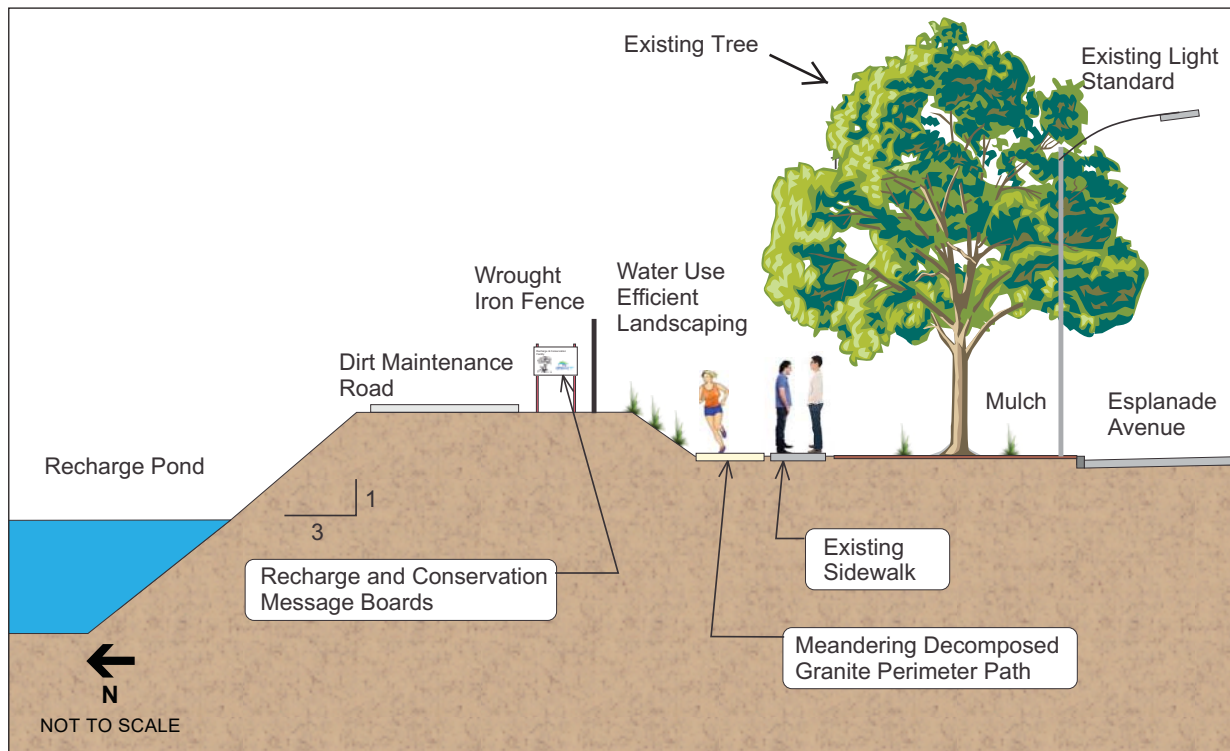
Figure 2-5
Example Treatment Facility



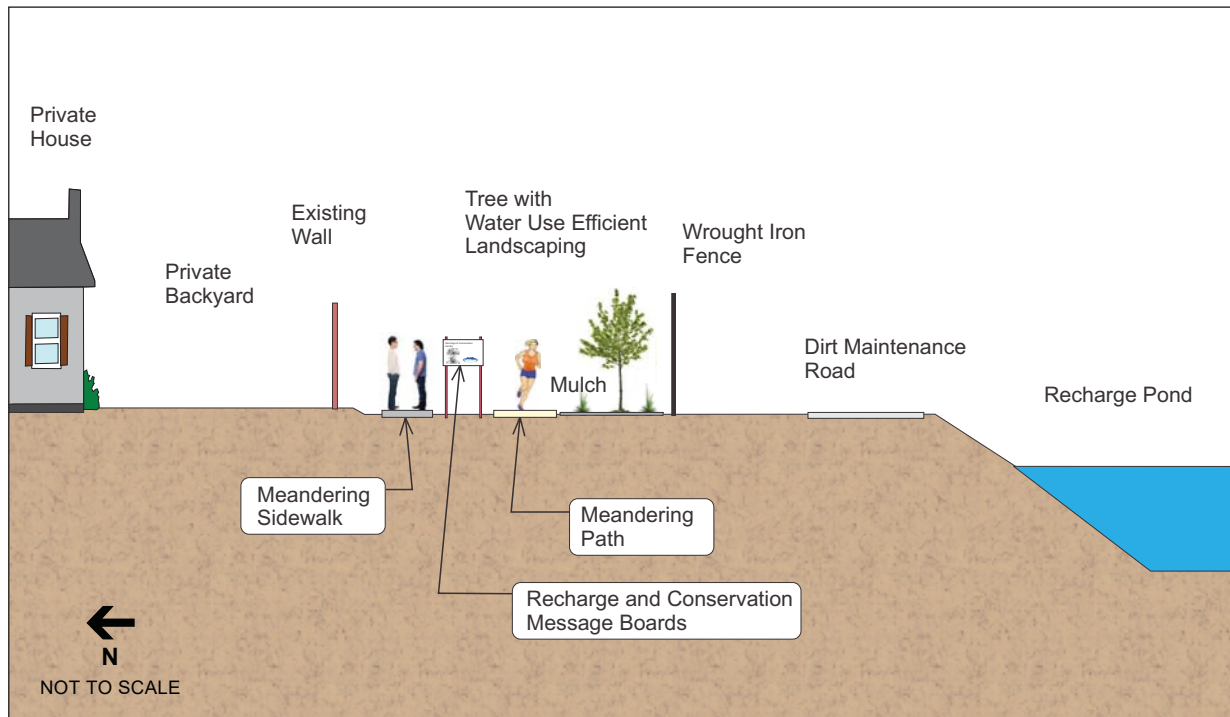
SOURCE: ESRI

EMWD San Jacinto Valley ERRP . 130547.05

Figure 2-6
Mountain Avenue West Facilities



Conceptual Profile along Esplanade Avenue with berm.



Conceptual Profile along north property line.



Conceptual View along Esplanade Avenue showing proposed landscaping, walking path, wrought-iron fence and 3-foot high berm



SOURCE: ESRI

EMWD San Jacinto Valley ERRP . 130547.05
Figure 2-9
 Extraction and Distribution Facilities



SOURCE: ESRI

EMWD San Jacinto Valley ERRP . 130547.05

Figure 2-10
Hewitt and Evans Treatment/Blending and Disinfection Facilities

CHAPTER 3

Environmental Setting, Impacts, and Mitigation Measures

In compliance with *CEQA Guidelines* Sections 15125 and 15126, Chapter 3 of this Draft EIR provides an analysis of the environmental effects of the Proposed Program and the Proposed Project, with respect to existing baseline conditions. As stated in Chapter 1, the regional and local baseline environmental conditions for the analysis included within this Draft EIR are generally from June 2015, when the NOP was published. The following environmental issue areas are assessed in this chapter in accordance with Appendices F and G of the *CEQA Guidelines*:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services and Recreation
- Transportation and Traffic
- Utilities and Service Systems

Environmental Issues Not Addressed

The following environmental issues are not further analyzed in the Draft EIR as no impacts would occur as a result of Proposed Program and Proposed Project implementation.

Mineral Resources

The California Geological Survey (CGS) classifies the regional significance of the State's mineral resources in accordance with the Surface Mining and Reclamation Act of 1975 to indicate the significance of mineral deposits based on geologic appraisal of the mineral resource potential of the land. The Proposed Program and Proposed Project area is classified by the CGS as Urban Area and Mineral Resource Zone 3, which is an urban area of known or inferred mineral occurrences of undetermined mineral resource significance. The Proposed Program and Proposed Project area is not currently being mined or used for production of mineral resources of value to the region or residents of California. No impacts would occur to mineral resources as a result of implementation of the Proposed Program or Proposed Project.

Population and Housing

The Proposed Program and Proposed Project involves the construction and operation of recharge basins, extraction and monitoring wells, treatment/blending and disinfection facilities, and pipelines/pump stations would occur within public rights-of-way, or within property or easements currently owned by EMWD, or acquired by EMWD. The Proposed Program and Proposed Project would not displace existing housing or substantial numbers of people and would not require construction of replacement housing. The Proposed Program and Proposed Project would not directly induce population growth by constructing new homes or businesses. Therefore, no impacts would occur. The potential for the proposed project to indirectly induce population growth is evaluated in Chapter 5, Growth Inducement.

Format of the Environmental Analysis

The environmental analysis in Chapter 3 includes discussion of potential construction and operational impacts associated with implementation of the Proposed Program and Proposed Project. Each environmental resource section includes the following subsections: Environmental Setting; Regulatory Setting; Impact Assessment; and References.

The assessment of impacts for each resource area is provided at the program level for the Proposed Program (*CEQA Guidelines* Section 15168). The first phase of the Proposed Program is referred to as the Proposed Project and is analyzed at the project-level in this Draft EIR due to the level of detail available at this time (*CEQA Guidelines* Section 15161). Project-level analyses examine all phases of a project, including planning, construction, and operation, at a site-specific level. This Draft EIR evaluates construction and operation of the Proposed Project at a site-specific project level, including the Mountain Avenue West recharge facilities, 11 monitoring and 3 extraction wells, the Hewitt and Evans treatment/blending and disinfection facility, and some water conveyance pipelines.

Subsequent project-level environmental review may be required for the remaining phases of the Proposed Program as the specific locations and characteristics of the remaining Program components are determined during the design process. Subsequent project-level environmental review would also be required if new components are added to the Proposed Program. The subsequent project-level review would be conducted pursuant to *CEQA Guidelines* Section 15168(c) to determine if the activity would have effects that were not examined in this Draft EIR. Also, feasible and relevant mitigation measures and alternatives developed in this Draft EIR shall be incorporated into subsequent actions. This Draft EIR would provide the basis for any future project-level CEQA analysis required pursuant to *CEQA Guidelines* Section 15168(d). The facilities associated with the Proposed Program and Proposed Project are identified in **Table 3-1** below.

**TABLE 3-1
SUMMARY OF PROPOSED PROGRAM AND PROPOSED PROJECT FACILITIES**

Facility Type	Proposed Program Total	Proposed Project
Recharge Facilities	<ul style="list-style-type: none"> • 4 Recharge Facilities: Mountain Avenue East, West, North, South • Laterals from the existing and proposed Raw Water Pipeline to the recharge facilities • Onsite piping connecting the laterals to the desilting and recharge ponds 	<ul style="list-style-type: none"> • 1 Recharge Facility: Mountain Avenue West • Lateral(s) from the existing raw water pipeline to the Mountain Avenue West recharge facility • Onsite piping connecting the laterals to the desilting and recharge ponds
Monitoring Facilities	<ul style="list-style-type: none"> • 16 Shallow Monitoring Wells • 7 Multi-depth Monitoring Wells 	<ul style="list-style-type: none"> • 8 Shallow Monitoring Wells • 3 Multi-depth Monitoring Wells
Extraction Facilities	<ul style="list-style-type: none"> • Up to 11 Extraction Wells • Treatment/Blending and disinfection Facilities at Hewitt & Evans including a pumping station 	<ul style="list-style-type: none"> • 3 Extraction Wells • Treatment/Blending (if needed) and disinfection Facilities at Hewitt & Evans including a pumping station
Conveyance Facilities	<ul style="list-style-type: none"> • MWD Turn-out EM-25 • Raw Water Feeder #2 Transmission Pipeline • Pumping Station • Well water collector pipelines from each extraction well to the treatment/blending and disinfection facilities • Potable Water Conveyance Pipeline • Blow-off pipelines 	<ul style="list-style-type: none"> • Well water collector pipelines from each extraction well to the treatment/blending and disinfection facilities • Potable Water Conveyance Pipeline • Blow-off pipelines

3.1 Aesthetics

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to aesthetics and visual resources. The section includes a description of the environmental setting to establish baseline conditions for aesthetic resources; a summary of the regulations related to aesthetic resources; and an evaluation of the Proposed Program and Proposed Project's potential effects on visual character and aesthetic resources.

3.1.1 Environmental Setting

Definitions Related to Visual Resources

Visual resources typically consist of the landforms, vegetation, rock, and water features that create the visual character of a landscape. A number of factors are documented for the existing visual resources of the Proposed Program and Proposed Project area in order to determine the manner in which those resources or characteristic landscapes may be modified by the Proposed Program or Proposed Project.

For purposes of this analysis, visual or aesthetic resources are generally defined as the natural and built landscape features that can be seen from public vantage points. The overall visual character of a given area results from the combination of natural landscape features, including landform, water and vegetation patterns, as well as the presence of built features such as buildings, roads, and other structures.

The factors considered in this analysis are defined below and include: visual quality, viewer exposure, and visual sensitivity. *Visual quality* is defined as the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns. The attributes of variety, vividness, coherence, uniqueness, harmony and pattern contribute to the overall visual quality of an area. *Visual sensitivity* is the overall measure of an existing landscape's susceptibility to adverse visual changes. Visual sensitivity is a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts, given the combined factors of landscape visual quality, viewer types, and exposure conditions.

Regional Setting

The Proposed Program and Proposed Project are located in EMWD's service area in the County of Riverside. Riverside County encompasses almost 7,300 square miles of land, surrounded by Orange County to the west, San Bernardino County to the north, the Colorado River to the east, and San Diego County and Imperial County to the south. The Proposed Program and Proposed Project areas are located in the incorporated Cities of Hemet and San Jacinto and unincorporated portions of Riverside County. The Proposed Program and Proposed Project areas are bounded by the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Mountains on the north, the Santa Rosa Hills and Bell Mountain on the south, and unnamed hills

on the west. The City of Hemet is bordered by Diamond Valley Lake to the south and the City of San Jacinto to the north.

Program Setting

All components of the Proposed Program are shown on **Figure 2-2**. The Proposed Program includes construction of aboveground facilities such as recharge facilities, treatment/blending and disinfection facilities, a booster pump station, monitoring wells with traffic bollards, and extraction wells enclosed in a concrete-block wall pump building. The four proposed recharge sites and accompanying perimeter monitoring wells would be located on the eastern side of the City of San Jacinto, with primarily residential development (single-family, multiple family, and mobile homes) in the surrounding areas to the west, and the San Jacinto Riverbed to the east. **Figures 3.1-1a** through **3.1-1d** provide views of existing conditions at the proposed recharge sites. The treatment/blending and disinfection facilities would be surrounded by residential land uses. Proposed extraction wells would be installed on EMWD-owned property, property acquired by EMWD, or within rights-of-way within the area identified on **Figure 2-2**, which includes large portions of Hemet and San Jacinto and generally surrounded by residential and commercial uses. The proposed booster pump station would be located near the proposed EM-25 interconnection on Esplanade Avenue and Warren Road. With a footprint of approximately 200 feet by 200 feet, the pumping station would be built on undeveloped land surrounded by undeveloped and vacant land with some residential houses located further east of the site.

The Proposed Program includes underground pipeline facilities that would run through residential development and undeveloped land in the City of San Jacinto, the City of Hemet, and unincorporated Riverside County (see **Figure 2-2**).

Two officially designated scenic highways are located in Riverside County. State Route 243 is located approximately 8 miles east of the Proposed Program area in the San Bernardino National Forest. State Route 74 begins at State Route 111 in Palm Desert and ends at the western boundary of the San Bernardino National Forest, approximately 6 miles southeast of the nearest facility to be constructed as part of the Program. At that point State Route 74 becomes an eligible state scenic highway (Caltrans, 2017) which intersects the proposed potable water pipeline in the City of Hemet at Warren Road (**Figure 3.1-2**).

A primary scenic resource within the Proposed Program's vicinity is the foothills of the San Jacinto Mountains, which begin to protrude from the valley floor as close as 1.5 miles from the nearest Proposed Program facility (recharge basins). The mountain's granite peaks and subalpine forests provide a majestic scenic vista for the residents of San Jacinto. The mountain range can be viewed as a scenic background to the north, east, and south from the Proposed Program area.

Project Area Setting

The Proposed Project includes recharge facilities at Mountain Avenue West, 8 shallow and 3 multi-depth monitoring wells, 3 extraction wells and associated well water collector and blow-off pipelines, and a new treatment/blending and disinfection facility at Hewitt and Evans. The Proposed Project area aesthetics setting is similar to the Proposed Program area setting. The San

Jacinto Mountains are the dominant scenic resource in and around the Proposed Project area. The visual setting in the vicinity of Mountain Avenue West consists of foreground residential views to the north, west, and south, and background views of the San Jacinto Mountains to the east. The San Jacinto Mountains can also be seen in the background from the proposed Hewitt and Evans site. The area adjacent to the Hewitt and Evans site consists of residential views to the north, east, and south and Hyatt Elementary School to the west. Proposed extraction wells would be constructed with a concrete-block wall pump building at three different locations shown on **Figure 2-3**. These wells would generally be surrounded by residential uses or open space, and several could also be located in areas where background views of the San Jacinto Mountains are visible.

3.1.2 Regulatory Setting

Federal

National Scenic Byways Program

The National Scenic Byways program is part of the U.S. Department of Transportation, Federal Highway Administration. The program was established under the Intermodal Surface Transportation Efficiency Act of 1991, and was reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. The only National Scenic Byway located within southern California is the Arroyo Seco Historic Parkway – Route 110 in Los Angeles County (Federal Highway Administration, 2017). This National Scenic Byway is not located near the Proposed Project.

State

State Scenic Highway Program

The State Scenic Highway Program, created by the California Legislature in 1963, was established to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A scenic highway is designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. When a city or county nominates an eligible scenic highway for official designation, it defines the scenic corridor, which is land generally adjacent and visible to a motorist on the highway. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

Local

Palomar Nighttime Lighting Policy Area

The entire Proposed Program and Proposed Project areas fall within Zone B of the Mount Palomar Nighttime Lighting Policy Area. The Mount Palomar Observatory is located approximately 25 miles south from the Proposed Program and Proposed Project areas in

San Diego County. The observatory requires unique nighttime lighting standards in order to allow the night sky to be viewed clearly. All areas within a 15- to 45-mile radius of the observatory must conform with the nighttime lighting regulations that apply to Zone B in the Riverside General Plan. The Riverside County Ordinance No. 655 identifies lighting fixtures and uses that limit light leakage and spillage to minimize interference with the operations of the Mount Palomar Observatory. The ordinance also identifies lighting fixtures and uses to be implemented for projects that require San Diego County approvals.

3.1.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to aesthetic resources. The Proposed Program and the Proposed Project would have a significant impact if it would:

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

The impact determination is based on several evaluation criteria, including the extent of Proposed Program and Proposed Project visibility from designated state routes, public open spaces, or other public vantage points; the degree to which the various Proposed Program and Proposed Project elements would contrast with or be integrated into the existing landscape; the extent of change in the landscape's composition and character; and the effect the Proposed Program and Proposed Project may have on light and glare in the surrounding areas.

Impacts and Mitigation Measures

Scenic Vista

Impact AES-1: Implementation of the Proposed Program and the Proposed Project could have a substantial adverse effect on a scenic vista.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The primary scenic vista in the Proposed Program area is the foothills of the San Jacinto Mountains, which begin to protrude from the valley floor as close as 1.5 miles from the nearest proposed recharge facility. Construction of the Proposed Program facilities would include the use of construction equipment that could temporarily alter views of the scenic mountain vista; for example, tall construction equipment including cranes or drill rigs up to 40 feet tall could be visible from public vantage points, like sidewalks, roadways, or parks. However, once

constructed there would be no long-term impacts to scenic vistas after construction equipment is removed.

The Proposed Program would include underground conveyance pipelines that would have no long-term effect on a scenic vista after installation is complete. Aboveground facilities associated with the Proposed Program include recharge basins, shallow and multi-depth monitoring wells, extraction wells and well housing, pump stations and treatment/blending and disinfection facilities. Recharge basins would be no greater than eight feet above existing ground surface, and other facilities, such as well housing and the pump station, would be no higher than a single story and would be consistent with the general building style of the adjacent architecture. Once in operation, the Proposed Program facilities would be visible from public vantage points; however, Proposed Program facilities would be up to approximately 22 feet in height, similar to the height of surrounding residential uses, and would not block views of the San Jacinto Mountains. The Proposed Program would not substantially alter existing scenic mountain views. Impacts would be less than significant.

Impact Determination

Construction of the Proposed Program facilities would result in short-term visual impacts to existing scenic views of the San Jacinto Mountains due to the visibility of construction equipment from public vantage points. Once construction is complete and equipment is removed, there would be no long-term impacts to scenic vistas. Long-term operation of underground facilities would not significantly impact scenic vistas. Operation of proposed aboveground structures would not change existing conditions related to the size and scale of development in the Proposed Program area. Aboveground structures would be no taller than existing buildings on neighboring parcels. As such, impacts to existing views of scenic vistas would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project would result in impacts similar to the Proposed Program. During construction, temporary short-term impacts to scenic mountain vistas would occur due to visibility of construction equipment at the Proposed Project sites. Once construction is complete, construction equipment would be removed. Permanent aboveground facilities would then be visible from public vantage points and have the potential to affect existing scenic vistas in the long-term. The Mountain Avenue West facility, three extraction wells, and the treatment/blending and disinfection facilities at Hewitt and Evans are all aboveground facilities that would be visible from public vantage points but would be similar in size and scale as the surrounding residential development. The Mountain Avenue West facility would add three recharge ponds and one desilting pond that would be surrounded by three-foot-tall berms and wrought-iron security

fencing. Sidewalk and landscaping would surround the entire facility as shown in **Figure 2-7**. These features would be no higher than neighboring structures and would be consistent with the general building style of the surrounding area. The Proposed Project would not impact the existing scenic views of the foothills of San Jacinto Mountains, the magnitude of which is shown in **Figure 3.1-1c**. Therefore, impacts would be considered less than significant.

Impact Determination

Construction of the Proposed Project facilities would result in temporary visual impacts to the existing scenic vista of the San Jacinto Mountains due to the visibility of construction equipment from public vantage points. Once construction is complete and equipment is removed, only permanent aboveground structures would remain at the Proposed Project sites. Long-term operation of the aboveground facilities, including the Mountain Avenue West facility, three extraction wells, and the treatment/blending and disinfection facilities at Hewitt and Evans site, would not change existing conditions related to the size and scale of development in the Project area; as such, when viewed from public vantages points, the permanent aboveground facilities would have a less than significant impacts to existing views of scenic vistas.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Scenic Resources

Impact AES-2: Implementation of the Proposed Program and the Proposed Project could substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Program-Level Impacts

Recharge Facilities, Monitoring Facilities, Raw Water Conveyance Facilities

The majority of Proposed Program facilities, including recharge basins, monitoring wells, treatment/blending and disinfection facilities, and raw water conveyance facilities would be located at least 6 miles from State Route 74, a designated state scenic highway, and 1.5 miles north of the highway when it becomes an eligible scenic highway (see **Figure 3.1-2**). None of the facilities would be located in the vicinity of State Route 74. The raw water conveyance pipeline is expected to traverse east to west across the City of San Jacinto and would not intersect with the eligible state scenic highway to the south. Construction of these facilities would be temporary and would not involve equipment that could impact views from State Route 74. Once constructed, the facilities would either be underground or less than one single story in height and would therefore be consistent with the height of other structures on neighboring parcels and would not be visible from any state scenic highway. Therefore, no impacts to scenic resources would occur.

Extraction Facilities, Potable Water Conveyance Facilities

Up to 11 proposed extraction facilities would be constructed at least 1,000 feet from another active extraction well. Although the exact location of these wells are undetermined, the general area which the extraction wells could be placed is shown in **Figure 2-2**. A portion of State Route 74 runs through the southern area of the groundwater extraction area. Each well would be located within a one-acre footprint and would be housed within a concrete-block wall pump building. The well housing would match the adjacent architecture of the surrounding residential structures and therefore would not have a significant impact on scenic views from the eligible scenic highway.

The potable water conveyance pipeline would extend from the City of San Jacinto southwest into the Winchester area of unincorporated Riverside County. The final alignment may be subject to revision but would be located in the vicinity of the alignment identified in **Figure 2-2**. The potable water pipeline would be constructed in public ROWs and within property owned or acquired by EMWD. While the potable water pipeline would be located at least 6 miles from the nearest designated scenic highway, the alignment would intersect State Route 74, which is an eligible state scenic highway at Warren Road in the City of Hemet (see **Figure 3.1-2**). Construction of the pipeline would have a short-term visual impact associated with trenching and installation of the pipeline within the State Route 74 ROW. However, once operational, the pipeline would not be visible and would be contained entirely underground. As a result, impacts related to scenic resources in a state scenic highway would be less than significant.

Impact Determination

All Proposed Program facilities would not be near to or visible from a scenic highway, with the exception of the potable water conveyance pipeline and the extraction wells. Construction of the potable water conveyance pipeline and proposed extraction wells would result in a short-term visual impact when crossing State Route 74, an eligible state scenic highway. Once construction is complete, the pipeline would not be visible and the roadway would be restored to pre-construction conditions. All extraction wells would be housed in a concrete-block pump building that would match the surrounding architecture. Impacts to scenic resources as a result of construction of the potable water conveyance pipeline and the extraction wells would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Mountain Avenue West facilities, eight shallow monitoring wells, three multi-depth monitoring wells, three extraction wells, well water collection pipelines, and Hewitt and Evans treatment/blending and disinfection facilities would be located in the eastern portion of the City of San Jacinto and more than 6 miles away from a designated state scenic highway. As described

above for the Proposed Program, the nearest eligible state scenic highway is State Route 74 located approximately 1.5 miles south of the Project facilities. None of the Proposed Project facilities would be visible from State Route 74; therefore, no impacts to scenic resources would occur.

Impact Determination

The Proposed Project facilities would not be visible from a designated or eligible state scenic highway. Therefore, no impacts to scenic resources would occur.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Visual Character and Quality

Impact AES-3: Implementation of the Proposed Program and the Proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.

Program-Level Impacts

Recharge, Monitoring and Extraction Facilities

The proposed Mountain Avenue West, East, North and South recharge sites are located on land that is currently vacant and unused. Each location would be developed with recharge facilities, including basins and berms, occupying approximately 60-90 percent of each site. Active portions of the proposed recharge facilities (basin) would be surrounded by approximately three-foot to eight-foot tall berms relative to the surrounding grade. Berms would be constructed with materials from within the proposed recharge sites to the maximum extent possible. Shallow and multi-depth monitoring wells would be constructed around the perimeters of recharge basins as shown on **Figure 2-3**. These features would extend approximately 2-3 feet above ground surface. A simulation of the proposed recharge basin at Mountain Avenue West is depicted in **Figure 2-8**.

While construction of the recharge basins would require graders, earthmovers, backhoes, excavators, vibratory compactors, water trucks, work trucks, and welding equipment that is not visually intrusive, construction of each shallow monitoring well would require a HSA drill rig and support vehicles while each multi-depth monitoring well would require a drill rig up to 40 feet tall, compressor, and generator. The drill rigs required to construct the monitoring wells would be visible from public vantage points such as sidewalks and roadways. Each shallow monitoring wells would require about one week to construct while each multi-depth monitoring wells would require three weeks to construct; as such, construction impacts to the visual character of the site and surroundings would be temporary. Therefore, construction activities would result in short-term visual impacts during well drilling. Once installed, the shallow and multi-depth

monitoring wells would be visible 2-3 feet aboveground and the recharge basin berms would be up to 8 feet tall. When considering the overall visual impression or attractiveness of the site, the proposed recharge basins and perimeter monitoring wells would not substantially degrade the existing visual quality of the sites when viewed from public view points and impacts would be less than significant.

The groundwater extraction wells and associated treatment/blending and disinfection facilities would be located in the eastern portion of San Jacinto at Hewitt and Evans and within the potential well area identified in **Figure 2-2**. Construction of the treatment/blending and disinfection facilities would not include any equipment that would cause temporary degradation of the surrounding area's visual character. Similar to multi-depth monitoring wells, construction of extraction wells would require a drill rig up to 40 feet tall, compressor, and generator. The drill rigs could be visible from public vantages points for 1 to 2 weeks of 24/7 continuous well installation activities. Therefore, construction would temporarily degrade visual character given the height of the equipment. Once installed, the extraction wells would be located in a single-story concrete-block pump building with perimeter split-face block walls or fencing. Implementation of **Mitigation Measure AES-PMM-1** would ensure that the design the pump buildings would be consistent with the general building style of the surrounding area, as feasible. The treatment/blending and disinfection facilities would be constructed to accommodate extraction wells in the potential well area shown on **Figure 2-2** and could occur near a variety of buildings and features. Implementation of Mitigation Measure AES-PMM-1 would ensure that design of the treatment/blending and disinfection facilities would be consistent with the general building style of the surrounding area. With implementation of mitigation measures, impacts to visual character and quality would be less than significant.

Conveyance Facilities

The proposed well water collector pipelines, raw water conveyance pipeline, and potable water conveyance pipelines would be constructed underground within public ROWs and on property owned or acquired by EMWD. Construction activities would have a short-term visual impact associated with temporary ground disturbance from trenching and pipeline installation. Once construction is complete, the area of disturbance would be required to be restored to pre-construction conditions, and the pipeline would not permanently impact the visual quality of the surrounding area. Facilities such as booster pump stations, surge tanks, back-up generators, and service buildings would also be constructed. Implementation of Mitigation Measure AES-PMM-1 would ensure that the design of any aboveground facilities would be consistent with the general building style of the surrounding area. As such, impacts to visual character and quality would be less than significant.

Impact Determination

Construction of the recharge basins and treatment/blending and disinfection facilities would not require any equipment that is visually intrusive so it would cause a temporary degradation of the surrounding area's visual character. Similarly, construction of monitoring wells, extraction wells, and conveyance facilities would have temporary impacts to visual quality associated with the presence of construction equipment and drill rigs that are visible from a distance. Such impact,

however, is temporary and considered less than significant. Once constructed, conveyance pipelines would be underground and areas of disturbance would be restored to pre-construction conditions, resulting in no permanent impacts on visual character or quality. Because the proposed recharge basins would extend up to eight feet aboveground and would be surrounded by landscaping, the visual quality of the surrounding sites would not be substantially degraded when viewed from public view points, and impacts would be less than significant. All permanent aboveground facilities, including wells and well housing, treatment facilities, and pumping stations, could affect the visual character and quality of their sites and immediate surroundings. Mitigation Measure AES-PMM-1 would ensure that the design of any aboveground facilities would be consistent with the general building style of the surrounding area. With implementation of Mitigation Measure AES-PMM-1, impacts to visual character and quality would be less than significant.

Program Mitigation Measure

AES-PMM-1: Design of Aboveground Structures. For future projects implemented under the Proposed Program, EMWD shall ensure that the design of all aboveground structures (pump stations and treatment/ blending and disinfection facilities) shall be consistent with the general building style of the existing site and surroundings to ensure compatibility with visual character of the immediate neighborhood, to the extent feasible.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge Facilities

The proposed Mountain Avenue West recharge site is located on land that is currently vacant and unused. The site was previously used for agriculture and percolation pilot testing. The location would be developed with a recharge facility, including basins and berms, occupying approximately 60-90 percent of the 39-acre Mountain Avenue West site. The site would be divided into one desilting pond and three or four recharge ponds. Active portions of the proposed recharge facilities (basins) would be surrounded by approximately three-foot to eight-foot tall earthen berms relative to the surrounding grade.

Public amenities would be added to the Mountain Avenue West recharge facility consistent with the Inter-Agency Agreement between EMWD and the City of San Jacinto (included in **Appendix MAW**). These amenities include, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage (see **Figure 2-7** and **Figure 2-8**). These amenities will be installed along the perimeter of the Mountain Avenue West site outside of a wrought-iron perimeter fence.

Construction of the recharge facility and its public amenities would require grading, excavation, site preparation, and stockpiling. The equipment required, including excavators, backhoes, earthmovers, graders, vibratory compactors, trucks, and welding materials, would not be visually intrusive to the surrounding area. When considering the overall visual impression or attractiveness of the site, the proposed recharge basin would not substantially alter the visual

quality of the recharge sites when viewing the sites from public viewpoints on surrounding streets. The Proposed Project would create views of earthen berms using onsite soils, which would be consistent with the existing visual character of the sites. Furthermore, the public amenities added to the Mountain Avenue West site would enhance the visual character of that site relative to surrounding residential uses. Therefore, the recharge facilities would not degrade the visual character of the site and surrounding area and impacts would be less than significant.

Monitoring Facilities

Shallow and multi-point monitoring facilities would be installed around the periphery of the Mountain Avenue West using a HSA drill rig approximately 40 feet tall and support vehicles. Construction for each well would require between approximately one week for shallow monitoring wells and three weeks for multi-point monitoring wells, during which time the drill rig would be visible from public vantage points. As a result, construction would have a temporary visual impact associated with drilling. Once installed, each well would be visible 2-3 feet above grade and occupy a space of approximately 50 feet wide around the perimeter of the recharge basins. The monitoring wells would be minor features in the field of vision when traveling as a motorist or pedestrian around the recharge basin and would not significantly impact the visual character of the sites or surrounding land uses.

Extraction Facilities

The EMWD property at the Hewitt and Evans site is primarily open vacant land with existing water utility buildings, wells, and fencing. The site is generally surrounded by residential land uses and an elementary school. Construction of the treatment/blending and disinfection facility would occur over two years and would require site clearing and preparation, grading, excavation, facility installation, start up, and testing. Construction of the treatment/blending and disinfection facilities would not include any equipment that would cause temporary degradation of the surrounding area's visual character. Once constructed, the buildings and equipment would not exceed a height of 22 feet. Implementation of **Mitigation Measure AES-MM-1** would ensure that design of the Hewitt and Evans treatment/blending and disinfection facilities would be consistent with the general building style of the surrounding residences and elementary school. With implementation of mitigation measures, impacts to visual character and quality would be less than significant.

Construction of the three extraction wells would require the use of a drilling rig, compressor, and generator. During the ten month well installation period, the drill rigs could be visible from public vantage points. Construction of the wellhead facilities would occur over 18 months following the drilling but would require less visually obtrusive equipment. Operation of these extraction wells would not significantly impact the visual character of the site because each well would be placed inside a concrete-block wall pump building with security fencing. The design of the fencing would be consistent with the general style of the surrounding area. Implementation of Mitigation Measure AES-MM-1 would ensure all of these extraction facilities would be designed to match the existing site and surrounding areas. With the mitigation measure, construction and operation of the extraction facilities would have a less than significant impact to the visual character of the project site.

Conveyance Facilities

The well water collector pipelines would be constructed to connect the three extraction wells to the Hewitt and Evans treatment/blending and disinfection facility. The construction of these pipelines would result in a temporary visual impact along the public ROWs and property owned or acquired by EMWD as trenching would be required. The trenches would be backfilled at the end of each working day or temporarily closed by covering with steel trench plates. Impacts related to construction would be less than significant. Once construction is complete, the pipeline would be underground, the area of disturbance would be required to be restored to pre-construction conditions, and there would be no impact to the visual character or quality of the surrounding area.

Impact Determination

The proposed Mountain Avenue West recharge facility would not adversely alter the existing visual character of the recharge sites. Construction of the recharge basins would temporarily impact the visual quality of the site due to the use of large cranes, but once in operation, the visual quality surrounding the Mountain Avenue West site would improve with the addition of public amenities. Construction of the monitoring facilities, extraction wells, treatment/blending and disinfection facilities, and pipelines would result in a short-term visual impact due to the presence of construction equipment. Once in operation, the monitoring well facilities would extend about two to three feet aboveground but would be minor features from a public vantage point. The operation of extraction wells and associated pump houses, and the Hewitt and Evans treatment/blending and disinfection facilities would impact the visual character of the existing site. However, implementation of Mitigation Measure AES-MM-1 would ensure the aboveground facilities would be consistent with the general building style of the surrounding structures. As a result, impacts would be less than significant.

Mitigation Measure

AES-MM-1: Design of Aboveground Structures. EMWD shall ensure that the design of all aboveground structures associated with the Proposed Project shall be consistent with the general building style of the existing site and surroundings to ensure compatibility with visual character of the immediate neighborhood.

Significance Conclusion

Less than Significant with Mitigation

Light or Glare

Impact AES-4: Implementation of the Proposed Program and the Proposed Project could create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Program-Level Impacts

Recharge Facilities, Treatment/Blending and Disinfection Facilities, and Conveyance Facilities

Construction of the recharge basins, conveyance pipelines, and treatment/blending and disinfection facilities would generally be conducted from 7:00 a.m. to 6:00 p.m., Monday through Saturday, and would not require the use of nighttime lighting. Permanent security lighting may be installed on the treatment/blending and disinfection facilities. In accordance with **Mitigation Measure AES-PMM-2**, all permanent lighting would be directed downward to be focused on the immediate areas and avoid light spillover onto surrounding areas.

Monitoring and Extraction Wells

Temporary nighttime lighting would be required for 24-hour drilling associated with construction of 16 new shallow monitoring wells, seven multi-depth monitoring wells, and up to 11 extraction wells. Nighttime construction would require security lighting in addition to construction lighting. Specifically, the sound walls required to minimize noise during the well drilling of the extraction wells would contain fugitive nighttime lighting. All wells would be situated near residential uses and the San Jacinto Riverbed, which could result in light spill into sensitive area. In accordance with Mitigation Measure AES-PMM-2, all nighttime lighting would be shielded and directed downwards onto the construction work area so that spillover into the surrounding properties would not occur. Permanent security lighting may be installed on the new extraction well housing. In accordance with Mitigation Measure AES-PMM-2, all lighting would be directed downward to be focused on the immediate areas and avoid light spillover onto surrounding areas. Furthermore, the Proposed Program facilities would comply with Riverside County Ordinance No. 655 to minimize nighttime light interference with the operations of the Mount Palomar Observatory.

Impact Determination

Nighttime construction lighting and security lighting would be shielded and directed downward, away from neighboring properties and surrounding areas, in accordance with Mitigation Measure AES-PMM-2. As a result, the Proposed Program facilities would minimize new nighttime light sources and would protect the ability to view the night sky by restricting unnecessary upward projection of light, in support of the Riverside County Ordinance No. 655. Impacts related to light and glare would be less than significant with mitigation.

Program Mitigation Measure

AES-PMM-2: Nighttime Construction. For future projects implemented under the Proposed Program, all nighttime construction lighting and temporary or permanent security lighting installed on new facilities shall be attached to motion sensors and shielded and directed downward to avoid light spill onto neighboring properties.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge Facilities, Hewitt and Evans Treatment/Blending and Disinfection Facility, and Conveyance Facilities

Construction of the Mountain Avenue West site, Hewitt and Evans treatment/blending and disinfection facility, and well water collector and blow-off pipelines would generally be conducted from 7:00 a.m. to 6:00 p.m., Monday through Saturday, and would not require the use of nighttime lighting. Operation of the recharge basins and treatment/blending and disinfection facilities at the Hewitt and Evans site could require permanent security lighting; however, such lighting would be in accordance with **Mitigation Measure AES-MM-2** and would be directed downward to focus lighting to the immediate surroundings and avoid light spillover onto surrounding areas. In addition, once operational low-pathway lighting would be installed along access pathways at the Mountain Avenue West site but directed downward.

Monitoring and Extraction Wells

The eight shallow monitoring wells would be constructed between 7:00 am and 6:00 pm Monday through Saturday and would not require nighttime lighting. However, construction of the three multi-depth monitoring facilities would require 24-hour drilling for up to two weeks. The three extraction wells would require temporary nighttime lighting for the 24-hour drilling and temporary security lighting for the nighttime construction. Two of the proposed extraction wells (Well 201 and 203) would be located adjacent to residential uses and could result in light spill into a sensitive area. However, implementation of Mitigation Measure AES-MM-2 would ensure the nighttime construction lighting would be shielded and directed downwards onto the construction work area so spillover would not occur in the surrounding areas. Furthermore, all construction activities associated with the Proposed Project would comply with Riverside County Ordinance No. 655 to minimize nighttime light interference with the operations of the Mount Palomar Observatory.

Impact Determination

Nighttime security lighting would be shielded and directed downward, away from neighboring properties of the recharge basins, monitoring facilities, extraction wells, and surrounding areas, in accordance with Mitigation Measure AES-MM-2. As a result, the Proposed Project would minimize new nighttime light sources and would protect the ability to view the night sky by restricting unnecessary upward projection of light, in support of the Riverside County Ordinance No. 655. Impacts related to light and glare from construction of the monitoring facilities and extraction wells and operation of the recharge basins would be less than significant with mitigation.

Mitigation Measure

AES-MM-2: Nighttime Construction. All nighttime construction lighting and temporary or permanent security lighting installed on new facilities shall be attached to motion sensors and shielded and directed downward to avoid light spill onto neighboring properties.

Significance Conclusion

Less than Significant with Mitigation

3.1.4 References

Caltrans, 2017. California Scenic Highway Mapping System: Riverside County, Available online at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, Accessed on October 11, 2017.

City of Hemet, 2012. City of Hemet 2030 General Plan, Adopted January 2012.

City of San Jacinto, 2012. City of San Jacinto General Plan, Amended October 19, 2012.

County of Riverside, 1988. Ordinance No. 655, An Ordinance of the County of Riverside Regulating Light Pollution, Effective July 1988,

Federal Highway Administration, 2017. America's Byways: California, Available online at: <https://www.fhwa.dot.gov/byways/states/CA>, Accessed on October 11, 2017.



Mountain Ave North Basin: Taken from the southern boundary of the Mountain Ave. North basin, facing north.



Mountain Ave North Basin: Taken from the western boundary, facing east.



Mountain Ave East Basin: Taken from the southern boundary of the Mountain Ave. East basin, facing north.



Mountain Avenue East Basin: Taken from the southern boundary, facing northwest.



Mountain Ave West Basin: Taken from the southern boundary of the Mountain Ave. West basin, facing north.



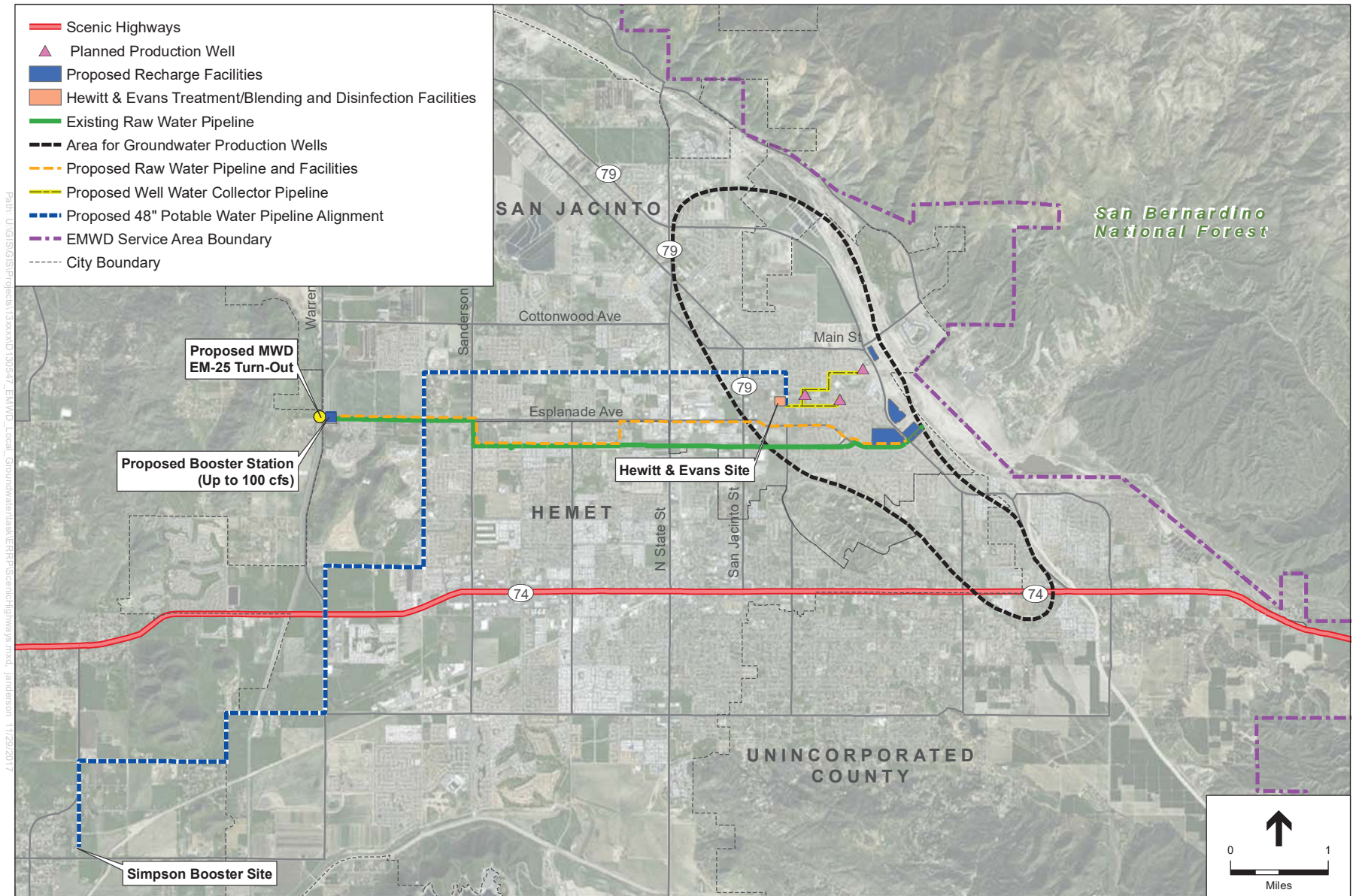
Mountain Ave West Basin: Taken from the southern boundary, facing west.



Mountain Avenue South Basin: Taken from the southern boundary, facing west.



Mountain Avenue South Basin: Taken from the southern boundary, facing northeast.



SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.1-2
Designated and Eligible Scenic Highways

3.2 Agriculture and Forestry Resources

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to agriculture and forestry resources. The section includes a description of the environmental setting to establish baseline conditions for agriculture and forestry resources; a summary of the regulations related to agriculture and forestry resources; and an evaluation of the Proposed Program and Proposed Project's potential effects on agriculture and forestry resources.

3.2.1 Environmental Setting

Regional Setting

Riverside County had a gross value of agricultural production of \$1,301,551,000 in 2015. This was a decrease of 4.4 percent from the previous year's value of \$1,362,016,000. More than 120 different types of crop commodities are produced within Riverside County with top grossing commodities including milk, nursery stock, table grapes, lemons and hay (County of Riverside, 2015).

According to the California Department of Conservation's (DOC) *2015 California Farmland Conversion Report*, Southern California had approximately 2,973,000 acres of important farmlands in 2012, but has continued to see a decline in farmlands over the years. Specifically, Riverside County has experienced significant urban growth since 2010 and ranks second in the state for urbanization. A total of 3,852 acres were urbanized from 2010 to 2012 with 394 acres switching from irrigated farmland to urban land (DOC, 2015). In 2012, Riverside County had 325,407 acres of Urban and built up land and 536,611 acres of agricultural farmland. Of the 536,611 acres of agricultural land in Riverside County in 2012, 426,226 acres were classified within an Important Farmland category such as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance (DOC, 2015).

Program Area Setting

The Proposed Program consists of the development of recharge facilities, extraction and monitoring wells, treatment/blending and disinfection facilities, and conveyance facilities. All of these facilities would be located within the City of Hemet, City of San Jacinto, and portions of unincorporated Riverside County. The state Farmland Mapping and Monitoring Program (FMMP) maps and ranks important farmland in California. Agricultural resources in the Proposed Program area and adjacent lands, as determined by the DOC, are shown in **Figure 3.2-1**.

According to **Figure 3.2-1**, the majority of the Proposed Program area is composed of Urban and Built Up land. However, there are some parcels designated as Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance (see Section 3.2.2 below). Specifically, there are parcels designated as Prime Farmland located adjacent to the proposed potable water pipeline alignment along 7th Street and the proposed raw water pipeline along Commonwealth Avenue. Also, Prime Farmland exists within the area for proposed extraction wells. As shown on **Figure 3.2-2**, the proposed Mountain Avenue West and Mountain Avenue South facilities are

designated as Farmland of Local Importance while the proposed Mountain Avenue North and Mountain Avenue East are located in Other Lands. These recharge sites are all undeveloped at present and are not currently used for agricultural production. All shallow and multi-depth monitoring wells would be located within the recharge site footprints and would have the same farmland designations. The proposed raw water pipeline, proposed potable water pipeline, and laterals would underlie lands designated as Urban and Built-Up Land and Other Land.

The Williamson Act is the state's primary program for the conservation of private land in agricultural and open space use. According to the Riverside County Williamson Act maps, the Program area does not have overlapping Williamson Act contracts in the program areas (DOC, 2016). The proposed Mountain Avenue West, East, North, and South sites are not enrolled in Williamson Act contracts.

There is no forest land or timberland located within the proposed Program area (County of Riverside, 2017b).

Project Area Setting

The Proposed Project facilities include the Mountain Avenue West recharge facility, laterals from the existing raw water pipeline to the recharge facility, eight shallow monitoring wells, three multi-depth monitoring wells, three extraction wells, treatment/blending and disinfection facilities at the Hewitt and Evans site, potable water conveyance pipeline, blow-off water pipelines, and well water collector pipelines traversing from each extraction well to the treatment/blending and disinfection facilities. **Figure 3.2-2** shows that the proposed Mountain Avenue West facilities and associated monitoring wells would be located on lands designated as Farmland of Local Importance.

The proposed Hewitt and Evans treatment/blending and disinfection facility would be located on Urban and Built-up Land (see **Figure 3.2-2**). The proposed Well 201 and 203 would also be located on Urban Built-Up Land while Well 202 would overlie Farmland of Local Importance. Pipelines would be located within rights-of-ways designated as Urban-Built Up Land.

3.2.2 Regulatory Setting

Federal

Farmland Protection Policy Act (7 U.S.C Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with state and local policies for the protection of farmlands. Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98) containing the FPPA—Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994.

Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency (NRCS, 2017).

State

California Department of Conservation, Division of Land Resource Protection

The DOC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications and is updated every two years. The list below provides a comprehensive description of all the categories mapped by the DOC. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as Farmland (DOC, 2017b).

Farmland Mapping and Monitoring Program

The DOC's FMMP identifies lands that have agricultural value and maintains a statewide map of agricultural lands in its Important Farmlands Inventory (IFI). IFI classifies land based upon its productive capabilities, which is based on many characteristics, including fertility, slope, texture, drainage, depth, salt content and availability of water for irrigation. The state employs a variety of classification systems to determine the suitability of soils for agricultural use. The two most widely used systems are the Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating.

The DOC maintains the FMMP and monitors the conversion of farmland to and from agricultural use through its Important Farmland Inventory System. Farmlands are divided into the following categories based on their suitability for agriculture:

Prime Farmland. Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. Farmland of lesser quality soils used for the production of the state’s leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been used for crops at some time during the four years prior to the mapping date.

Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

Urban and Built-up Land. Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Land Evaluation and Site Assessment Model (LESA)

The Land Evaluation and Site Assessment (LESA) is a point-based approach for rating the relative importance of agricultural land resources based upon specific measurable features. The California LESA Model was developed to provide lead agencies with an optional methodology to ensure that potentially significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process (PRC Section 21095), including in CEQA reviews.

The California Agricultural LESA Model evaluates measures of soil resource quality, a given project’s size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, the factors are rated, weighted, and combined, resulting in a single numeric score. The project score becomes the basis for making a determination of a project’s potential significance.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Section 51200-51297.4, and is applicable to specific land parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private

land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts. The Williamson Act program is administered by the DOC, in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. An application for immediate cancellation can also be requested by the landowner, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city. Non-renewal or immediate cancellation does not change the zoning of the property. Participation in the Williamson Act program is dependent on County adoption and implementation of the program and is voluntary for landowners.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses.

Public Resources Code Section 21060.1

PRC Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides guidance for the analysis of agricultural and land use changes throughout California.

3.2.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to agriculture and forestry resources. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. 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 non-agricultural use.
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.

3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 1220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
4. Result in the loss of forest land or conversion of forest land to non-forest use.
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Impacts and Mitigation Measures

Prime, Unique, or Farmland of Statewide of Importance

Impact AGR-1: Implementation of the Proposed Program and the Proposed Project could convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

Program-Level Impacts

Recharge and Monitoring Facilities

Four new recharge facilities and associated shallow and multi-point monitoring facilities would be constructed as part of the Proposed Program. The Mountain Avenue East and Mountain Avenue North recharge facilities and associated monitoring facilities are located on lands that are designated as Other Lands (not agriculture). The Mountain Avenue West and Mountain Avenue South recharge facilities and associated monitoring facilities are located on land that is designated as Farmland of Local Importance by the DOC. Implementation of the Proposed Program would not convert land designed as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Impacts would be less than significant.

Extraction Facilities

Up to 11 extraction wells and treatment/blending and disinfection facilities would be constructed and operated as part of the Proposed Program. Three extraction wells (Wells 201, 202, and 203) would be located in San Jacinto. As shown in **Figure 3.2-2**, Wells 201 and 203 would be located in Urban and Built-up Land while Well 202 would be located in Farmland of Local Importance. The exact location of the other 8 extraction facilities is unknown at this time; however, the general area designated for those facilities primarily includes lands designated as Urban and Built-Up Land and Other Land as shown on **Figure 3.2-1**. There are large parcels in the eastern portion of the City of San Jacinto and City of Hemet where the remaining extraction facilities could be located as shown in **Figure 3.2-1** that are designated as Prime Farmland and Unique Farmland.

A LESA Model was completed for the potential conversion of farmland associated with installation of the eight extraction wells as part of the Proposed Program in the area identified on **Figure 2-2**. The analysis assumed that all eight extraction wells would be constructed on lands designated as Prime Farmland or Unique Farmland, which would be the greatest potential impact. The LESA assessed the agricultural viability of the land and soils to determine the potential impact of constructing the wells. Using the LESA Model, a final score of 57.82 (out of 100) was calculated (see **Appendix AG**). According to the Model Scoring Thresholds of CEQA, the construction of the eight wells on up to one acre each of Prime Farmland or Statewide Farmland

would be considered to have a less than significant impact on agricultural resources (See “Instruction Manual” in Appendix AG for instructions on making significance determinations).

Conveyance Facilities

The Proposed Program would construct a raw water conveyance pipeline to deliver imported water to the recharge facilities, well water collector pipelines to convey the extracted groundwater to the treatment/blending and disinfection facilities, blow-off pipelines to purge the extraction wells upon startup to local recharge areas, and a potable water transmission pipeline to deliver treated water to EMWD customers. The proposed raw water conveyance pipeline would run through the western portion of the City of San Jacinto. It would connect a proposed EM-25 turn-out in western San Jacinto as shown on **Figure 3.2-1** to the recharge facilities in eastern San Jacinto. The proposed potable water conveyance pipeline would travel through the City of San Jacinto southwest into an unincorporated portion of Riverside County. These proposed pipelines would underlie various DOC land designations that are mostly Urban and Built-Up Land with some areas designated as Prime Farmland as they connect to the recharge facilities. These pipelines, however, will be constructed entirely within public rights-of-way, approximately 9 to 12 feet under the ground surface. The extracted soil will be replaced and therefore construction would not permanently disrupt the top soil or the agricultural capacity of the overlaying land.

Similarly, the well water collector pipelines would connect each proposed extraction well to the proposed treatment/blending and disinfection facility and the blow-off pipelines would connect the extraction wells to local recharge areas. These pipelines would stay within property owned by EMWD and public rights-of-way. The pipelines would be built entirely within public rights-of-ways and would not permanently disrupt the agricultural capacity of the overlying land. Implementation of the proposed conveyance facilities would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. Therefore, no impact would occur.

Impact Determination

Implementation of the recharge, extraction and conveyance facilities would not convert land designed as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring and Conveyance Facilities

The Mountain Avenue West recharge and monitoring facilities would be located on land that is designated as Farmland of Local Importance. Implementation of these facilities would not convert land designed as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Impacts would be less than significant.

Additionally, a lateral pipeline would be constructed from the existing raw water pipeline to the proposed recharge facility along Esplanade Avenue as well as onsite piping connecting the laterals to the desilting and recharge ponds. All of this piping would be constructed within public rights-of-ways or within the Mountain Avenue West recharge site and would not permanently alter the agricultural capacity of the overlying land. As such, impacts would be less than significant.

Extraction Facilities

Three extraction wells, Wells 201, 202, and 203, would be constructed as part of the Proposed Project. As shown in **Figure 3.2-2**, Wells 201 and 203 would be located in Urban and Built-up Land while Well 202 would be located in Farmland of Local Importance. In addition, the Proposed Project would implement the Hewitt and Evans treatment/blending and disinfection facility. The Hewitt and Evans treatment/blending and disinfection facility is located on Urban and Built-up Land (refer to **Figure 3.2-1**). Implementation of these facilities would not convert land designed as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Impacts would be less than significant.

Impact Determination

The proposed recharge facilities and monitoring facilities at Mountain Avenue West and the proposed Well 202 would be located on land designated as Farmland of Local Importance. Implementation of these facilities would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Williamson Act Contracts

Impact AGR-2: Implementation of the Proposed Program and the Proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

No Williamson Act contracts exist within the Proposed Program area or in adjacent lands (DOC, 2016). As such, there would be no impact resulting from conflicts with existing Williamson Act contracts.

Impact Determination

The Proposed Program facilities are not located within any land under a Williamson Act contract. As a result, there would be no impacts related to conflicts with the use of Williamson Act contracted lands.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

No Williamson Act contracts exist within the Proposed Project area or in adjacent lands (DOC, 2016). As such, there would be no impact resulting from conflicts with existing Williamson Act contracts.

Impact Determination

The Proposed Project facilities are not located within any land under a Williamson Act contract. As a result, there would be no impacts related to conflicts with the use of Williamson Act contracted lands.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Zoning for Forest Land

Impact AGR-3: Implementation of the Proposed Program and the Proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

According to the respective cities land use maps, there are no lands zoned as forest land or timberland located within the eastern and western portion of City of San Jacinto or in the northern portion of the City of Hemet or portions of unincorporated Riverside County (City of Hemet, 2017; City of San Jacinto, 2013). Therefore, the Proposed Program area would not conflict with any existing zoning for forest land or timberland. No impacts would occur.

Impact Determination

No land designated as forest land or timberland is located within the proposed Program area. As a result, no impacts would occur.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

According to the respective cities land use maps, there are no lands zoned as forest land or timberland located within the eastern and western portion of City of San Jacinto or in the northern portion of the City of Hemet or portions of unincorporated Riverside County (City of Hemet, 2017; City of San Jacinto, 2013). Therefore, the Proposed Project area would not conflict with any existing zoning for forest land or timberland. No impacts would occur.

Impact Determination

None of the Proposed Project facilities are located within land designated as forest land or timberland. Therefore, no impacts would occur.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Loss or Conversion of Forest Land

Impact AGR-4: Implementation of the Proposed Program and the Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program area is not located within land designated as forest land. Therefore, there is no potential for the implementation of the Proposed Program to result in the loss of forest land or conversion of forest land to non-forest use. No impacts would occur.

Impact Determination

Since no land is designated as forest land within the proposed Program area, no impact to the loss of forest land would occur.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project area is not located within land designated as forest land. Therefore, there is no potential for the implementation of the Proposed Project to result in the loss of forest land or conversion of forest land to non-forest use. No impacts would occur.

Impact Determination

Since no land is designated as forest land within the Proposed Project area, no impact to the loss of forest land would occur.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Conversion of farmland to non-agricultural use or forest land to non-forest use

Impact AGR-5: Implementation of the Proposed Program and the Proposed Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Implementation of the Proposed Program would not result in direct changes in the existing agricultural or forestry environment other than those described above under Impact AGR-1 and AGR-4. However, the Proposed Program would affect groundwater levels due to the recharge of imported water and extraction of groundwater, the associated impacts of which are described in Section 3.9, Hydrology and Water Quality. As described under Impact HYD-2, the Proposed Program would not significantly impact groundwater levels and would not affect the ability of agricultural land owners to pump groundwater for agricultural irrigation. There would be no additional conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Impacts would be less than significant.

Impact Determination

The Proposed Program would not involve other changes to the existing environment, other than those already described under Impact AGR-1 and AGR-4, that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Implementation of the Proposed Project would not result in direct changes in the existing agricultural or forestry environment other than those described above under Impact AGR-1 and AGR-4. However, the Proposed Project would affect groundwater levels due to the recharge of imported water and extraction of groundwater, the associated impacts of which are described in Section 3.9, Hydrology and Water Quality. As described under Impact HYD-2, the Proposed Program would not significantly impact groundwater levels and would not affect the ability of agricultural land owners to pump groundwater for agricultural irrigation. There would be no additional conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Impacts would be considered less than significant.

Impact Determination

The Proposed Project would not involve other changes to the existing environment, other than those already described under Impact AGR-1 and AGR-4, that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Impacts would be less than significant.

Mitigation Measures

None required

Significance Conclusion

Less than Significant

3.2.4 References

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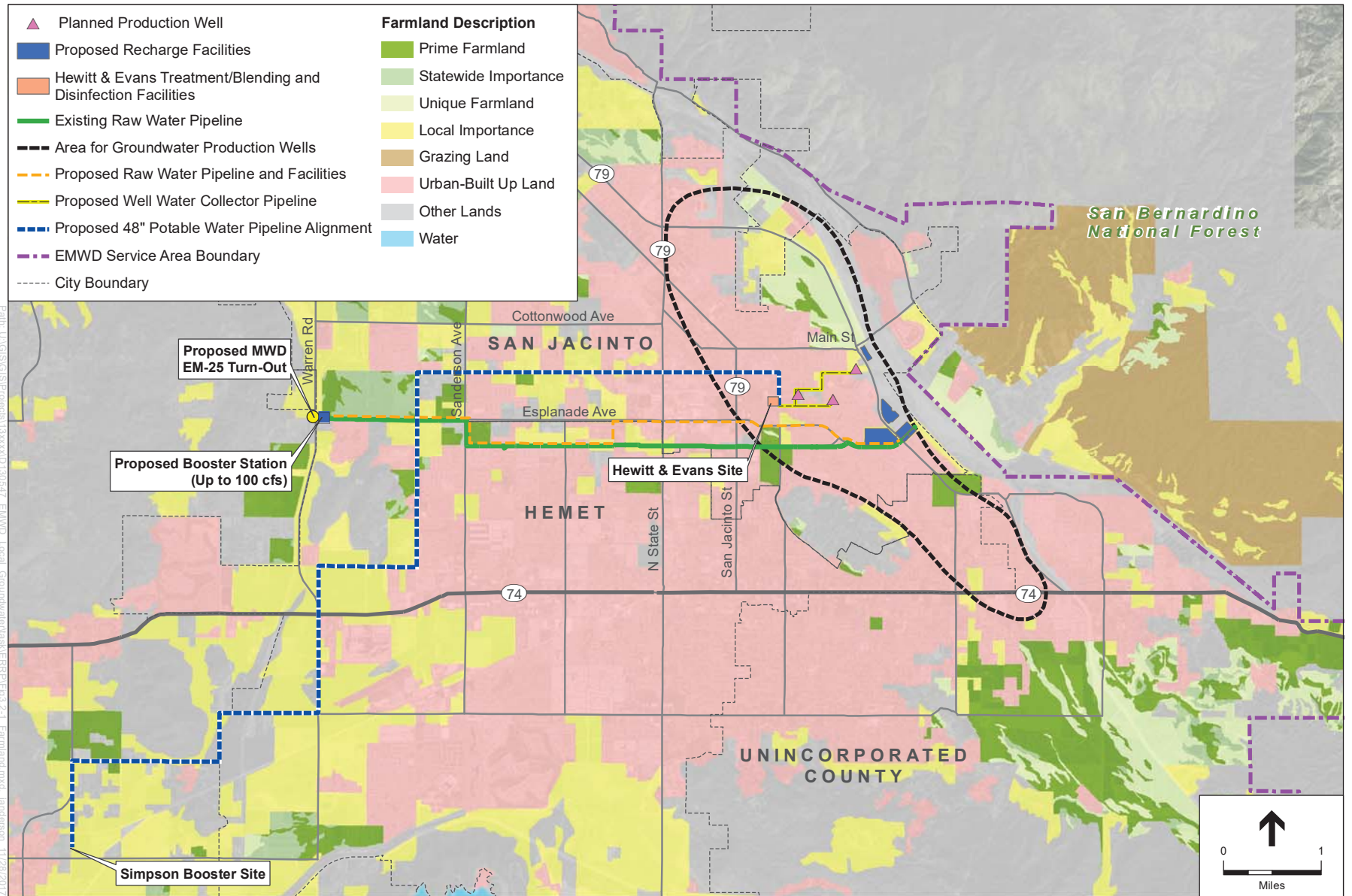
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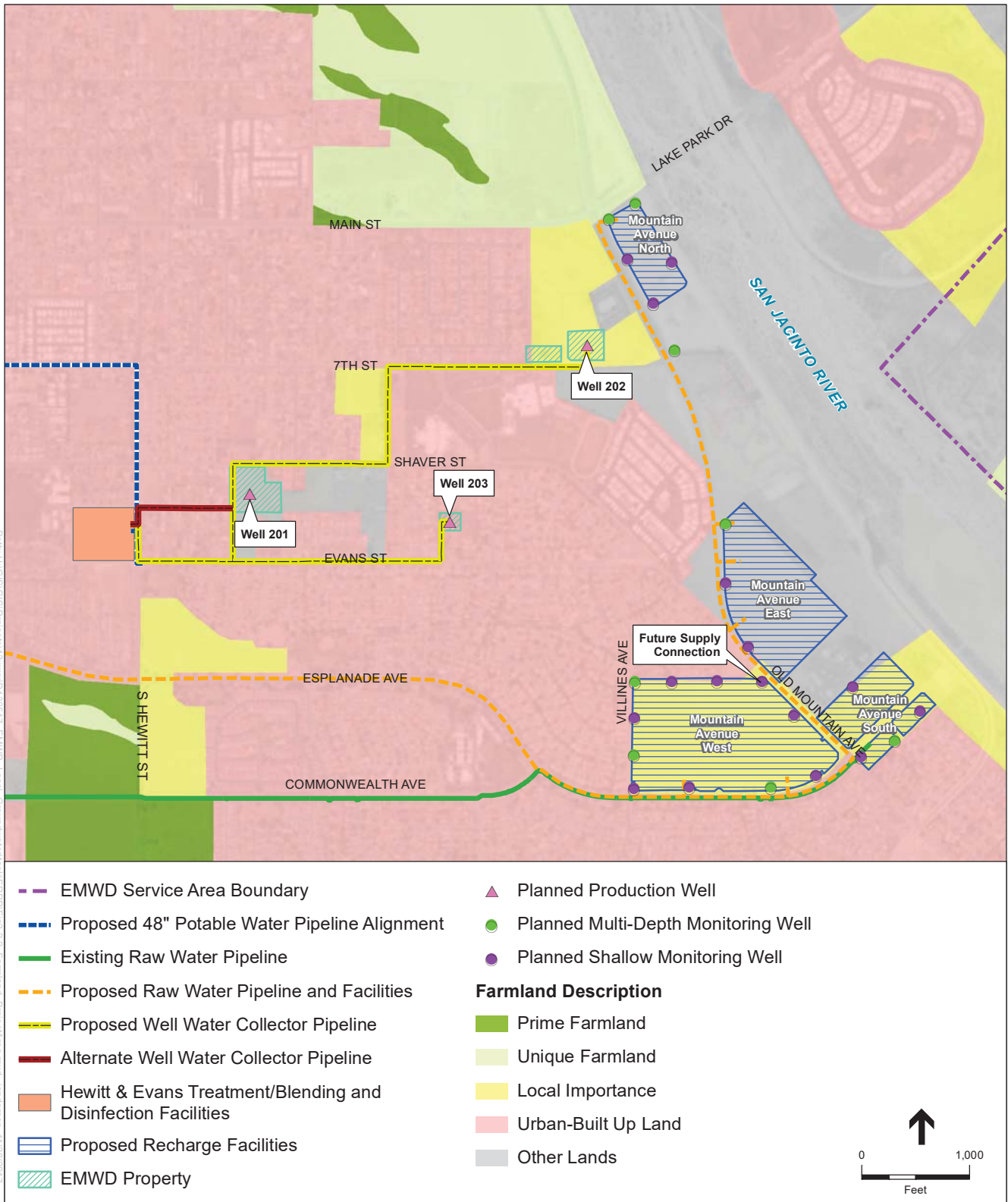
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SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.2-1
Farmland in Proposed Program and Proposed Project Area



SOURCE: ESRI

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.2-2
Farmland Detail in East San Jacinto Area

3.3 Air Quality

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to air quality. The section includes a description of the environmental setting to establish baseline conditions for air quality; a summary of the regulations related to air quality; and an evaluation of the Proposed Program and Proposed Project's potential effects on air quality.

3.3.1 Environmental Setting

Definitions Related to Air Quality

Federal and State Ambient Air Quality Standards

Ambient Air Quality Standards

Regulation of air pollution is achieved through both federal and state ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for O₃, CO, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (i.e., PM₁₀ and PM_{2.5}), and lead (Pb). These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, the EPA has set “primary” and “secondary” maximum ambient limits for each of the criteria pollutants. Primary standards were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent damage to animals, crops, vegetation, and buildings.

Regional and Local

The NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. The NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]) and has adopted air quality standards for some pollutants for which there is no corresponding national standard, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The national and state ambient air quality standards for pollutants along with their associated health effects and sources are presented in **Table 3.3-1** and under criteria air pollutants, respectively.

**TABLE 3.3-1
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS**

Pollutant	Averaging Time	State Standard (CAAQS)	National Standard (NAAQS)	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	No National Standard	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NO _x react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/industrial mobile equipment.
	8 hours	0.07 ppm	0.07 ppm		
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide (NO₂)	1 hour	0.18 ppm	0.100 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Arithmetic Mean	0.030 ppm	0.053 ppm		
Sulfur Dioxide (SO₂)	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	No State Standard	0.50 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	No State Standard	0.03 ppm		
Respirable Particulate Matter (PM₁₀)	24 hours	50 µg/m ³	150 µg/m ³	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 µg/m ³	No National Standard		
Fine Particulate Matter (PM_{2.5})¹	24 hours	No State Standard	35 µg/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.
	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³		
Lead (Pb)	30-Day Average	1.5 µg/m ³	No National Standard	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases).	<i>Present source:</i> lead smelters, battery manufacturing and recycling facilities. <i>Past source:</i> combustion of leaded gasoline.
	Rolling 3-Month Average	No State Standard	0.15 µg/m ³		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining

Pollutant	Averaging Time	State Standard (CAAQS)	National Standard (NAAQS)	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Sulfates (SO₄)	24 hour	25 µg/m ³	No National Standard	Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage.	Industrial processes.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.

¹ For PM2.5 the secondary standard for annual arithmetic mean is 15 µg/m³. For the other pollutants with secondary standards, those standards are the same as the primary.

ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter.

SOURCE: CARB, 2016a

Criteria Air Pollutants

The California Air Resources Board (CARB) and USEPA focus on criteria air pollutants because they are the most prevalent air pollutants known to be injurious to human health, and extensive health-effects criteria documents are available about their effects on human health and welfare. A general description of these pollutants is provided below.

Ozone

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air, but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROGs) or volatile organic compounds (VOCs), and NO_x. While both ROGs and VOCs refer to compounds of carbon, ROG is a term used by CARB and is identified based on a list of carbon compounds that exempts carbon compounds determined by CARB to be nonreactive. VOC is a term used by the USEPA and is identified based on EPA's separate list of exempted compounds it identifies as having negligible photochemical reactivity. The period required for ozone formation allows the reacting compounds to spread over a large area, producing regional pollution problems. Ozone concentrations are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

Once ozone is formed it remains in the atmosphere for one or two days. Ozone is then eliminated through reaction with chemicals on the leaves of plants, attachment to water droplets as they fall to earth ("rainout"), or absorption by water molecules in clouds that later fall to earth with rain ("washout").

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Nitrogen Dioxide

NO₂ is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO₂. The combined emissions of NO and NO₂ are referred to as NO_x, which are reported as equivalent NO₂. Aside from its contribution to ozone formation, NO₂ can increase the risk of acute and chronic respiratory disease and reduce visibility. NO₂ may be visible as a coloring component of a brown cloud on high-pollution days, especially in conjunction with high ozone levels.

Carbon Monoxide

CO, a colorless and odorless gas, is a relatively non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicles. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO

levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, lower emissions from new vehicles, and improvements in fuels.

Sulfur Dioxide

SO₂ is a colorless, extremely irritating gas or liquid that enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries. When SO₂ oxidizes in the atmosphere, it forms sulfur trioxide (SO₃). Collectively, these pollutants are referred to as sulfur oxides (SO_x).

Major sources of SO₂ include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of SO₂ aggravate lung diseases, especially bronchitis. This compound also constricts the breathing passages, especially in people with asthma and people involved in moderate to heavy exercise. SO₂ potentially causes wheezing, shortness of breath, and coughing. Long-term SO₂ exposure has been associated with increased risk of mortality from respiratory or cardiovascular disease.

Particulate Matter

PM₁₀ and PM_{2.5} consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM₁₀ and PM_{2.5} represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Particulate matter can also damage materials and reduce visibility. One common source of PM_{2.5} is diesel exhaust emissions.

Ultrafine particles are particles that are 0.1 micron or less in diameter. These particles have the potential to be more easily inhaled and can be deposited deeper into the lungs (SCAQMD, 2010). Because of their size they can rapidly penetrate into lung tissue and other organs in the body. Ultrafine particles are associated with death from heart disease caused by blocked arteries (OEHHA, 2015).

PM₁₀ consists of particulate matter emitted directly into the air (e.g., fugitive dust, soot, and smoke from mobile and stationary sources,¹ construction operations, fires, and natural windblown dust) and particulate matter formed in the atmosphere by condensation and/or transformation of SO₂ and ROG. Traffic generates particulate matter emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM₁₀ and PM_{2.5} are also emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. PM_{2.5} can also be

¹ Mobile construction sources include off-road construction equipment (movable cranes, dozers, graders etc.), and haul trucks, worker vehicles and vendor vehicles. Stationary construction sources are fixed equipment such as compressors, generator, fans, etc. For operation, mobile source includes on-road mobile sources (employee and patron vehicles as well as vendor vehicles), while stationary sources include building heating and cooling units (i.e., HVAC systems), landscaping equipment, etc. The model does not break out construction equipment into mobile and stationary, but as equipment exhaust.

formed through secondary processes such as airborne reactions with certain pollutant precursors, including ROG_s, ammonia (NH₃), NO_x, and SO_x. Ultrafine particles are not currently monitored for or considered a criteria air pollutant, however as they are a subsection of both PM₁₀ and PM_{2.5} they are accounted for indirectly the analysis.

Lead

Lead is a metal found naturally in the environment and present in some manufactured products. There are a variety of activities that can contribute to lead emissions, which are grouped into two general categories, stationary and mobile sources. On-road mobile sources include light-duty automobiles; light-, medium-, and heavy-duty trucks; and motorcycles. Emissions of lead have dropped substantially over the past 40 years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry.

The South Coast Air Quality Management District (SCAQMD) has found that the highest stationary source emitter of lead is the lead-acid battery recycling industry, and this is the only known stationary source category that has the potential to violate the lead NAAQS (SCAQMD, 2012a). As the Proposed Program does not include a lead-acid battery recycling facility, the Proposed Program would not be a source of lead that has the potential to exceed the NAAQS or pose a health issue to the local environment.

Lead has been well below regulatory thresholds for decades and is still below the regulatory thresholds for the project area. Construction related removal of lead-based paint is regulated by existing laws to reduce or eliminate the risk to nearby receptors. Further, the Proposed Program is not an air based source of lead. Additionally, lead-based paint removal occurs within the basin on a daily basis and has yet to result in an increase in the regional ambient air emissions for lead to near or above the threshold. Therefore, implementation of the project will not result in an environmental impact with respect to lead and therefore is not discussed further in this analysis.

Toxic Air Contaminants

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. Concentrations of TACs, or in federal parlance, hazardous air pollutants (HAPs), are also used as indicators of ambient air quality conditions. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to The California Almanac of Emissions and Air Quality (CARB, 2009), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM or DPM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances including particulate matter such as PM₁₀ and PM_{2.5}. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions

varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

CARB has made preliminary concentration estimates based on a particulate matter exposure method. This method uses the CARB emissions inventory's PM10 database, ambient PM10 monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). Offensive odors are unpleasant and can lead to public distress generating citizen complaints to local governments. Although unpleasant, offensive odors rarely cause physical harm. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source, wind speed, direction, and the sensitivity of receptors.

Program Area Setting

Climate and Meteorology

The portion of Riverside County in which the Proposed Program and Proposed Project are located lies within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD. The SCAB is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The topography and climate of Southern California combine to make the SCAB an area of high air pollution potential. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass

frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions that produce ozone (O₃).

Based on climate records from the Western Regional Climate Center (WRCC) monitoring station located in Riverside (Riverside Fire STA 3, California [ID No. 047470]), the average annual maximum temperature in the area is 79.5 degrees Fahrenheit (° F) and the average annual minimum temperature is 48.6° F. The average precipitation in the area is approximately 10.21 inches annually, occurring primarily from December through March (WRCC, 2016a). For the City of San Jacinto (San Jacinto, California [ID No. 047810]), the average annual maximum temperature in the area is 80.0 degrees Fahrenheit (° F) and the average annual minimum temperature is 45.2° F. The average precipitation in the area is approximately 12.93 inches annually, occurring primarily from December through March (WRCC, 2016b). For the City of Hemet (Hemet, California [ID No. 043896]), the average annual maximum temperature in the area is 81.7 degrees Fahrenheit (° F) and the average annual minimum temperature is 48.4° F. The average precipitation in the area is approximately 11.32 inches annually, occurring primarily from December through March (WRCC, 2016c).

Existing Air Quality

SCAQMD maintains monitoring stations within district boundaries that monitor air quality and compliance with associated ambient standards. The Proposed Program area is located in the Perris Valley and Hemet/Elsinore Air Monitoring Subregions. Currently, the nearest monitoring station to the project site is the Perris Valley Station (337 ½ N. D Street, Perris California), which is located approximately 16 miles west of the project site within the EMWD Service Area. This station monitors ambient concentrations of ozone, and PM10, but does not monitor NO₂, SO₂, CO, or PM2.5.

The nearest monitoring within the Hemet/Elsinore region that monitors ambient concentrations of CO and NO₂ is the Lake Elsinore Station located at 506 W. Flint St in Lake Elsinore which is approximately 22 miles south west of the Proposed Program area. The Nearest monitoring station that monitors SO₂ and PM2.5 is the Metropolitan Riverside County 1 Station located at 5888 Mission Blvd in the City of Riverside, which is approximately 31 miles east of the Proposed Program area. Historical data of ambient ozone, NO₂, SO₂, CO, and PM10 and PM2.5 concentrations from the applicable monitoring station for the most recent 4 years (2013–2016) are shown in **Table 3.3-2**.

**TABLE 3.3-2
AIR QUALITY DATA SUMMARY (2013–2016) FOR PROGRAM AREA**

Pollutant	Standard	Monitoring Data by Year			
		2013	2014	2015	2016
Ozone – Perris Valley Monitoring Station					
Highest 1 Hour Average (ppm)		0.108	0.117	0.124	0.131
Days over State Standard	0.09 ppm	17	16	25	23
Highest 8 Hour Average (ppm)		0.090	0.094	0.102	0.098
Days over National Standard	0.075 ppm	34	59	49	55
Days over State Standard	0.070 ppm	60	63	50	56
Carbon Monoxide – Lake Elsinore Monitoring Station					
Highest 8 Hour Average (ppm)		0.6	1.4	0.06	0.6
Days over National Standard	9.0 ppm	0	0	0	0
Days over State Standard	9.0 ppm	0	0	0	0
Nitrogen Dioxide – Lake Elsinore Monitoring Station					
Highest 1 Hour Average (ppm)		0.0466	0.0453	0.0472	0.0513
Days over National Standard	0.100 ppm	0	0	0	0
Days over State Standard	0.18 ppm	0	0	0	0
Annual Average (ppm)		0.0084	0.0082	0.0087	0.0081
Days over National Standard	0.053 ppm	0	0	0	0
Days over State Standard	0.030 ppm	0	0	0	0
Sulfur Dioxide – Los Angeles – Metropolitan Riverside County 1 Monitoring Station					
Highest 1-Hour Average (ppm)		0.0081	0.0056	0.0019	0.0056
Days over State Standard	0.25 ppm	0	0	0	0
Particulate Matter (PM10) – Perris Valley Monitoring Station					
Highest 24-Hour Average ($\mu\text{g}/\text{m}^3$) ^b		70	87	74	76
Days over National Standard (measured) ^c	150 $\mu\text{g}/\text{m}^3$	0	0	0	0
Days over State Standard (measured) ^c	50 $\mu\text{g}/\text{m}^3$	10	8	3	5
Annual Average ($\mu\text{g}/\text{m}^3$) ^b	20 $\mu\text{g}/\text{m}^3$	33.6	35.1	30.3	32.2
Particulate Matter (PM2.5) – Metropolitan Riverside County 1 Monitoring Station					
Highest 24-Hour Average ($\mu\text{g}/\text{m}^3$) ^b		60.3	48.9	54.7	39.12
Days over National Standard (measured) ^c	35 $\mu\text{g}/\text{m}^3$	6	5	9	4
Annual Average ($\mu\text{g}/\text{m}^3$) ^b	12 $\mu\text{g}/\text{m}^3$	12.5	12.48	11.89	12.54

NOTE: At the time of the analysis, data for 2017 was not available.
ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.
* = Data not available at the time the report was written.

- a Generally, state standards and national standards are not to be exceeded more than once per year. This is not the CEQA significance threshold; CEQA thresholds are described in Section 3.1.4.
- b Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.
- c Measurements are usually collected every 6 days. Days over the standard represent the measured number of days that the standard has been exceeded.

SOURCE: SCAQMD 2016, 2015a, 2014a, 2013a

Both CARB and EPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. The current attainment status for the SCAB is provided in **Table 3.3-3**.

**TABLE 3.3-3
 SOUTH COAST AIR BASIN ATTAINMENT STATUS**

Pollutant	Attainment Status	
	California Standards	Federal Standards
Ozone	Nonattainment	Nonattainment
CO	Attainment	Attainment (Maintenance)
NO ₂	Attainment	Attainment (Maintenance)
SO ₂	Attainment	Attainment
PM10	Nonattainment	Attainment (Maintenance)
PM2.5	Nonattainment	Nonattainment
Lead	Attainment	Nonattainment

SOURCE: CARB, 2016b; EPA, 2017

Despite the current non-attainment status, air quality within the Basin has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly due to lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by the SCAQMD. This trend toward cleaner air has occurred in spite of continued population growth.² As discussed in the 2016 Air Quality Management Plan (AQMP) for the SCAB:

Since the end of World War II, the Basin has experienced faster population growth than the rest of the nation. The annual average percent growth has slowed but the overall population of the region is expected to continue to increase through 2023 and beyond... Despite this population growth, air quality has improved significantly over the years, primarily due to the impacts of air quality control programs at the local, state and federal levels....PM2.5 levels in the Basin have improved significantly in recent years. By 2013 and again in 2014 and 2015, there were no stations measuring PM2.5 in the Basin violating the former 1997 annual PM2.5 NAAQS (15.0 µg/m³) for the 3-year design value period with the filter-based federal reference method (FRM).⁵ On July 25, 2016

² These trends are shown in greater detail on SCAQMD’s website at: <http://www.aqmd.gov/home/library/air-quality-data-studies/historic-ozone-air-quality-trends>.

U.S. EPA finalized a determination that the Basin attained the 1997 annual (15.0 µg/m³) and 24-hour PM_{2.5} (65 µg/m³) NAAQS, effective August 24, 2016.

Similar trends are generally anticipated to occur under future cumulative projections. Emissions trends for NO_x and PM_{2.5} are shown in **Figure 3.3-1** (NO_x Emission Trend), **Figure 3.3-2** (PM_{2.5} Emission Trend) (SCAQMD, 2013b), and **Figure 3.3-3** (Percent Change in Air Quality) (SCAQMD, 2013b; SCAQMD, 2017).

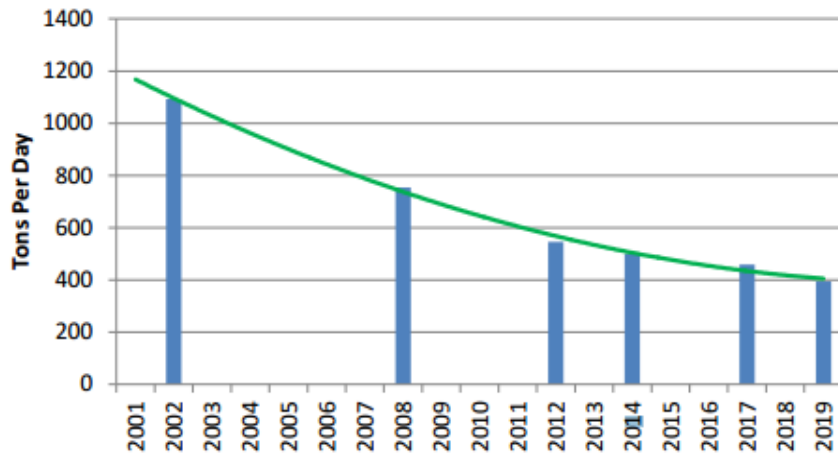


Figure 3.3-1
NO_x Emissions Trend

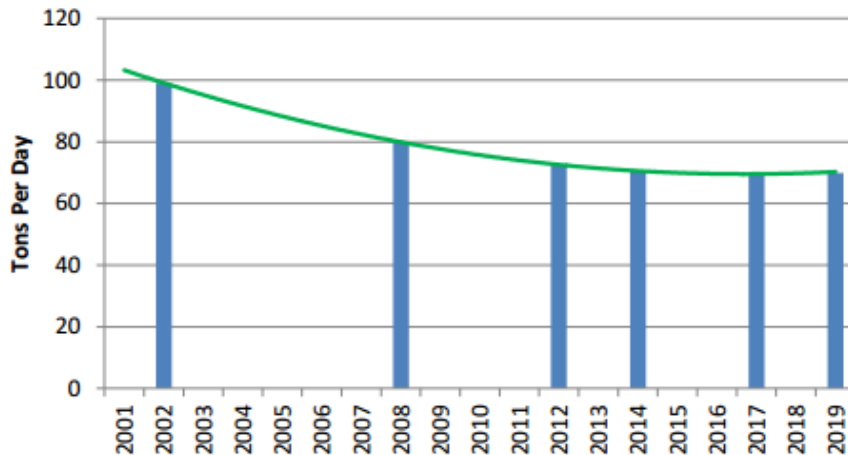


Figure 3.3-2
PM_{2.5} Emissions Trend

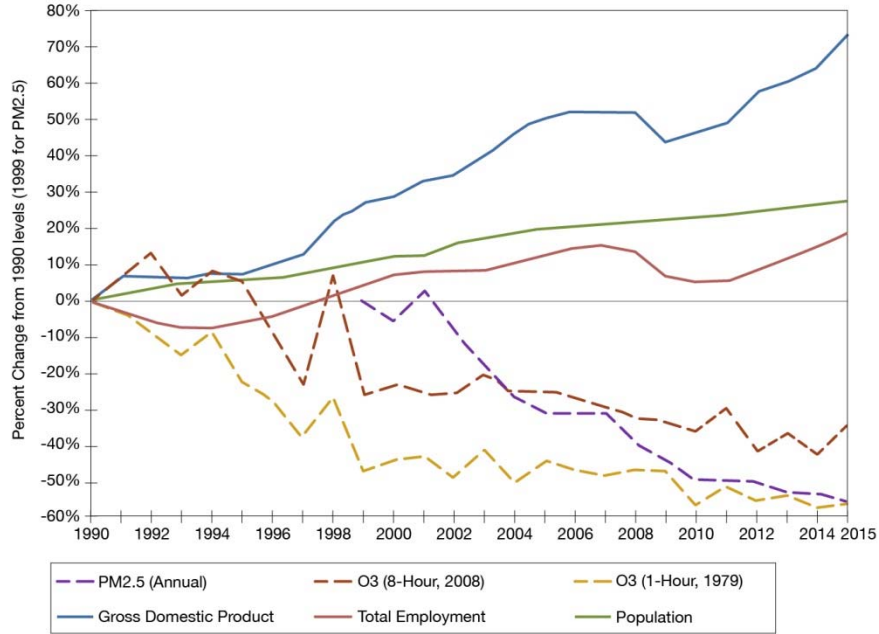


Figure 3.3-3
 Percent Change in Air Quality

Sensitive Receptors

Sensitive receptors are individuals who are considered more sensitive to air pollutants than others. The reasons for greater than average sensitivity may include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system. The closest off-site sensitive receptors to the Proposed Program area include residential land uses, including those adjacent to the Mountain Avenue West and Mountain Avenue South property boundaries, and various conveyance pipelines located within rights-of-way of residential-line streets.

Project Area Setting

The Proposed Project area setting is the same as the Program Area Setting.

3.3.2 Regulatory Setting

Federal

The principal air quality regulatory mechanism at the federal level is the CAA and in particular, the 1990 amendments to the CAA and the NAAQS that it establishes. These standards identify the maximum ambient (background) concentration levels of criteria pollutants that are considered to be safe, with an adequate margin of safety, to protect public health and welfare. As discussed previously, the criteria pollutants include ozone, CO, NO₂ (which is a form of NO_x), SO₂ (which is a form of SO_x), PM₁₀, PM_{2.5}, and lead.

The CAA also requires each state to prepare an air quality control plan, referred to as a State Implementation Plan (SIP). The CAA Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and to determine whether implementing the SIPs will achieve air quality goals.

The EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. EPA's primary role at the state level is to oversee the state air quality programs. EPA sets federal vehicle and stationary source emissions standards and provides research and guidance in air pollution programs.

The federal government sets fuel efficiency standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and to be phased in by 2000. In 1998 a new standard was adopted that introduced Tier 1 for all equipment below 50 hp and introduced the Tier 2 and Tier 3 standards. Tier 2 and Tier 3 standards for all equipment was to be phased in by 2008. Tier 4 efficiency requirements are contained in 40 Code of Federal Regulations [CFR] Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and were most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles are to be completely phased in by the end of 2015.

Similarly, the Federal Government sets national fuel efficiency standards for light duty vehicles, pursuant to the Corporate Average Fuel Economy (CAFE) standards. These standards were first enacted by Congress in 1975 to reduce energy consumption by increasing fuel economy in passenger vehicles and light duty trucks. The CAFE standards were most recently updated in 2010 and 2011 (75 Federal Register 25324 et seq. [May 7, 2010] and 76 Federal Register 57106 [September 15, 2011]; see also Health & Safety Code, Sections 39002, 43000 et seq.). For more information, see <http://www.nhtsa.gov/fuel-economy>.

State

California Air Resources Board

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the SIP. Its primary responsibility lies in ensuring implementation of the 1989 amendments to the California Clean Air Act (CCAA), responding to the federal CAA requirements, and regulating emissions from motor vehicles sold in California. It also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish CAAQS, and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide, and vinyl chloride. They are also generally more stringent than the federal standards.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics “Hot Spots” Information and Assessment Act was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. Assembly Bill (AB) 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release.

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs. The ATCM applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This ATCM does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008, CARB approved the Truck and Bus regulation to reduce NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California. The requirements were amended in December 2010 and apply to nearly all diesel fueled trucks and buses with a gross vehicle weight rating greater than 14,000 pounds. For the largest trucks in the fleet, i.e., those with a gross vehicle weight rating greater than 26,000 pounds, there are two methods to comply with the requirements. The first method is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_x and PM by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters achieving at least 85 percent removal efficiency, so that by January 1, 2016, their entire fleet is equipped with diesel particulate filters. However, diesel particulate filters do not typically lower NO_x emissions. Thus, fleet owners choosing the second method must still comply with the 2010 engine emission standards for their trucks and busses by 2020.

In addition to limiting exhaust from idling trucks, CARB recently promulgated emission standards for off-road diesel construction equipment of greater than 25 hp such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. This regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models. Implementation is staggered based on fleet size (which is the total of all off-road hp under common ownership or control), with the largest fleets to begin compliance January 1, 2014. Each fleet must demonstrate compliance through one of two methods. The first method is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second method is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet hp. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment in large and medium fleets and across 100 percent of small fleets by 2028.

Regional

South Coast Air Quality Management District

SCAQMD has jurisdiction over air quality planning for the western and Coachella Valley portions of Riverside County. SCAB is a subregion within SCAQMD jurisdiction. While air quality in SCAB has improved, SCAB requires continued diligence to meet the air quality standards.

SCAQMD has adopted a series of AQMPs to meet the CAAQS and NAAQS. The 2012 AQMP was adopted by the SCAQMD Governing Board on December 12, 2012. The purpose of the AQMP for the SCAB is to set forth a comprehensive and integrated program that will lead the region into compliance with the federal 24-hour PM_{2.5} air quality standard, and to provide an update to the SCAB's commitment toward meeting the federal 8-hour ozone standards (SCAQMD, 2013b). The AQMP seeks to achieve multiple goals promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as increasing efficiencies in energy use, transportation, and goods movement. It encourages accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies. The AQMP sets forth programs that require integrated planning efforts and the cooperation of all levels of government: local, regional, state, and federal.

The SCAQMD and CARB adopted the most current 2016 AQMP which incorporates the latest scientific and technological information and planning assumptions, including the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and updated emission inventory methodologies for various source categories (SCAQMD, 2017). The Final 2016 AQMP was adopted by the AQMD Governing Board on March 3, 2016.

The AQMP builds upon other agencies' plans to achieve federal standards for air quality in SCAB. The AQMP incorporates a comprehensive strategy aimed at controlling pollution from all

sources, including stationary sources, and on-road and off-road mobile sources. The 2016 AQMP builds upon improvements in previous plans, and includes new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. In addition, it highlights the significant amount of emission reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal CAA.

The 2016 AQMP's key undertaking is to bring SCAB into attainment with NAAQS for 24-hour PM_{2.5}. SCAQMD has since determined that this deadline was impractical due to drought conditions in the region (SCAQMD, 2017). In 2016, AQMP demonstrates that the 24-hour standard will be met by 2019 with no additional reductions beyond already adopted and implemented measures. The 2016 AQMP also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 and 2032 8-hour ozone standard deadline with new measures designed to reduce reliance on the CAA Section 183(e)(5) long-term measures for NO_x and VOC reductions. SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The control measures in the 2016 AQMP consist of 8-hour ozone control measures and PM_{2.5} control measures designed to achieve the O₃ and PM_{2.5} NAAQS by statutory deadlines. The AQMP includes ten PM_{2.5} control measures, 15 stationary source 8-hour ozone measures and 15 early action measures for mobile sources. In general, the SCAQMD's control strategy for stationary and mobile sources is based on the following approaches: (1) available cleaner technologies; (2) best management practices; (3) incentive programs; (4) development and implementation of zero- near-zero technologies and vehicles and control methods; and (5) emission reductions from mobile sources. While the 2016 AQMP was adopted by the SCAQMD and CARB, it has not been yet received EPA approval for inclusion in the SIP. Therefore, until such time as the 2016 AQMP is approved by the EPA, the 2012 AQMP remains the applicable AQMP.

The CEQA Air Quality Handbook was published by the SCAQMD in November 1993 to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts (SCAQMD, 1993). The CEQA Air Quality Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Analysis Guidance Handbook. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in CEQA Air Quality Handbook Chapter 6, Determining the Air Quality Significance of a Project, because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory, and the trip generation characteristics of the land uses identified in these screening tables were based on the fifth edition of the Institute of Transportation Engineer's Trip Generation Manual, instead of the most current edition. Additionally, the lead agency should avoid using the on-road mobile source emission factors in Table A9-5-J1 through Table A9-5-L (EMFAC7EP Emission Factors for Passenger Vehicles and Trucks, Emission Factors for

Estimating Material Hauling, and Emission Factors for Oxides of Sulfur and Lead). The SCAQMD instead recommends using other approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod) software, initially released in 2011 and updated in 2016.

The SCAQMD has published a guidance document called Final Localized Significance Threshold Methodology for CEQA evaluations that is intended to provide guidance in evaluating localized effects from mass emissions during construction (SCAQMD, 2003). The SCAQMD adopted additional guidance regarding PM_{2.5} in a document called Final Methodology to Calculate PM_{2.5} and PM_{2.5} Significance Thresholds (SCAQMD, 2006). This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and Localized Significance Threshold Methodology.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the Proposed Program would include the following³ (additional SCAQMD rules relevant to other resource areas are described in other chapters of this Draft EIR):

Rule 401 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 402 – Nuisance. A person shall not discharge from any source whatsoever such quantities 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. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 – Fugitive Dust. This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust, and identifies measures to reduce fugitive dust. This includes soil treatment for exposed soil areas. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. As indicated in SCAQMD's latest guidance they are "increasing reliance on non-toxic chemical dust suppressants to stabilize soils" (SCAQMD, 2014b). Even if the project site uses water as a dust suppressant, EMWD uses non-potable water.

³ Rules 401, 402, 403, can be found here: <http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-iv> Rule 1113 can be found here: <http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xi>

Rule 1113 – Architectural Coatings. No person shall apply or solicit the application of any architectural coating (e.g., paint) within the SCAQMD with VOC content in excess of the values specified in a table incorporated in the rule.

Toxic Air Contaminants

At the local level, air pollution control or management districts may adopt and enforce CARB control measures. Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from SCAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. SCAQMD limits emissions and public exposure to TACs through a number of programs. SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

The Air Toxics Control Plan (March 2000, revised March 26, 2004) is a planning document designed to examine the overall direction of SCAQMD’s air toxics control program. It includes development and implementation of strategic initiatives to monitor and control air toxics emissions. Control strategies that are deemed viable and are within SCAQMD’s jurisdiction will each be brought to the SCAQMD Board for further consideration through the normal public review process. Strategies that are to be implemented by other agencies will be developed in a cooperative effort, and the progress will be reported back to the Board periodically.

In May 2015 the SCAQMD completed the Multiple Air Toxics Exposure Study IV (MATES IV) (SCAQMD, 2015b). MATES IV is a monitoring and evaluation study conducted in the SCAB and is a follow up to previous air toxics studies. The study is a follow up to the 2008 MATES III study and consists of several elements including a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the SCAB (SCAQMD, 2008a). The study focuses on the carcinogenic risk from exposure to air toxics (SCAQMD, 2008b). However, it does not estimate mortality or other health effects from particulate exposures. MATES IV shows that the EMWD Service Area has an estimated carcinogenic risk of from 170 to 693 in 1 million (SCAQMD, 2015b). The region around the project site has an estimated carcinogenic risk of up to 408 in 1 million (SCAQMD, 2015b). These model estimates were based on monitoring data collected at 10 fixed sites within the SCAB.

3.3.3 Impact Assessment

Methodology and Thresholds of Significance

The impact analysis for Air Quality has been based primarily on the *Air Quality and Greenhouse Gas Emissions Assessment* prepared by Dudek on April 12, 2017, and the supplemental analysis completed by ESA in 2018. The following discussion summarizes methodology from the Dudek report where appropriate, adds additional methodology where the analysis has been augmented, and provides the significance thresholds used for the project analysis. See **Appendix AQ-GHG** for the detailed methodology and modeling output.

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to air quality. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a 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 releasing emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

The significance thresholds described above are based in part upon Appendix G of the *CEQA Guidelines* and the significance criteria established by the applicable air quality management or air pollution control district thresholds. As such, the significance thresholds and analysis methodologies in SCAQMD’s *CEQA Air Quality Handbook* are used in evaluating project impacts. SCAQMD has established daily mass thresholds for regional pollutant emissions, which are shown in **Table 3.3-4**. Pollutant emissions were estimated using the CalEEMod model and based on project specific information where available. Where project specific information was not available, model defaults were used.

**TABLE 3.3-4
SCAQMD REGIONAL AIR QUALITY SIGNIFICANCE THRESHOLDS**

Pollutant	Mass Daily Thresholds (lbs/day)	
	Construction	Operations
Oxides of Nitrogen (NO _x)	100	55
Reactive Organic Gases (ROG)	75	55
Respirable Particulate Matter (PM10)	150	150
Fine Particulate Matter (PM2.5)	55	55
Oxides of Sulfur (SO _x)	150	150
Carbon Monoxide (CO)	550	550
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million people Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million people) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	

As the Proposed Program would not involve the development of any major lead emissions sources, lead emissions would not be analyzed further in this report. As the project is a construction related project, the operational thresholds are shown for informational purposes only.

SOURCE: SCAQMD, 2015c

Aside from regional air quality impacts, projects in the SCAB are also required to analyze local air quality impacts. SCAQMD has developed localized significance thresholds (LSTs) that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and, thus, would not cause or contribute to localized air quality impacts. LSTs are developed based on the ambient concentrations of that pollutant for each of the 38 source receptor areas (SRAs) in the SCAB. The localized thresholds, which are found in the mass rate look-up tables in SCAQMD's *Final Localized Significance Threshold Methodology* document, were developed for use on projects that are less than or equal to 5 acres in size or have a disturbance of less than or equal to 5 acres daily. LSTs are only applicable to the following criteria pollutants: NO_x, CO, PM10, and PM2.5. The construction LSTs for a 2-acre site at a receptor distance of 25 meters in SRA 28 (Hemet/San Jacinto Valley),⁴ which are shown in **Table 3.3-5**, would be used to provide a screening-level evaluation of the Proposed Program's localized air quality impacts. If the Proposed Program emissions exceed the LST screening levels, the emissions are then evaluated using the AERSCREEN dispersion model and compared to the following thresholds: NO_x – 0.25 ppm; CO-1hr – 20 ppm; CO-8hr – 9ppm; PM10 – 10.4 µg/m³; and PM2.5 10.4 µg/m³.

With regard to NO_x emissions, the two principal species of NO_x are NO and NO₂, with the vast majority (95 percent) of the NO_x emissions being comprised of NO. However, because adverse health effects are associated with NO₂, not NO, the analysis of localized air quality impacts associated with NO_x emissions is focused on NO₂ levels. For combustion sources, SCAQMD assumes that the conversion of NO to NO₂ is complete at a distance of 5,000 meters from the source.

CO Hotspots

As discussed above, the decrease in emissions of CO from vehicles has increased the number of vehicles that can idle at an intersection before CO impacts occur. Because of this, the use of the LOS as an indicator for CO impacts has become obsolete. For the purpose of this analysis, total hourly vehicle volumes through intersections and an assessment of the Proposed Program and Proposed Project's consistency with congestion management plans would be conducted to evaluate potential impacts associated with CO hotspots. Intersections that exceed 100,000 vehicles per day would be required to conduct dispersion modeling to determine the potential impact from the impacted intersections.

⁴ LSTs are evaluated based on the acreage disturbed per day and not the total acreage of the project. Conservatively the analysis assumes that a maximum of 2 acres per day would be disturbed. Additionally, according to SCAQMD's LST methodology, for projects where receptors are less than 25 meters from the project, the 25 meter LST threshold should be applied.

**TABLE 3.3-5
 SCAQMD LOCALIZED SIGNIFICANT THRESHOLDS**

Pollutant Monitored Within SRA 28 – Hemet/San Jacinto Valley	Allowable emissions (pounds/day)
	82 (ft)
Construction Thresholds – 2 Acre Site	
Nitrogen Oxides (NO _x) ^a	234
Carbon Monoxide (CO)	1,100
Respirable Particulate Matter (PM10)	7
Fine Particulate Matter (PM2.5)	4

a The localized thresholds listed for NO_x in this table take into consideration the gradual conversion of NO to NO₂. The analysis of localized air quality impacts associated with NO_x emissions focuses on NO₂ levels as they are associated with adverse health effects.

SOURCE: Dudek, 2017

Toxic Air Contaminants

Proposed Program and Proposed Project construction would result in short-term emissions of diesel PM, which is a TAC and poses a cariogenic health risk. Diesel PM represents a portion of the PM10 and PM2.5 emissions from diesel operated equipment. Because Diesel PM is not monitored or estimated independently of PM10 or PM2.5 and because PM2.5 is a subset of the PM10 emissions, PM10 is used as a surrogate for Diesel PM in the TAC analysis. Toxic air contaminants were analyzed for construction activities using AERSCREEN to provide a screening level analysis for the project emissions. Assumptions, calculations and modeling output are included in Appendix AQ-GHG.

Impacts and Mitigation Measures

Air Quality Plan

Impact AQ-1: Implementation of the Proposed Program and the Proposed Project could conflict with or obstruct implementation of the applicable air quality plan.

The AQMP was adopted by the SCAQMD as a program to ensure Air Basin compliance with several criteria pollutant standards and other federal requirements. It relies on emissions forecasts based on demographic and economic growth projections provided by SCAG’s Regional Transportation Program (RTP). SCAG is charged in California law with preparing and approving “the portions of each AQMP relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures and strategies.” Projects whose growth is included in the projections used in the formulation of the AQMP are considered to be consistent with the plan and not to interfere with its attainment. The SCAQMD recommends that, when determining whether a project is consistent with the current AQMP, a lead agency must assess whether the project would directly obstruct implementation of the plan and whether it is consistent with the demographic and economic assumptions upon which the plan is based.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Proposed Program impacts have the potential to obstruct implementation of the AQMP because, as detailed in Impact AQ-2 below, temporary construction emissions for NO_x may exceed regulatory thresholds even with the incorporation of mitigation. Operational emissions would all be less than significant compared to the SCAQMD regional thresholds. The Proposed Program's criteria pollutant emissions could cause the SCAB's criteria pollutant emissions to worsen in the short-term so as to temporarily impede the SCAQMD's efforts to achieve attainment with respect to any criteria pollutant for which it is currently not in attainment.

The Proposed Program impacts however are consistent with the AQMP in that construction activities have incorporated appropriate control strategies set forth in the AQMP for achieving its emission reduction goals and the Proposed Program is consistent with the demographic and economic assumptions upon which the plan is based.

During its construction phase compliance with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment, and with SCAQMD's regulations for controlling fugitive dust and other construction emissions would be enforced. Compliance with these measures and requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities.

Construction of the Proposed Program facilities would generate short-term construction-related employment, but would not necessarily create new construction jobs, because construction workers typically travel between construction sites as individual projects are completed within a particular area and are not typically brought from other areas to work on developments such as the Proposed Program. Moreover, these jobs would be temporary in nature. Therefore, construction jobs under the Proposed Program would not conflict with the long-term employment projections upon which the AQMP are based.

The operation of additional infrastructure under the Proposed Program does not result in population growth and the employment growth is minimal (see also Chapter 5.0 Growth Inducement). The increase in employment is therefore consistent with SCAG's RTP/SCS goals and, as a result, consistent with the growth projections for the period between 2020 and 2040 for the area as a whole (cities of San Jacinto, Hemet, and portions of unincorporated Riverside County). The Proposed Program would therefore also be consistent with the growth projections contained in these entities' General Plans, and ultimately consistent with the growth projections in the AQMP, which would minimize potential increase in transportation-related emissions.

Impact Determination

Implementation of the Proposed Program would be consistent with SCAG's RTP/SCS goals as well as the growth projections contained within the associated General Plans for the cities of San Jacinto and Hemet and County of Riverside. As operational activities would be consistent with the growth and emissions forecasts used in the AQMP, the impacts associated with the Proposed Program's operational activities would also be consistent with the AQMP. However, as NO_x emissions may not be reduced to below significant levels even with mitigation, there is the

potential for the Program activities to temporarily impede the SCAQMD's efforts to achieve attainment with respect to any criteria pollutant for which it is currently not in attainment. Therefore, overall Program impacts with respect to consistency with the AQMP are potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less-than-significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built. The Proposed Program would be implemented over the next 20 to 30 years, and as such technological improvements to engines and equipment may lessen potentially significant impacts to less than significant levels.

Program Mitigation Measures

Implementation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3 as outlined under Impact AQ-2 below.

Significance Conclusion (Construction)

Potentially Significant with Mitigation

Significance Conclusion (Operation)

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project impact analysis would be consistent with the Program impact analysis presented above.

Impact Determination

Implementation of the Proposed Project infrastructure would be consistent with SCAG's RTP/SCS goals as well as the growth projections contained within the General Plans for the cities of San Jacinto and Hemet. As the construction and operation activities would be consistent with the growth and emissions forecasts used in the AQMP with the implementation of mitigation, the implementation of the Proposed Project would also be consistent with the AQMP. However, as NOx emissions may not be reduced to below significant levels even with mitigation, there is the potential for the Project activities to temporarily impede the SCAQMD's efforts to achieve attainment with respect to any criteria pollutant for which it is currently not in attainment. Therefore, overall Project impacts with respect to consistency with the AQMP are significant and unavoidable.

Mitigation Measures

Implementation of Mitigation Measures AQ-MM-1 and AQ-MM-2 as outlined under Impact AQ-2 below.

Significance Conclusion (Construction)

Significant and Unavoidable with Mitigation

Significance Conclusion (Operation)

Less than Significant

Air Quality Standard or Violation

Impact AQ-2: Implementation of the Proposed Program and the Proposed Project could violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction activities associated with the Proposed Program would generate pollutant emissions from the following construction activities: (1) demolition, site preparation, grading, and excavation; (2) construction workers traveling to and from project site; (3) delivery and hauling of construction supplies to, and debris from, the project site; (4) fuel combustion by on-site construction equipment; (5) building construction; application of architectural coatings; and paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously.

Construction emissions are considered short term and temporary, but have the potential to represent a significant impact with respect to air quality. Particulate matter (i.e., PM10 and PM2.5) are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of PM can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors ROG and NO_x are primarily generated from mobile sources and vary as a function of vehicle trips per day associated with debris hauling, delivery of construction materials, vendor trips, and worker commute trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation. A large portion of construction-related ROG emissions also result from the application of architectural coatings and vary depending on the amount of coatings applied each day.

Construction of the Proposed Program and Proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts. The Proposed

Program would be developed in phases. The following phases have been assumed for purposes of this air quality analysis. The first phase of the Proposed Program (Proposed Project,) is anticipated to commence in the fall of 2018, lasting a total of approximately 36 months; future phases of the Proposed Program is anticipated to commence in May 2025, starting with the second phase and with construction lasting a total of approximately 36 months; construction of a third phase of the Proposed Program is anticipated to commence in January 2030, lasting a total of approximately 36 months. The final phase of the Proposed Program is anticipated to commence in January 2040, with construction lasting a total of approximately 36 months. However, it is possible that the three phases in the Program Level activities could begin at the same time or overlap on any phase, therefore as a conservative analysis to provide full flexibility to the Proposed Project, the worst case scenario assumes all three Program phases occur at the same time.

Construction-worker estimates were based on CalEEMod default values. Vendor and haul truck trips were based on estimates provided by EMWD. Site preparation would require 100 round trips (200 one-way truck trips) for construction of the Proposed Project, 50 round trips (100 one-way truck trips) for Phase 2 of the Proposed Program, and 10 round trips (20 one-way truck trips) for Phase 3 of the Proposed Program. Furthermore, grading is estimated to involve 387,000 cubic yards (CY) of soil export for Phase 1, 113,000 CY of soil export for Phase 2, and 37,000 CY of soil export for Phase 3. Assuming a haul truck capacity of 14 CY per truck, earth-moving activities from grading would result in approximately 27,643 round trips (55,286 one-way truck trips) for Phase 1, 8,071 round trips (16,142 one-way truck trips) for Phase 2, and 2,643 round trips (5,286 one-way truck trips) for Phase 3. CalEEMod default trip length values were used for the distances for all construction-related trips. Because Phase 3 and Phase 4 are the same size, it is anticipated that they would have the same construction emissions associated with the activities.

The Proposed Program would be required to comply with SCAQMD Rule 403 to control fugitive dust emissions generated during grading activities. SCAQMD Rule 403 requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM10 emissions to less than 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified within the tables in the rule). These measures are accounted for in CalEEMod as “mitigation” because the model categorizes the measures as such, even though they are technically not mitigation. Measures included as a part of the CalEEMod modeling includes watering of active sites at least three times per day or as needed during construction, limiting vehicle speeds onsite and on unpaved roads to 15 miles per hour, and ensuring a minimum soil moisture of 12 percent for earthmoving activities. Construction modeling is included in Appendix AQ-GHG.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction

Table 3.3-6 summarizes the modeled peak daily emissions of criteria air pollutants and ozone precursors associated with the Proposed Program’s worst-case construction scenario (using the significance criteria provided in **Table 3.3-4**). The peak daily emissions generated during each

year of construction of the Proposed Program are identified. As shown, the maximum daily construction emissions generated by the Proposed Program’s worst-case construction scenario would exceed SCAQMD’s daily significance threshold for NO_x. However, the Proposed Program’s worst-case construction scenario would not Exceed the SCAQMD’s daily significance threshold for ROG, CO, SO_x, PM10, or PM2.5. Note that the Program Level analysis used a 5-year construction schedule in order to provide a potential worst case scenario, however in reality the construction activities could be spread out over 20 to 30 years. Because the Program Level schedule is not known, there is the potential for all three of the future year scenarios to occur at the same time. **Table 3.3.6** takes this into account as the maximum program scenario.

**TABLE 3.3-6
 UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS FOR THE PROPOSED PROGRAM**

Construction Year	Estimated Maximum Daily Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM10	PM2.5
Maximum by Facility Site						
Project – Phase 1	16	187	114	<1	14	8
Phase 2	14	142	97	<1	11	8
Phase 3	13	132	90	<1	10	6
Phase 4	13	132	90	<1	10	6
Maximum by Phase						
Project Level	16	187	114	<1	16	9
Program Level	40	406	278	1	31	20
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

NOTE: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SCAQMD = South Coast Air Quality Management District.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These estimates reflect control of fugitive dust required by Rule 403 which includes watering three times daily, reducing vehicle speeds to 15 miles per hour onsite, and maintaining a soil moisture content of approximately 12%.

SOURCE: Dudek, 2017; ESA 2018 (based on Appendix AQ-GHG)

To reduce NO_x impacts, the Proposed Program must implement **Mitigation Measures AQ-PMM-1** through **AQ-PMM-3**. **Table 3.3-7** summarizes the modeled mitigated peak daily emissions of criteria air pollutants and ozone precursors associated with the Proposed Program worst-case construction scenario. With the implementation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3, NO_x emissions may not be reduced to less than significant levels for the Program Scenario where all sites are constructed at once. However, emissions of VOC, SO_x, PM10 and PM2.5 would be further reduced, and with the use of Tier 4 rated engines, CO emissions would increase slightly but would still be well below the regulatory thresholds. Because the schedule and timing of future Program phases are unknown, and there is no currently no feasible mitigation that can reduce NO_x emissions to below regulatory thresholds for NO_x, the

Proposed Program would have potentially significant impacts. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less-than-significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built.

**TABLE 3.3-7
MITIGATED REGIONAL CONSTRUCTION EMISSIONS FOR THE PROPOSED PROGRAM**

Construction Year	Estimated Maximum Daily Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM10	PM2.5
Maximum by Facility Site						
Project – Phase 1	12	158	117	<1	9	5
Phase 2	11	129	101	<1	9	6
Phase 3	11	122	95	<1	7	5
Phase 4	11	122	95	<1	7	5
Maximum by Phase						
Project Level	12	158	117	<1	12	6
Program Level	10	127	170	0	10	4
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

NOTE: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SCAQMD = South Coast Air Quality Management District.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These estimates reflect control of fugitive dust required by Rule 403 which includes watering three times daily, reducing vehicle speeds to 15 miles per hour onsite, and maintaining a soil moisture content of approximately 12%.

SOURCE: Dudek, 2017; ESA 2018 (based on Appendix AQ-GHG)

Potential health effects of exposure to these criteria pollutants are included in the *Background Information* section and **Table 3.3-1**. The potential for health impacts are also addressed under the localized impact analysis, which are discussed in detail in under Impact AQ-4.

Operation

Long-term operation of the Proposed Program would consist of motor vehicles from operations and maintenance inspections trips. These visits would occur infrequently with multiple visits done annually. No other activity would occur with respect to the operation of the Proposed Program. Thus, project operation would result in lower daily maximum emissions compared to the analyzed construction scenario for the Proposed Program. As no routine daily operational activity would occur, the Proposed Program would not result in a substantial source of long-term operational emissions. Vehicle trips associated with maintenance activities over the course of a year would be negligible and would not violate any air quality standard or contribute substantially

to an existing or projected air quality violation. The long-term operational air quality impacts of the Proposed Program would be less than significant.

Impact Determination

As shown in **Tables 3.3-6** and **3.3-7**, construction of the Proposed Program would exceed the SCAQMD significance thresholds for NO_x even after the incorporation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3. Operational emissions would not result in a substantial source of long term emissions. Therefore, criteria air pollutant emissions would be potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less-than-significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built. The Proposed Program would be implemented over the next 20 to 30 years, and as such technological improvements to engines and equipment may lessen potentially significant impacts to less than significant levels.

Program Mitigation Measures

AQ-PMM-1: Tier 4 Rated Engines. For Program components as currently described, EMWD shall require the construction contractor to use off-road equipment that meets the EPA certified Tier 4 final engines or engines that are certified to meet or exceed the emission ratings for EPA Tier 4 final engines.

AQ-PMM-2: On-Road Haul Trucks. For Program components as currently described, EMWD and the construction contractor shall ensure that the contracted haul fleet for import and export of materials and soil operate vehicles that have the newest available engines (currently 2012 engines).

AQ-PMM-3: Additional Analysis. Prior to construction of future Program facilities, a supplemental analysis shall be conducted to determine the potential air quality impacts from each facility based on the actual schedule and activities to be conducted.

Significance Conclusion (Construction)

Potentially Significant with Mitigation

Significance Conclusion (Operation)

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction

Table 3.3-8 summarizes the modeled peak daily emissions of criteria air pollutants and ozone precursors associated with the Proposed Project worst-case construction scenario (using the significance criteria provided in **Table 3.3-4**). The peak daily emissions generated during each year of construction of the Proposed Project are identified. As shown, the maximum daily construction emissions generated by the Proposed Project's worst-case construction scenario

would exceed SCAQMD’s daily significance threshold for NO_x, but would not exceed the significance thresholds for ROG, CO, SO_x, PM10, or PM2.5.

**TABLE 3.3-8
 UNMITIGATED PROJECT LEVEL REGIONAL CONSTRUCTION EMISSIONS**

Construction Year	Estimated Maximum Daily Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM10	PM2.5
2018	15	180	104	<1	16	9
2019	16	187	114	<1	14	8
2020	1	15	12	<1	1	1
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

NOTE VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SCAQMD = South Coast Air Quality Management District.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These estimates reflect control of fugitive dust required by Rule 403 which includes watering three times daily, reducing vehicle speeds to 15 miles per hour onsite, and maintaining a soil moisture content of approximately 12%.

SOURCE: Dudek 2017; ESA 2018 (based on Appendix AQ-GHG)

To reduce NO_x impacts, the project must implement **Mitigation Measures AQ-MM-1 and AQ-MM-2**. Even with the implementation of mitigation, NO_x emissions would not be reduced to less than significant levels. Emissions of VOC, SO_x, PM10 and PM2.5 would be further reduced. With the use of Tier 4 rated engines, CO emissions are increased slightly but are still well below the regulatory thresholds. **Table 3.3-9** summarizes the modeled mitigated peak daily emissions of criteria air pollutants and ozone precursors associated with the Proposed Project worst-case construction scenario. Because there is no currently no feasible mitigation that can reduce NO_x emissions to below regulatory thresholds for NO_x, the impacts from the Proposed Project would remain significant and unavoidable.

Potential health effects of exposure to these criteria pollutants are included in the *Background Information* section and **Table 3.3-1**. The potential for health impacts are also addressed under the localized impact analysis, which are discussed in detail in under Impact AQ-4.

Operation

Long-term operation of the Proposed Project would consist of motor vehicles from operations and maintenance inspections trips. These visits would occur infrequently with multiple visits done annually. No other activity would occur with respect to the operation of the Proposed Project. Thus, Project operation would result in lower daily maximum emissions compared to the analyzed construction scenario for the Proposed Project. As no routine daily operational activity would occur, the Proposed Project would not result in a substantial source of long-term operational emissions. Vehicle trips associated with maintenance activities over the course of a year would be negligible and would not violate any air quality standard or contribute substantially

to an existing or projected air quality violation. The long-term operational air quality impacts of the Proposed Project would be less than significant.

**TABLE 3.3-9
 MITIGATED PROJECT LEVEL REGIONAL CONSTRUCTION EMISSIONS**

Construction Year	Estimated Maximum Daily Emissions (lbs/day)					
	ROG	NO _x	CO	SO ₂	PM10	PM2.5
2018	12	152	105	<1	12	6
2019	12	158	117	<1	9	5
2020	<1	8	13	<1	<1	<1
Regional Significance Threshold	75	100	550	150	150	55
Significant Impact?	No	Yes	No	No	No	No

NOTE VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SCAQMD = South Coast Air Quality Management District.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These estimates reflect control of fugitive dust required by Rule 403 which includes watering three times daily, reducing vehicle speeds to 15 miles per hour onsite, and maintaining a soil moisture content of approximately 12%.

SOURCE: Dudek 2017; ESA 2018 (based on Appendix AQ-GHG)

Impact Determination

As shown in **Table 3.3-9**, construction of the Proposed Project would exceed the SCAQMD significance threshold for NO_x with the implementation of Mitigation Measures AQ-MM-1 through AQ-MM-2. Operational emissions would not result in a substantial source of long term emissions. Therefore, criteria air pollutant emissions would be significant and unavoidable.

Mitigation Measures

AQ-MM-1: Tier 4 Rated Engines. EMWD shall require that the construction contractor ensures that all off-road equipment be required to have EPA certified Tier 4 final engines or engines that are certified to meet or exceed the emission ratings for EPA Tier 4 final engines. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by CARB regulations. During construction, the construction contractor shall maintain a list of all operating equipment in use on the project site for verification. The construction equipment list shall state the makes, models, and numbers of construction equipment on-site. Equipment shall be properly serviced and maintained in accordance with the manufacturer’s recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board’s Rule 2449.

AQ-MM-2: On-Road Haul Trucks. EMWD and the construction contractor shall ensure that the contracted haul fleet for import and export of materials and soil operate vehicles that have 2012 or newer engines. Should a fleet that comprises all 2012 or newer

vehicles not be available, then preference shall be given to the contractor with the newest haul fleet that will be dedicated to the Proposed Program.

Significance Conclusion (Construction)

Significant and Unavoidable with Mitigation

Significance Conclusion (Operation)

Less than Significant

Cumulatively Considerable

Impact AQ-3: Implementation of the Proposed Program and the Proposed Project could result in a 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 releasing emissions which exceed quantitative thresholds for ozone precursors).

The Proposed Program and Proposed Project would result in the emission of criteria pollutants for which the Program and Project areas are in non-attainment during both construction and operation. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The Air Basin is currently in non-attainment for ozone (NAAQS and CAAQS), PM10 (CAAQS), PM2.5 (NAAQS and CAAQS), ozone, PM10, and PM2.5.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction Emissions

The emissions from construction of the Proposed Program facilities would not exceed applicable SCAQMD regional and local criteria pollutant impact thresholds for any criteria pollutant except NOx. Even with the implementation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3 NOx emissions would remain potentially significant. Therefore, the Proposed Program construction impacts could result in ground level concentrations that exceed the NAAQS or CAAQS.

Operational Emissions

Operational emissions associated with the Proposed Program would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Since the Proposed Program would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As detailed in Impact AQ-4 below, no violations of the state and federal carbon monoxide standards are projected to occur for the Proposed Program. Based on the magnitude of traffic the Proposed Program is anticipated to create, no violations of the State and federal carbon monoxide standards are projected to occur for the Proposed Program.

Impact Determination

Implementation of the Proposed Program would exceed regional or local impact thresholds for construction emissions of NO_x even with mitigation. Therefore, Proposed Program-related emissions could result in a cumulatively considerable net increase for any other non-attainment pollutants. The Proposed Program would result in a potentially significant impact for construction emissions. Construction emissions for all other criteria pollutants and all operational emissions would not exceed regional or local impact thresholds. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less-than-significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built.

Program Mitigation Measures

Implementation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3.

Significance Conclusion (Construction)

Potentially Significant with Mitigation

Significance Conclusion (Operation)

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction Emissions

The emissions from construction of the Proposed Project facilities would not exceed applicable SCAQMD regional and local criteria pollutant impact thresholds for any criteria pollutant except NO_x. Even with the implementation of Mitigation Measures AQ-MM-1 and AQ-MM-2, NO_x emissions would remain potentially significant. Therefore, the Proposed Project construction impacts could result in ground level concentrations that exceed the NAAQS or CAAQS.

Operational Emissions

Operational emissions of the Proposed Project would not exceed the SCAQMD regional or local thresholds and would not be expected to result in ground level concentrations that exceed the NAAQS or CAAQS. Since the Proposed Project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. As detailed, in Impact AQ-4 below, no violations of the State and federal carbon monoxide standards are projected to occur for the Proposed Project. Based on the magnitude of traffic the Proposed Project is anticipated to create, no violations of the state and federal carbon monoxide standards are projected to occur for the Proposed Project.

Impact Determination

Implementation of the Proposed Project would exceed regional impact thresholds for construction emissions of NO_x even with mitigation. Therefore, Proposed Project-related emissions could result in a cumulatively considerable net increase for any other non-attainment pollutants. The

Proposed Project would result in a significant and unavoidable impact for construction emissions. Construction emissions for all other criteria pollutants and all operational emissions would not exceed regional or local impact thresholds.

Mitigation Measures

Implementation of Mitigation Measures AQ-MM-1 and AQ-MM-2.

Significance Conclusion (Construction)

Significant and Unavoidable with Mitigation

Significance Conclusion (Operation)

Less than Significant

Sensitive Receptors

Impact AQ-4: Implementation of the Proposed Program and the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.

Separate discussions are provided below analyzing the potential for sensitive receptors to be exposed to CO hotspots and localized air quality impacts from criteria pollutants and TACs from on-site sources during construction and operation of the Proposed Program and Proposed Project.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

CO Hotspots

Program level construction traffic conditions are evaluated against the screening level threshold of 100,000 vehicles per day. Daily traffic volumes for construction of the Proposed Program would average 141 truck and 28 worker trips per day during the peak activity days. All of these vehicles would not travel the same route and would occur intermittently at various locations during implementation of the Program over 30 to 50 years. As such, construction traffic would not cause daily traffic volumes to exceed 100,000 vehicles per day at any local intersection. Therefore, the Proposed Program construction emissions would not result in a CO hotspot. As a result, impacts would be less than significant.

Localized Construction Air Quality Impacts – Criteria Air Pollutants

Localized construction impacts were analyzed against the maximum daily onsite emissions regardless of if the emissions are associated with the Proposed Program or the Proposed Project construction activities.

The daily on-site construction emissions generated by the project were evaluated against SCAQMD's LSTs for a 2-acre site as a screening-level analysis to determine whether the emissions would cause or contribute to adverse localized air quality impacts.⁵ The nearest off-site

⁵ According to SCAQMD's LST methodology, LSTs are only applicable to the on-site construction emissions that are generated by a project and do not apply to emissions generated off-site such as mobile emissions on roadways from worker, vendor, and haul truck trips.

sensitive receptors include residential land uses located to the north, west, and south of the Mountain Avenue West property boundary. However, the analysis uses the greatest emissions regardless of Phase or subphase, therefore this analysis represents a worst case scenario for any sensitive receptor impacted by the Proposed Program or Proposed Project. As discussed in the Methodology and Thresholds of Significance section above, the LSTs for a receptor distance of 25 meters are used to evaluate the potential localized air quality impacts associated with the Proposed Program’s peak day construction emissions. **Table 3.3-10** identifies the daily-localized on-site emissions that are estimated to occur during the Proposed Program’s worst-case construction scenario. As shown, the daily emissions generated would exceed the applicable SCAQMD LST for PM2.5, but not for NOx, CO, or PM10 for a 2-acre site in SRA 28. With the implementation of mitigation measures AQ-PMM-1 through AQ-PMM-3, the impact from PM2.5 would be reduced to a less than significant level. Mitigated localized emissions for PM2.5 are also included in **Table 3.3-10**.

**TABLE 3.3-10
 PROPOSED PROGRAM LOCALIZED DAILY CONSTRUCTION EMISSIONS**

Construction Year	Estimated Maximum Daily On-Site Emissions (lbs/day)			
	NO _x	CO	PM10	PM2.5
Maximum Unmitigated On-Site Construction Emissions	54	41	6	4
Maximum Mitigated On-Site Construction Emissions	-	-	-	3
Localized Significance Threshold	234	1,100	7	4
Significant Impact?	No	No	No	No

a. Emissions account for implementation of dust control measures as required by SCAQMD Rule 403—Fugitive Dust.

SOURCE: Dudek 2017; ESA 2018 (based on Appendix AQ-GHG)

Localized Operational Air Quality Impacts – Criteria Air Pollutants

During operation of the Proposed Program, the daily amount of localized pollutant emissions generated at the various Proposed Program sites would not be substantial. The Proposed Program does not add additional stationary sources or facility operational emissions of criteria pollutants. While the Proposed Program does add some minor, intermittent, maintenance and operational trips as outlined in Impact AQ-2 above, the total net operational-related emissions generated on-site would be negligible as vehicle travel offsite is not included in the emissions for LST analysis. Therefore, operational emissions would not exceed SCAQMD’s screening operational LSTs. Thus, no dispersion modeling is required and localized air quality impacts during operation of the Proposed Program would be less than significant.

Localized Construction Air Quality Impacts – TACs

During the construction activities, TACs would be emitted from the exhaust of the on-site construction equipment required to build the recharge, monitoring, extraction, and conveyance facilities. According to the Office of Environmental Health Hazard Assessment (OEHHA),

carcinogenic health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year lifetime; however, emissions should be limited to the period or duration of activities associated with the Proposed Program.

These emissions would be temporary, limited, and would only occur for a relatively short duration (up to 4 years) with respect to a 70-year lifetime, and would occur at various distances from any given receptor depending on the phase being completed. According to the OEHHA Risk Assessment Guidelines, it is recommended that projects with a duration of two months or more and/or disturbing more than one acre should conduct health risk assessments (OEHHA, 2015) as they have the potential to result in a significant cancer risk. A screening level health risk was conducted using AERSCREEN to assess the potential health risk associated with the unmitigated construction activities. Using the CalEEMod output prepared for the Proposed Program (Dudek, 2017), emissions in grams per second were calculated and entered into AERSCREEN for each construction phase modeled in CalEEMod. The total construction risk was then calculated taking into account the distance from a given receptor and the duration of each construction phase. Unmitigated construction activities would result in a construction cancer risk would be greater than 860 per million. This exceeds the SCAQMD's threshold of 10 in a million, and mitigation would be required to reduce Diesel PM emissions.

Implementation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3 would reduce diesel PM emissions from onsite activities and offsite haul trips to the greatest extent possible. However, as it is unknown if risk would be reduced to below the 10 in a million cancer threshold, impacts with respect to construction activities would remain potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less-than-significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built.

Localized Operational Air Quality Impacts – TACs

Typical land uses that are sources of acutely and chronically hazardous TACs include industrial manufacturing processes, automotive repair facilities, and dry cleaning facilities using perchloroethylene (which has been banned for use in new dry cleaning facilities). The Proposed Program does not include any of these potential sources. Additionally, new permitted sources, including emergency generators that would emit TACs, are not anticipated to be required to operate the Proposed Program. However, if a permitted source was implemented it would be subject to SCAQMD regulatory requirements, which limit the allowable TAC emissions to a level that would not result in a significant impact. As such, operation activities would not expose surrounding sensitive receptors to substantial pollutant or TAC emissions, and the impact would be less than significant.

Impact Determination

Daily traffic volumes would not exceed 100,000 vehicles per day, therefore the Proposed Program construction emissions would not result in a CO hotspot and impacts would be less than significant. As shown in **Table 3.3-10**, the daily construction emissions generated would not exceed the applicable SCAQMD LST for NO_x, PM₁₀, and PM_{2.5} for a 2-acre site in SRA 28

with the implementation of mitigation measures AQ-PMM-1 through AQ-PMM-3. The negligible operational emissions associated with onsite vehicle travel would not exceed the SCAQMD's operational LST thresholds. The impact to localized receptors would be less than significant with mitigation with respect to criteria pollutant emissions.

TAC emissions from construction activities have the potential to result in significant risk to nearby sensitive receptors. Incorporation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3 would reduce risk; however, as it cannot be demonstrated that risk would be reduced to below significant levels, impacts to sensitive receptors from TACs during construction would remain potentially significant even after implementation of all feasible mitigation measures. TAC impacts to receptors during operational activities would not exceed regulatory thresholds and would be less than significant. As TAC impacts from construction cannot be reduced to below regulatory thresholds, the project has the potential to expose sensitive receptors to substantial pollutant concentrations and therefore would result in a potentially significant impact. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less-than-significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built.

Program Mitigation Measures

Implementation of Mitigation Measures AQ-PMM-1 through AQ-PMM-3.

Significance Conclusion (Construction)

Potentially Significant with Mitigation

Significance Conclusion (Operation)

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

CO Hotspots

Proposed Project construction traffic peak hour conditions are evaluated against the screening level threshold of 100,000 vehicles per hour. Daily traffic volumes for the Proposed Project construction activities would average 141 truck and 28 employee trips daily on peak construction activity days. All of these vehicles would not travel the same route, however even if all access the site from the same intersection, the daily traffic levels at that intersection would come close to 100,000 vehicles per day. Daily traffic volumes would not result in traffic exceeding 100,000 vehicles per day at any local intersection, therefore the Proposed Project construction emissions would not result in a CO hotspot. As a result, impacts would be less than significant.

Localized Construction Air Quality Impacts – Criteria Air Pollutants

As shown in **Table 3.3-10**, the daily emissions generated by the Proposed Project would not exceed the applicable SCAQMD LST for NO_x, PM₁₀, and PM_{2.5} for a 2-acre site in SRA 28 with the implementation of mitigation measures AQ-MM-1 and AQ-MM-2. The impact would be less than significant with mitigation.

Localized Operational Air Quality Impacts – Criteria Air Pollutants

During operation of the Proposed Project, the daily amount of localized pollutant emissions generated on-site would not be substantial. The Proposed Project does not add additional stationary sources or facility operational emissions. While the Project does add some minor, intermittent, maintenance and operational trips as outlined in Impact AQ-2 above. The Project's total net operational-related emissions generated on-site would be negligible as vehicle travel offsite is not included in the emissions for LST analysis. Therefore, operational emissions would not exceed SCAQMD's screening operational LSTs. Thus, no dispersion modeling is required and localized air quality impacts during project operations would be less than significant.

Localized Construction Air Quality Impacts – TACs

TAC emissions from construction are cumulative in nature and therefore impacts from the Program Level and Project Level activities must be considered together. Unmitigated construction activities would result in a construction cancer risk of up to 678 per million if only the Proposed Project facilities are constructed. As discussed under the Proposed Program analysis above, total unmitigated cancer risk would exceed 860 per million for the whole Program construction scenario. This exceeds the SCAQMD's threshold of 10 in a million and mitigation would be required to reduce Diesel PM emissions. As discussed under the Proposed Program analysis above, it is unknown if risk would be reduced to below the 10 in a million cancer threshold, even with the implementation of Mitigation Measures AQ-MM-1 and AQ-MM-2. Therefore, impacts with respect to construction activities would remain significant and unavoidable.

Localized Operational Air Quality Impacts – TACs

As discussed under the Proposed Program analysis above, the Project does not include any land uses that are sources of acutely and chronically hazardous TACs. Additionally, new permitted sources, including emergency generators that would emit TACs, are not anticipated to be included in the Proposed Project activities. However, if a permitted source was implemented it would be subject to SCAQMD regulatory requirements, which limit the allowable TAC emissions to a level that would not result in a significant impact. As such, operation activities would not expose surrounding sensitive receptors to substantial pollutant or TAC emissions, and the impact would be less than significant.

Impact Determination

Daily traffic volumes would not exceed 100,000 vehicles per day, therefore the Project Level construction emissions would not result in a CO hotspot. As shown in **Table 3.3-8**, the daily construction emissions generated would not exceed the applicable SCAQMD LST for NO_x, PM₁₀, and PM_{2.5} for a 2-acre site in SRA 28. The negligible operational emissions associated with onsite vehicle travel would not exceed the SCAQMD's operational LST thresholds. The impact to localized receptors would be less than significant with respect to criteria pollutant emissions.

TAC emissions from construction activities have the potential to result in significant risk to nearby sensitive receptors. Incorporation of Mitigation Measures AQ-MM-1 and AQ-MM-2 would reduce risk, however as it cannot be demonstrated that risk would be reduced to below

significant levels, impacts to sensitive receptors from TACs during construction would remain significant and unavoidable. TAC impacts to receptors during operational activities would not exceed regulatory thresholds and would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures AQ-MM-1 and AQ-MM-2.

Significance Conclusion (Construction)

Significant and Unavoidable with Mitigation

Significance Conclusion (Operation)

Less than Significant

Odors

Impact AQ-5: Implementation of the Proposed Program and the Proposed Project could create objectionable odors affecting a substantial number of people.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The SCAQMD Air Quality Handbook identifies the following uses as having a potential odor issues: wastewater treatment plants, food processing plants, agricultural uses, chemical plants, composting, refineries, landfills, dairies, and fiberglass moldings. The Proposed Program would involve construction of recharge, monitoring, extraction and conveyance facilities within San Jacinto, Hemet, and portions of unincorporated Riverside County. Although during construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors, the Proposed Program activities are not identified as a land use typically associated with odor emissions impacts. During operation, the Proposed Program does not involve the types of uses that would emit objectionable odors affecting a substantial number of people. In addition, odors generated by new and existing non-residential land uses are required to be in compliance with SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. As a result, impacts would be less than significant.

Impact Determination

Construction and operation of the Proposed Program would result in a less than significant impact to odors.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The SCAQMD Air Quality Handbook identifies the following uses as having a potential odor issues: wastewater treatment plants, food processing plants, agricultural uses, chemical plants, composting, refineries, landfills, dairies, and fiberglass moldings. The Proposed Project would involve construction of recharge, monitoring, extraction and conveyance facilities within San Jacinto. Although during construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors, the Proposed Project activities are not identified as a land use typically associated with odor emissions impacts. During operation, the Proposed Project does not involve the types of uses that would emit objectionable odors affecting a substantial number of people. In addition, odors generated by new and existing non-residential land uses are required to be in compliance with SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. As a result, impacts would be less than significant.

Impact Determination

Construction and operation of the Proposed Project would result in a less than significant impact to odors.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

3.3.4 References

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3.4 Biological Resources

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to biological resources. The section includes a description of the environmental setting to establish baseline conditions for biological resources; a summary of the regulations related to biological resources; and an evaluation of the Proposed Program and Project's potential effects on biological resources. The biological resources described in this section are based on the findings provided in the Biological Technical Report for the San Jacinto Valley Enhanced Recharge and Recovery Program (ESA, 2018). Other documents reviewed that were prepared for the Proposed Program include a San Bernardino Kangaroo Rat Habitat Evaluation of the Mountain Avenue South Property (HELIX, 2017), and a San Bernardino Kangaroo Rat Habitat Assessment for the Mountain Avenue North, East, and West properties (ESA, 2016). These reference documents are included in **Appendix BIO**.

3.4.1 Environmental Setting

Regional Setting

The Proposed Program is located in the Cities of San Jacinto and Hemet, and portions of unincorporated Riverside County, California (**Figures 1-1 and 2-1**). Regional geographic features surrounding the area include the San Jacinto Mountains to the east and the Lakeview Mountains to the northwest, and the Proposed Program is located within the San Jacinto Valley adjacent to and west of the San Jacinto River. The San Jacinto Mountains reach 10,834 feet at San Jacinto Peak, which is located approximately 14.5 miles to the east. The San Jacinto River is the principal drainage for the San Jacinto Mountains, which flows southwest in two forks and eventually empties into Lake Hemet and Mystic Lake.

The climate in the region is Mediterranean, with dry summers and moderately wet winters. However, the region has experienced moderate to severe drought conditions over the past five years. Plant communities typically found within the region include a mosaic of xeric habitats such as alluvial scrub and buckwheat scrub. Riparian (associated with or dependent on a water course) or woodland habitat associated with riverine or other aquatic features traverse the landscape as well. Most waterways in the region are intermittent or ephemeral and convey only seasonal flows, including the San Jacinto River. Most of the smaller creeks have been channelized within urban areas. The aforementioned habitats and resources are known to support a wide variety of common plant and wildlife species, as well as many special-status species protected by federal, state, and local regulations.

Local Setting

The biological resources and existing relevant conditions within and around the areas potentially affected by the Proposed Program and Proposed Project, including adjacent areas within 500 feet, were surveyed to determine the baseline setting. This biological survey area is described below and shown in **Figures 3.4-1 through 3.4-4**.

Program Area Setting

The Proposed Program is generally located within a moderately urbanized setting associated with residential and commercial development, farmland, and roads. The proposed basins at Mountain Avenue North, East, and South will require grading and alteration of agricultural and disturbed land. The majority of the proposed conveyance pipeline route occurs within developed land consisting of concrete and asphalt, and ornamental landscaping associated with existing public ROW. Other portions of the pipeline will traverse undeveloped parcels characterized by annual and non-native grasslands, and ruderal vegetation. Due to previous disturbances from development within the City of San Jacinto, no native vegetation communities were observed within any portions of the Proposed Program, but immediately adjacent to the western extent of the conveyance pipelines and east of the proposed basins. Land uses surrounding the Proposed Program generally consist of residential and commercial development, farmland, and undeveloped foothills to the east and west.

Project Area Setting

The Mountain Avenue West site is currently graded and contains non-native weedy (ruderal) vegetation. The proposed production and monitoring well locations all occur within existing disturbed and developed land associated with undeveloped parcels and existing residences. These areas show signs of previous removal of vegetation due to weed abatement and residential maintenance. The proposed Hewitt and Evans treatment facility is located within an existing disturbed and developed parcel that contains scattered ornamental and non-native species, fencing, and a building. Additionally, the proposed water pipelines predominantly occur within urban and residential development, with scattered areas of undeveloped land and active agriculture.

Soils

The soils within the Proposed Program show evidence of previous disturbances related to agriculture and grading from urban development. A majority of the soils in the Proposed Program area have been graded and compacted. The following soils and soil mapping features are mapped on and immediately adjacent to the Proposed Program (USDA, 2017). The soils mapped within the survey area for the Proposed Program include:

- Calpine sandy loam, 8 to 15 percent slopes, eroded
- Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- Chino silt loam, drained, saline-alkali
- Chino silt loam, drained, saline-alkali
- Chino silt loam, drained, strongly saline-alkali
- Cieneba sandy loam, 8 to 15 percent slopes, eroded
- Dello loamy fine sand, gravelly substratum, 0 to 2 percent slopes
- Dello loamy sand, gravelly substratum, 0 to 5 percent slopes
- Domino fine sandy loam, saline-alkali
- Domino silt loam, saline-alkali
- Escondido fine sandy loam, 8 to 15 percent slopes, eroded
- Exeter sandy loam, 0 to 2 percent slopes
- Exeter sandy loam, deep, 0 to 2 percent slopes

- Friant rocky fine sandy loam, 8 to 25 percent slopes, eroded
- Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes
- Grangeville loamy fine sand, drained, 0 to 5 percent slopes
- Grangeville sandy loam, sandy substratum, drained, saline-alkali, 0 to 5 percent slopes
- Greenfield sandy loam, 0 to 2 percent slopes
- Hanford coarse sandy loam, 2 to 8 percent slopes
- Hanford fine sandy loam, 0 to 2 percent slopes
- Honcut loam, 2 to 8 percent slopes, eroded
- Las Posas loam, 8 to 15 percent slopes, eroded
- Metz loamy fine sand, 0 to 2 percent slopes
- Metz loamy fine sand, gravelly sand substratum, 0 to 5 percent slopes
- Metz loamy fine sand, sandy loam substratum, 0 to 5 percent slopes
- Pachappa fine sandy loam, 0 to 2 percent slopes
- Ramona sandy loam, 0 to 2 percent slopes
- Ramona sandy loam, 0 to 5 percent slopes, severely eroded
- Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- Riverwash
- Rockland
- Rough broken land
- San Emigdio fine sandy loam, 0 to 2 percent slopes
- San Emigdio fine sandy loam, 8 to 15 percent slopes, eroded
- San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded
- San Emigdio fine sandy loam, deep, 0 to 2 percent slopes
- San Emigdio loam, 0 to 2 percent slopes
- Traver fine sandy loam, strongly saline-alkali, eroded
- Traver fine sandy loam, saline-alkali
- Traver loamy fine sand, eroded
- Traver loamy fine sand, saline-alkali, eroded
- Waukena loam, saline-alkali
- Willows silty clay, deep, strongly saline-alkali
- Willows silty clay, saline-alkali
- Willows silty clay, strongly saline-alkali
- Wyman loam, 2 to 8 percent slopes, eroded

Plant Communities and Land Uses

The vegetation communities characterized within the survey area for the Proposed Program are discussed in detail below. The plant communities and land uses were mapped for the survey area, and characterized during the habitat assessment and cross-referenced with the County of Riverside Vegetation Mapping Data (Riverside County GIS).

Agriculture

Agricultural land occurs entirely on the proposed Mountain Avenue West site, and immediately adjacent to the proposed conveyance pipelines primarily in the western portion of the survey area. These areas are characterized by active agriculture consisting of row crops, disked fallow fields, and pastureland. The agriculture fields consist of row crops of alfalfa (*Medicago* sp.) with scattered ruderal (weedy) species such as short-podded mustard, Russian thistle and jimson weed (*Datura wrightii*). Based on review of historical aerial maps (Google Earth, 2017), agricultural fields were the dominant land use type prior to urban development within the City of San Jacinto.

California Annual Grassland

California annual grassland occurs in undeveloped areas adjacent to the proposed 48-inch potable pipeline route in the southwestern portion of the survey area (**Figures 3.4-1 and 3.4-2**), and within the proposed Mountain Avenue North site (**Figure 3.4-3**). The California annual grassland community has been previously disturbed within the survey area. Dominant species observed include a variety of non-native monocots such as red brome (*Bromus rubens* spp. *madritensis*), ripgut brome (*Bromus diandrus*), and barley (*Hordeum vulgare*), and native species including Chufa flatsedge (*Cyperus esculentus*) and salt grass (*Distichlis spicata*) are present where infrequent saturation occurs within the existing recharge basin proposed for the Mountain Avenue North site. Scattered ruderal forbs were also observed in this community including Russian thistle (*Salsola tragus*) and short-podded mustard (*Hirschfeldia incana*), and wild heliotrope (*Heliotropium curassavicum*) was observed throughout the location of the Mountain Avenue North site. Overall, the native species composition is greater than ten percent of the total grassland areas within survey area. The Proposed Program will impact this vegetation community primarily at the Mountain Avenue North site. California annual grassland along the 48-inch potable water pipeline alignment is located outside the existing ROWs where impacts would occur.

Non-Native Grassland: Broadleaf Dominated

Ruderal grassland vegetation consists of primarily non-native grasses and weedy forbs occurring in areas that have been significantly disturbed from previous grading and urban development, as well as in areas where weed abatement and fuel modification have occurred. This community occurs in the eastern portion of the survey area (**Figures 3.4-4**) generally in areas that are undeveloped and adjacent to developed land. Generally, the vegetation cover is sparse with areas of bare ground and disturbed soils. Species observed in this community include Russian thistle, short-podded mustard, sow thistle (*Sonchus asper*), red brome, and ripgut brome. Scattered native species were also included in this vegetation community including common sunflower (*Helianthus annuus*), horseweed (*Erigeron canadensis*), and telegraph weed (*Heterotheca grandiflora*). Ruderal habitat will be primarily impacted due to development of Mountain Avenue West.

Riversidean Sage Scrub

Riversidean sage scrub habitat exists immediately adjacent to and north of the proposed Mountain Avenue North site, adjacent to the San Jacinto River (**Figure 3.4-3**). This vegetation community has been planted on manufactured slopes on the north and south sides of East Main Street, and is intersected by a row of utility poles. The Riversidean sage scrub habitat is moderately dense,

isolated to two narrow strips along the road, and separated from any other larger stands of native scrub habitat. Dominant species observed include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and yerba santa (*Eriodictyon californicum*). This community is located adjacent to the proposed Mountain Avenue North site and would not be impacted by the Proposed Program.

Disturbed Habitat

Disturbed habitat includes areas of significant previous disturbances that have been altered from their natural composition from grading or development. Disturbed habitat is located entirely within the proposed Mountain Avenue East site and contains less than ten percent vegetation cover (**Figure 3.4-3**). No vegetation was observed on the disturbed habitat within the Mountain Avenue East site, and soils in this area are compacted from previous grading.

Developed Land

The majority of the proposed conveyance pipelines occur within developed land associated with existing public ROWs. Vegetation within the ROW or parking lot area includes landscaped trees planted along public sidewalks including gum (*Eucalyptus* sp.), pine (*Pinus* sp.) and Brazilian pepper (*Schinus terebinthifolius*), as well as ice plant (*Carpobrotus* sp.), acacia (*Acacia* sp.), and grass sod associated with residences that are adjacent to the proposed conveyance pipeline alignment.

Common Wildlife Species

Wildlife observed or detected during the habitat assessment includes species that are adapted to urban environments. Bird species observed during the assessment included red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), western kingbird (*Tyrannus verticalis*), Cassin's kingbird (*Tyrannus vociferans*), and house finch (*Haemorhous mexicanus*). No mammal species were encountered or otherwise detected during the assessment; however, one reptile species, western whiptail (*Aspidoscelis tigris*), was observed within the pipeline alignment. Mammal species expected to occur within the survey area include domestic dog (*Canis domesticus*), desert cottontail (*Sylvagus audubonii*), and California ground squirrel (*Otospermophilus beechyi*), and common reptile species expected include western fence lizard (*Sceloporus occidentalis*) and side-blotched lizard (*Uta stansburiana*). Amphibian species such as Pacific tree frog (*Pseudacris regilla*) and western toad (*Anaxyrus boreas*) may occur within the San Jacinto River adjacent to the survey area during periods of inundation.

Special-Status Species and Sensitive Communities/Habitats

Special-status species are defined as those wildlife and plants that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal- or state-endangered species legislation. Others have been designated as special-status on the basis of adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives.

Special-status species include:

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA).
- Species covered under an adopted Natural Communities Conservation Plan (NCCP) or Habitation Conservation Plan (HCP).
- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (List 1A, 1B and 2 plants) in California.
- Plants listed by the CNPS as plants in which more information is needed to determine their status and plants of limited distribution (List 3 and 4 plants).
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game [CFG] Code 1900 et seq.).
- Wildlife designated by the California Department of Fish and Wildlife (CDFW) as Species of Special Concern (SSC).
- Fully Protected species in accordance with the CFG Code Sections 3511, 4700, and 5050.

A total of 38 special-status plants and 44 special-status wildlife species have been documented in the region of the Proposed Program (**Appendix BIO**). However, it was determined that 22 of these special-status species are not expected to occur within the survey area due to the absence of suitable habitat (i.e., proper distribution of desired vegetation, soils, elevation, level of disturbance, surrounding land uses, riparian habitat, etc.) and are omitted from further discussion. **Tables 3.4-1** and **3.4-2** identifies the protective status of 29 special-status plant species and 31 special-status wildlife species that have a low to high potential to occur, or are present, within the survey area and/or surrounding area including a description of their preferred habitat. Also indicated is the potential for occurrence and where specifically they may occur in proximity to the Proposed Program. The “Potential for Occurrence” category in **Table 3.4-1** is defined as follows:

- **Low Potential:** The Proposed Program and/or immediate vicinity provides low-quality habitat for a particular species (such as improper substrate, disturbed or otherwise degraded habitat, or improper assemblage of desired vegetation) and/or the site is outside of the known elevation or range of the species.
- **Medium Potential:** The Proposed Program and/or immediate vicinity provides marginal habitat for a particular species. For example, proper substrate may be present, but the desired vegetation assemblage or density is less than ideal, or substrate and vegetation are suitable, but the site is outside of the known elevation range of the species.
- **High Potential:** The Proposed Program and/or immediate vicinity provides high-quality or ideal habitat (i.e., soils, vegetation assemblage, and topography) for a particular species and/or there are known occurrences in the general vicinity of the Proposed Program.
- **Present:** The species or vegetation community/habitat was observed within the Proposed Program and/or immediate vicinity during surveys.

**TABLE 3.4-1
POTENTIALLY OCCURRING SENSITIVE PLANT SPECIES**

Common Name	Scientific Name	Status (Federal/State/CRPR)	Habitat	Potential to Occur*
Chaparral sand - verbena	<i>Abronia villosa</i> var. <i>aurita</i>	--/S2/1B.1	Annual herb found in chaparral, coastal scrub and desert dunes in sandy areas between 75 – 1,600 m.	Low. Planted Riversidean sage scrub occurs on the proposed Mountain Ave. North property, however, this area does not include a sandy substrate which is needed for this species to establish.
Yucaipa onion	<i>Allium marvinii</i>	--/S1/1B.2	Perennial bulbiferous herb found in chaparral, coastal scrub, cismontane woodland, pinyon juniper woodland, valley and foothill grassland, usually in heavy clay soils between elevations of 300-1035 m.	Low. The survey area contains grassland habitats particularly in the western portion of the site. However, the site is relatively disturbed and lacks suitable heavy clay soils to support this species.
Munz's onion	<i>Allium munzii</i>	FE/SE/1B.1	Perennial bulbiferous herb found in chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland on heavy clay soils. It grows in grasslands and openings within shrublands or woodlands between 295 – 1,070 m.	Medium. The survey area contains grassland habitats particularly in the western portion of the site. However, the site lacks suitable heavy clay soils to support this species. This species could occur in less disturbed grassland areas that are adjacent to the survey area where suitable clay soils may be present.
Jaeger's bush milkvetch	<i>Astragalus pachypus</i> var. <i>jaegeri</i>	--/S2/1B.1	Perennial shrub that occurs in coastal scrub, chaparral, valley and foothill grassland, and cismontane woodland. Specifically found on dry ridges and valleys, and open sandy slopes; often in grasslands and oak chaparral between 365 – 915 m.	Low. The survey area contains grassland habitat, but is flat, lacking suitable relief and is relatively disturbed.
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	FE/S1/1B.1	Annual herb. Can be found on playas, valley and foothill grassland, and vernal pools. Specifically occurs in alkaline areas in the San Jacinto River Valley between 140 – 500 m in elevation.	Low. Grassland habitat occurs on the project site; however, the site lacks vernal pools and suitable alkaline soils to support this species.
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT/SE/1B.1	Perennial bulbiferous herb found in cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools. Usually associated with annual grassland and vernal pools often surrounded by shrubland habitats. Clay soils and at elevations of 25-860 m. Blooming period is from March - June.	Low. Suitable grassland habitat occurs on the survey area, however the site lacks vernal pools and clay soils to support this species.

Common Name	Scientific Name	Status (Federal/State/CRPR)	Habitat	Potential to Occur*
Round-leaved filaree	<i>California macrophylla</i>	--/S3/1B.2	Perennial bulbiferous herb found in clay soils and associated with cismontane woodlands and valley-foothill grasslands	Low. The survey area contains grassland areas but lacks clay soils and woodland areas to support this species.
Plummer's mariposa-lily	<i>Calochortus plummerae</i>	--/S4/4.2	Found in coastal scrub, chaparral, valley and foothill grasslands, cismontane woodlands and lower montane coniferous forests; occurs on rocky or sandy soils, usually of alluvial or granitic material; common after fire. Blooming period is May – July; occurs at elevations of 100 – 1700 m.	Low. The survey area contains grasslands, but lacks suitable soils and associated native habitats to support this species.
Intermediate mariposa lily	<i>Calochortus weedii</i> var. <i>intermedius</i>	--/S2/1B.2	Perennial bulbiferous herb found in coastal scrub, chaparral, valley and foothill grassland on dry, rocky open slopes and rock outcrops at elevations of 120-850 m.	Low. The survey area contains grasslands, but lacks suitable soils and associated native habitats to support this species.
Payson's jewel-flower	<i>Caulanthus simulans</i>	--/S4/4.2	An annual herb that occurs in chaparral and coastal scrub, specifically in frequently burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes on sandy and granitic soils between 90 – 2,200 m in elevation.	Low. Potentially suitable habitat for this species occurs within the San Jacinto floodplain located approximately 100 feet from the eastern limits of the survey area, and no suitable native habitat occurs onsite.
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	--/S2/1B.1	Annual herb associated with valley and foothill grasslands, chenopod scrub, meadows, playas and riparian woodlands from 0 – 640 m. Blooming period is from April – September.	Low. The survey area contains annual grassland; however, no suitable soils occur within the survey area. Suitable habitat for this species may occur within the adjacent San Jacinto River located approximately 100 feet from the eastern limits of the Proposed Program.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	--/S3/1B.1	Annual herb found in coastal scrub and chaparral, sometimes on the interface of two vegetation types. Associated with dry, sandy soils, dry slopes and flats from 275 – 1220 m. Blooming period is April – June.	Low. Riversidean sage scrub on suitable slopes t occurs within the survey area, but this community has been introduced and is not expected to contain a seed bank for this species.
Long-spined spineflower	<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	--/S3/1B.2	Annual herb that occurs in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools with gabbroic clay. 30 – 1,530 m.	Low. The survey area contains grasslands, but lacks suitable soils and associated native habitats to support this species.
White-bracted spineflower	<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	--/S3/1B.2	Annual herb found in coastal scrub (alluvial fans), Mojavean desert scrub, and pinyon and juniper woodlands at 300 – 1200 m elevation. Blooming period is April – June.	Low. Potentially suitable habitat for this species occurs within the San Jacinto River floodplain approximately 100 feet to the east of the survey area; however, no suitable habitat for this species occurs onsite.

Common Name	Scientific Name	Status (Federal/State/CRPR)	Habitat	Potential to Occur*
San Miguel savory	<i>Clinopodium chandleri</i>	--/S2/1B.2	Perennial shrub found in chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Specifically on rocky, gabbroic or metavolcanic substrate between 120 – 1,075 m.	Low. The survey area contains annual grasslands, but no suitable soils occur on the survey area.
Mojave tarplant	<i>Deinandra mahavensis</i>	--/SE/1B.3	An annual herb that is found in riparian scrub, coastal scrub and chaparral habitats, specifically in low sand bars in river beds and mostly in riparian areas or in ephemeral grassy areas between 640 – 1,600 m in elevation.	Low. Potentially suitable habitat for this species occurs within the San Jacinto River floodplain approximately 100 feet to the east of the survey area, however, no suitable habitat for this species occurs onsite or immediately adjacent.
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	FE/SE/1B.1	Annual herb occurring in sandy soils of alluvial origin in chaparral, cismontane woodland, alluvial fan coastal scrub maintained by infrequent flooding. Occurs at elevations of 200 – 760 m. Blooming period is April – May.	Low. Potentially suitable habitat for this species occurs within the San Jacinto River floodplain to the east of the project alignment approximately 100 feet to the east; however, no suitable habitat for this species occurs onsite or immediately adjacent.
California satintail	<i>Imperata brevifolia</i>	--/S3/2B.1	Perennial rhizomatous herb found in chaparral, coastal scrub, meadows and seeps, Mojavean desert scrub, riparian scrub at 0 – 1215 m elevation. Blooming period is September – May.	Low. Potentially suitable habitat for this species occurs within the San Jacinto River floodplain approximately 100 feet to the east of the survey area; however, no suitable habitat for this species occurs onsite.
Coulter's goldfields	<i>Lasthenia glabrata ssp. coulteri</i>	--/S2/1B.1	Annual herb found in wetland habitats. Microhabitats include coastal salt marshes, playas and vernal pools at elevations up to 1220 m. Blooming period is February - June .	Low. Wetland habitat may exist within the adjacent San Jacinto River located approximately 100 feet to the east; however, no marshes, playas, or vernal pools occur within the survey area or immediately adjacent.
Robinson's pepper-grass	<i>Lepidium virginicum var. robinsonii</i>	--/S3/4.3	Annual herb found within chaparral and coastal scrub habitats at elevations up to 885 m. Blooming period is January – July.	Low. Riversidean sage scrub occurs within the survey area, but this community has been introduced and is not expected to contain a seed bank for this species.
Little mousetail	<i>Myosurus minimus ssp.apus</i>	--/S2/3.1	Annual herb found in vernal pools, valley and foothill grasslands on alkaline soils between 20 – 640 m.	Low. Grasslands occur on the survey area, however, no vernal pools were observed and no soils capable of supporting vernal pools occur on the survey area.

Common Name	Scientific Name	Status (Federal/State/CRPR)	Habitat	Potential to Occur*
Mud nama	<i>Nama stenocarpa</i>	--/S1S2/2B.2	Annual/perennial herb found along freshwater lake margins, riverbanks, marshes and swamps. Blooming period is January – July; occurs at elevations from 5 -500 m.	Low. Potentially suitable habitat for this species occurs within the San Jacinto River floodplain approximately 100 feet to the east of the survey area. However, no suitable habitat occurs on the survey area to support this species.
Spreading navarretia	<i>Navarretia fossalis</i>	FT/S2/1B.1	Annual herb found in vernal pools, chenopod scrub, marshes and swamps, and playas. Associated with San Diego hardpan & San Diego claypan vernal pools, in swales and often surrounded by other habitat types between 30 – 655 m.	Low. Potentially suitable habitat for this species occurs within the San Jacinto River floodplain approximately 100 feet to the east of the survey area, however, no suitable habitat or soils (hardpan or claypan) for this species occurs onsite.
California Orcutt grass	<i>Orcuttia californica</i>	FE/SE/1B.1	Annual herb associated with vernal pools at elevations of 15-660 m.	Low. No vernal pools, vernal pool complexes, or soils capable of supporting vernal pools occur on the survey area.
Southern mountains skullcap	<i>Scutellaria bolanderi</i> <i>spp. austromontana</i>	--/S3/1B.2	Perennial rhizomatous herb that is found in chaparral, cismontane woodland, and lower montane coniferous forest, in gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425 – 2,000 m.	Low. Potentially suitable habitat occurs within the San Jacinto River floodplain approximately 100 feet to the east of the survey area, however no suitable habitat occurs onsite, or immediately adjacent, to support this species.
Salt Spring checkerbloom	<i>Sidalcea neomexicana</i>	--/S2/2B.2	Perennial herb found in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub and playas in alkaline, mesic soils. Found at elevations from 15 – 1530 m elevation. Blooming period is March – June.	Low. Planted Riversidean sage scrub occurs within the survey area, but this community has been introduced and is not expected to contain a seed bank for this species.
San Bernardino aster	<i>Symphyotrichum defoliatum</i>	--/S2/1B.2	Perennial rhizomatous herb that is found in meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, and valley and foothill grassland. It is specifically found in vernal mesic grassland or near ditches, stream and springs; as well as disturbed areas. Elevation limits are 2 – 2,040 m.	Low. The survey area lacks the hydrology needed to support this species, but does contain disturbed grassland areas. However, no occurrences of this species have been recorded within 5 miles of the survey area, reducing the potential for this species to occur.
California screw-moss	<i>Tortula californica</i>	--/S2S3/1B.2	A moss that occurs in chenopod scrub, and valley and foothill grassland habitats. It grows on sandy soils between 10 – 1,460 m elevation.	Low. Grassland habitat and sandy soils occurs on the survey area, however the grassland is fairly disturbed and includes a dominance of non-native species.

Common Name	Scientific Name	Status (Federal/State/CRPR)	Habitat	Potential to Occur*
Wright's trichocoronis	<i>Trichocoronis wrightii</i> <i>var. wrightii</i>	--/S1/2B.1	Annual herb found in alkaline soils of meadows and seeps, marshes and swamps, riparian forests, and vernal pools at 5 – 435 m elevation. Blooming period is May – September.	Low. Wetland habitat may exist within the adjacent San Jacinto River located approximately 100 feet to the east; however, no marshes, swamps, or vernal pools occur within or adjacent to the survey area.

Key:

Federal Listings

FE = Listed as endangered under the FESA

FT = Listed as threatened under the FESA

State Listings

SE = Listed as endangered under the CESA

ST= Listed as threatened under the CESA

SSC = Species of Special Concern (CDFW)

CNDDB Element Rankings

S1 = Less than 6 element occurrences (EOs) or 1,000 individuals or less than 2,000 acres (S1.1 very threatened, S1.2 threatened, S1.3 no current threats known)

S2 = 6-20 EOs or 1,000-3,000 individuals or 2,000-10,000 acres (S2.1 very threatened, S2.2 threatened, S2.3 no current threats known)

S3 = 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres (S3.1 very threatened, S3.2 threatened, S3.3 no current threats known)

S4 = Apparently secure; this rank is clearly lower than S3 but factors exist to cause some concerns; i.e., there is some threat, or somewhat narrow habitat.

CRPR Rankings

1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

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

2A: Plants Presumed Extirpated in California, But Common Elsewhere

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

3: Plants About Which More Information is Needed - A Review List

4: Plants of Limited Distribution - A Watch List

*Species with a low potential to occur do not require further discussion or evaluation because there is a low potential for the species to occur within the impact area of the Proposed Program or be affected by the Proposed Program. Species with a medium to high potential will be further evaluated for their potential to be impacted by the Proposed Program.

**TABLE 3.4-2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES**

Common Name	Scientific Name	Status (Federal/State)	Habitat	Potential to Occur*
Invertebrates				
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT/--	Endemic to the grasslands of the central valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Low. The project alignment occurs adjacent to grassland and agriculture areas that could support depressional pools, however, no areas capable of supporting seasonal pools are located within the survey area.
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>	FE/--	Found in sunny openings within chaparral and coastal sage scrub. Requires high densities of food plants which include: <i>Plantago erecta</i> , <i>P. ovata</i> , and <i>Castilleja exserta</i> .	Low. Suitable habitat for this species may exist within California sagebrush and California buckwheat habitat to the west of the survey area, but no suitable habitat occurs onsite.
Riverside fairy shrimp	<i>Streptocephalus woottoni</i>	FE/--	Known to occur in areas of swales/earth slump basins in grassland, chaparral and coastal sage scrub. Inhabit seasonally wet pools filled by winter/spring rains. Hatch in warm water later in the season.	Low. The survey area occurs adjacent to grassland and agriculture areas that could support depressional pools, however, no areas capable of supporting seasonal pools are located within the survey area.
Amphibians				
Arroyo toad	<i>Anaxyrus californicus</i>	FE/--	Found in semi-arid regions near washes or intermittent streams, including valley-foothill, desert riparian, and desert wash habitats. Specifically occurs in rivers with sandy banks, willow, cottonwoods, and sycamores. Prefers loose, gravelly areas of streams in drier parts of range.	Low. While suitable habitat for this species occurs within the San Jacinto River floodplain located approximately 100 feet to the east of the survey area. This species is known to aestivate up to 100 yards from breeding pools; however, there is no suitable habitat for this species within or immediately adjacent to the survey area.
Western spadefoot	<i>Spea hammondi</i>	--/SSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools or shallow temporary pools, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Low. High quality aestivation habitat for this species is present throughout the floodplain and upland margins of the adjacent San Jacinto River. The disturbed ROWs and other disturbed areas located within or adjacent to the project site are not expected to provide suitable habitat for this species.
Reptiles				
Orange-throated whiptail	<i>Aspidoscelis hyperythra</i>	--/SSC	Species requires intact habitat within chaparral, cismontane woodland and coastal scrub plant communities. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food-termites.	Low. Potentially suitable habitat for this species occurs approximately 100 feet to the east of the survey area within the San Jacinto River; however, the site lacks suitable scrub habitats.

Common Name	Scientific Name	Status (Federal/State)	Habitat	Potential to Occur*
Coastal whiptail	<i>Aspidoscelis tigris</i> <i>ssp. stejnegeri</i>	--/S2S3	Found in deserts and semi-arid areas with sparse vegetation; also found in woodland and riparian areas. Ground may be firm soil, sandy or rocky.	Medium. This is a relatively common species in the region and suitable habitat is present within the grassland areas adjacent to the project alignment.
Southern rubber boa	<i>Charina umbratica</i>	--/ST	Found in meadow & seep, riparian forest, riparian woodland and upper montane coniferous forests. Known from the San Bernardino and San Jacinto mountains; found in a variety of montane forest habitats. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	Low. Potentially suitable habitat for this species occurs approximately 100 feet east of the survey area within the San Jacinto River; however, the site lacks suitable habitat and streams.
Red-diamond rattlesnake	<i>Crotalus ruber</i>	--/SSC	Found in chaparral, woodland, grassland and desert areas. Occurs in rocky, dense vegetation, requires rodent burrows, cracks in rocks or surface cover objects.	Low. While grassland vegetation associated with the species is present adjacent to the survey area, it is generally known to occur in dense native vegetation with rocky substrate.
Coast horned lizard	<i>Phrynosoma blainvillii</i>	--/SSC	Known to occur in sandy washes with within chaparral or coastal scrub habitat. Requires loose soil for burial and abundant supply of harvester ants.	Medium. Potentially suitable habitat for this species occurs within sandy areas in the eastern portion of the site within the proposed recharge basins adjacent to the San Jacinto River.
Birds				
Cooper's hawk	<i>Accipiter cooperi</i>	--/WL	Found in riparian areas, and open woodlands, chiefly of open, interrupted or marginal type. Nests in riparian growths of deciduous trees and live oak woodlands.	Low. The only potential habitat for this species to nest is within the adjacent San Jacinto River floodplain; however suitable deciduous and evergreen trees are lacking.
Tricolored blackbird	<i>Agelaius tricolor</i>	BCC/SSC	Found in freshwater marshes, swamps, and wetlands. Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	Low. Potentially suitable habitat exists within the adjacent San Jacinto River approximately 100 feet to the east, but no suitable habitat occurs onsite.
Burrowing owl	<i>Athene cunicularia</i>	-/SSC	Found in a variety of habitats that contain small mammal burrows, including open, dry annual or perennial grasslands, agricultural, rangelands, deserts and scrublands characterized by low-growing vegetation.	High. The grasslands and disturbed habitats within the proposed recharge basins, well locations, and adjacent to the pipeline alignments contain suitable habitat to support this species. Potentially suitable burrows were also observed within the project-level impact areas during the habitat assessment.
Golden eagle	<i>Aquila chrysaetos</i>	BCC/FP	Rolling foothills, mountain areas, sage-juniper flats, & desert. Nests in cliff-walled canyons and large trees in open habitats	Low. There is a potential for this species to forage within the grasslands within and adjacent to the pipeline alignment, but no nesting habitat exists in the vicinity of the project.

Common Name	Scientific Name	Status (Federal/State)	Habitat	Potential to Occur*
Ferruginous hawk	<i>Buteo regalis</i>	BCC/WL	Found in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Also documented in dry and irrigated croplands. This species does not nest in Southern California.	Low. There is a potential for this species to forage within the grasslands within and adjacent to the ;pipeline alignment, but no nesting habitat exists in the vicinity of the project.
Northern harrier	<i>Circus cyaneus</i>	--/SSC	Nests on ground in shrubby vegetation, usually at marsh edge, nest built of a large mound of sticks in wet areas. Forages in grassland, from salt grass in desert sink to mountain marshes.	Medium. There is a potential for this species to forage within the grasslands within and adjacent to the pipeline alignment, and marginal nesting habitat is present within the San Jacinto River approximately 100 feet to the east.
Western yellow-billed cuckoo	<i>Coccyzus americanus</i> ssp. <i>occidentalis</i>	FT/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Often a dominance of willow mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Low. There is a potential for this species to nest within the riparian habitat within the San Jacinto River located approximately 100 feet to the east of the survey area; but no suitable nesting or foraging habitat exists on site.
White-tailed kite	<i>Elanus leucurus</i>	--/FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low. There is a potential for this species to nest within the riparian habitat within the San Jacinto River located approximately 100 feet to the east of the survey area; but no suitable nesting habitat exists on site. There is a potential for this species to forage within the grassland habitat adjacent to the pipeline alignment.
California horned lark	<i>Eremophila alpestris actia</i>	--/WL	Known to occur within the vicinity of marine intertidal and splash zone communities, short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats, and seeps.	High. Suitable foraging and nesting habitat is present within the grasslands and agriculture areas on and adjacent to the survey area.
Loggerhead shrike	<i>Lanius ludovicianus</i>	BCC/SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, & riparian woodlands, and desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Low. Marginal foraging habitat is present along the survey area, but the site lacks suitable nesting habitat. Potential nesting habitat is present within the San Jacinto River approximately 100 feet to the east of the survey area.
Coastal California gnatcatcher	<i>Poliptila californica</i> ssp. <i>californica</i>	FT/SSC	Coastal sage scrub habitat in arid washes, on mesas or on slopes of coastal hills. Permanent resident of coastal sage scrub below 2500 ft.	Low. Potentially suitable habitat for this species occurs within native scrub habitat on foothills approximately 100 feet to the west of the western portion of the pipeline alignment. However, there is no suitable nesting habitat within the survey area.
Mammals				
Dulzura pocket mouse	<i>Chaetodipus californicus femoralis</i>	--/SSC	Found in a variety of habitats including coastal sage scrub, chaparral and grassland in San Diego County. Is attracted to grass-chaparral edges.	Low. The proposed pipeline alignment occurs adjacent to grassland habitat, but the site lacks suitable scrub and chaparral habitat, particularly grass-chaparral edges to support this species.

Common Name	Scientific Name	Status (Federal/State)	Habitat	Potential to Occur*
Northwestern San Diego pocketmouse	<i>Chaetodipus fallax</i> <i>ssp. fallax</i>	--/SSC	Found in coastal scrub, chaparral, grasslands, sagebrush, etc. in sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Low. The survey area contains grassland habitat but lacks suitable native habitats, rocky soils and no occurrences have been recorded within 5 miles of the survey area.
San Bernardino kangaroo rat	<i>Dipodomys merriami</i> <i>parvus</i>	FE/SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Present. The proposed recharge basins in the eastern portion of the survey area, adjacent to the San Jacinto River, contains suitable habitat and soils to support this species. Focused surveys detected the presence of this species within the Mountain Avenue South basin. Additionally, several occurrences have been recorded immediately adjacent to the proposed basins and the proposed basins occur within Critical Habitat for this species.
Stephens' kangaroo rat	<i>Dipodomys</i> <i>stephensi</i>	FE/ST	Primarily found in annual and perennial grasslands, also occurs in coastal scrub and sagebrush with sparse canopy cover.	High. Suitable habitat for this species occurs within the grassland areas within and adjacent to the survey area, particularly at the Mountain Avenue South basin.
Western yellow bat	<i>Lasiurus xanthinus</i>	--/SSC	Found in valley foothill riparian, desert riparian, desert wash and palm oasis habitats. Roosts in trees, particularly palms, forages over water and among trees.	Low. Suitable roosting and foraging habitat for this species occurs in the adjacent San Jacinto River approximately 100 feet east of the survey area, but no suitable habitat is present on or immediately adjacent to the site.
San Diego black-tailed jackrabbit	<i>Lepus californicus</i> <i>ssp. bennettii</i>	--/SSC	Associated with open grassland and brushland, and coastal sage scrub habitats in southern California.	High. Suitable habitat for this species occurs in the grassland areas adjacent to the project alignment.
San Diego desert woodrat	<i>Neotoma lepida</i> ssp. <i>intermedia</i>	--/SSC	Coastal scrub of Southern California. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and on slopes.	Low. Planted Riversidean sage scrub habitat occurs within the proposed basins in the eastern portion of the project, but this community is not dense and is subject to ongoing adjacent disturbances from the road. No rock outcrops or rocky cliffs occur on the survey area. There is a potential for this species to occur within the San Jacinto River approximately 100 feet to the east of the survey area.
Southern grasshopper mouse	<i>Onychomys torridus</i> <i>ramona</i>	--/SSC	Found in desert areas, especially scrub habitats with friable soils for digging, prefers low to moderate shrub cover.	Low. Planted Riversidean sage scrub occurs within the basins in the eastern portion of the survey area, but is isolated and not suitable to support this species. Additionally, this species is typically found in desert environments as opposed to the urban and disturbed grassland areas on the project.

Common Name	Scientific Name	Status (Federal/State)	Habitat	Potential to Occur*
Los Angeles pocket mouse	<i>Perognathus longimembris</i> ssp. <i>brevinasus</i>	--/SSC	Lower elevation grasslands & coastal sage communities. Open ground with fine sandy soils. May not dig extensive burrows, hiding under weeds & dead leaves instead.	High. Suitable habitat for this species occurs in the eastern portion of the site within the proposed basins located adjacent to the San Jacinto River due to sandy soils and grassland habitat. The proposed basins also occur within a mandatory MSHCP survey area for the species.
American badger	<i>Taxidea taxus</i>	--/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Various habitats ranging from coastal sand dunes to montane coniferous forests. Needs open, uncultivated ground.	Low. The survey area occurs within urban areas with scattered grassland habitats that do not contain a dominance of native species and lacks sand dunes and forest habitat. No suitable burrows for this species were observed during the habitat assessment.

Key:

Federal Listings

FE = Listed as endangered under the FESA

FT = Listed as threatened under the FESA

BCC = Birds of Conservation Concern (USFWS)

State Listings

SE = Listed as endangered under the CESA

ST = Listed as threatened under the CESA

SSC = Species of Special Concern (CDFW)

WL = Watch List (CDFW)

CNDDDB Element Rankings

S1 = Less than 6 element occurrences (EOs) or 1,000 individuals or less than 2,000 acres (S1.1 very threatened, S1.2 threatened, S1.3 no current threats known)

S2 = 6-20 EOs or 1,000-3,000 individuals or 2,000-10,000 acres (S2.1 very threatened, S2.2 threatened, S2.3 no current threats known)

S3 = 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres (S3.1 very threatened, S3.2 threatened, S3.3 no current threats known)

S4 = Apparently secure; this rank is clearly lower than S3 but factors exist to cause some concerns; i.e., there is some threat, or somewhat narrow habitat.

? = indicates some uncertainty.

*Species with a low potential to occur do not require further discussion or evaluation because there is a low potential for the species to occur within the impact area of the Proposed Program or be affected by the Proposed Program. Species with a medium to high potential will be further evaluated for their potential to be impacted by the Proposed Program.

Special-Status Plant Species

Table 3.4-1 above includes the potential for occurrence for special-status plant species recorded within a nine quad search around the Proposed Program. Based on the existing conditions on site and habitat requirements for 29 special-status plant species, only one special-status plant species has a moderate or high potential to occur on the survey area. Munz's onion (*Allium munzii*), a federally- and state-listed endangered species, primarily occurs in native scrub, chaparral and woodland habitats, as well as grasslands with clay soils. There is a medium potential for this species to occur in an undeveloped area in the southwestern portion of the Proposed Program where the proposed 48" potable water pipeline travels through an undeveloped portion of land.

Due to the lack of native habitats, suitable soils and significant amount of disturbance on and adjacent to the Proposed Program, and recorded occurrences of species in the region, no other special-status plant species have a medium or high potential to occur.

Special-Status Wildlife Species

Based on the habitat requirements and potential for occurrence of 31 special-status wildlife species identified in **Table 3.4-2**, only nine special-status wildlife species are present or have a medium or high potential to occur on or immediately adjacent to the Proposed Program components. One special-status wildlife species, the San Bernardino kangaroo rat, a federally endangered species and SSC, is considered present as a result of focused habitat assessment surveys conducted on the proposed Mountain Avenue South site that identified sign of active use (HELIX, 2017). Special-status wildlife species with a high potential to occur include; Stephens' kangaroo rat (*Dipodomys stephensi*), a federally endangered and state threatened species; burrowing owl (*Athene cunicularia*), a SSC; Los Angeles pocket mouse (*Perognathus longimembris* ssp. *brevinasus*), a SSC; and, California horned lark (*Eremophila alpestris actia*), a Watch List species. Stephens' kangaroo rat and Los Angeles pocket mouse have the potential to occur within the eastern portion of the survey area within sandy soils on and immediately adjacent to the proposed recharge basins that occur adjacent to the San Jacinto River. Burrowing owl and California horned lark have a high potential to occur within the grassland and agricultural habitats that are located along and adjacent to a majority of the Proposed Program components including the potable water pipeline alignments, the four Mountain Avenue recharge basin sites, the Hewitt and Evans site, and Wells 201, 202, and 203. Suitable small mammal burrows to support burrowing owl and available ground-nesting opportunities for California horned lark within grasslands and disturbed habitats, occurs within and immediately adjacent to the Proposed Program components.

Special-status species with a medium potential to occur include northern harrier (*Circus cyaneus*), a SSC; San Diego black-tailed jackrabbit (*Lepus californicus* ssp. *bennettii*), a SSC; Coast horned lizard (*Phrynosoma blainvillii*), a SSC; and coastal whiptail (*Aspidoscelis tigris* ssp. *stejnegeri*) a S2S3 species in decline in California. Suitable habitat for all four species is present within the grassland and disturbed habitats on and immediately adjacent to the proposed water conveyance pipeline alignment and extraction well locations, as well as the proposed recharge basins in the eastern portion of the survey area adjacent to the San Jacinto River.

No other special-status wildlife species have a moderate or high potential to occur within or adjacent to the Proposed Program components.

Sensitive Natural Communities

Sensitive natural communities are those that are considered by the CDFW to be imperiled due to their decline in the region and/or their ability to support special-status plant and/or wildlife species. These communities include those that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA Section 15002(g). Sensitive natural communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. Loss of sensitive natural communities also can remove or reduce important ecosystem functions, such as water filtration by wetlands or bank stabilization by riparian woodlands.

The sensitive natural communities recorded within a 9-quad search around the Proposed Program include: Canyon Live Oak Ravine Forest, Desert Fan Palm Oasis Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Scrub, and Southern Sycamore Alder Riparian Woodland. The habitat assessment that was conducted confirmed that none of these natural communities are present within or immediately adjacent to the survey area, although the sensitive riparian communities may occur within the San Jacinto River floodplain more than 100 feet east from the survey area.

Jurisdictional Resources

The proposed recharge basins for the project are located adjacent to the San Jacinto River. The San Jacinto River is considered a Waters of the U.S. and State subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW. The potentially jurisdictional Meridian Channel also occurs immediately adjacent to the proposed recharge basins and stormwater pipelines. The Meridian Channel parallels the San Jacinto River, and connects to the San Jacinto River just downstream from the survey area. No other potentially jurisdictional features occur on or immediately adjacent to the survey area, including any ephemeral drainages and wetlands.

Wildlife Movement and Habitat Linkages

Movement, including seasonal migration of some species of fish and terrestrial or avian wildlife, both seasonally and in response to resource availability, is vital for survival in virtually all ecosystems. Movement corridors provide pathways for wildlife between otherwise disconnected open space areas that may be separated by unusable areas such as mountains, oceans, deserts and more recently, large-scale human development. Top tier predators, meso-predators and prey species alike utilize such corridors for travel and refuge between open space areas, as well as for wintering and breeding grounds. Some movement corridors are created naturally by topography and have been used by wildlife for hundreds or thousands of years. Natural features commonly utilized for local wildlife movement and migration include creeks, rivers, canyons and valleys, because these low-lying areas are generally flat and include an overstory of vegetation that provides shelter from predators. Some natural wildlife movement corridors have been replaced by

urban corridors developed by humans, such as bridge crossings, underpasses and culverts, which are often used by wildlife to move between habitat areas.

The survey area is located within an urbanized area of the City of San Jacinto that is surrounded by development and agricultural land. Several parcels along the proposed conveyance pipeline alignment are undeveloped, potentially allowing for the local movement of wildlife species. However, these undeveloped parcels are not contiguous and do not function as a corridor between two larger stands of habitat. The San Jacinto River is located to the east of the proposed recharge basins that functions as a wildlife movement corridor for wildlife moving through the region, particularly from the Lakeview Mountains to the northwest to the San Jacinto Mountains to the east. Due to the close proximity of the proposed recharge basins to the San Jacinto River and the agricultural land adjacent to the conveyance pipelines, there is a potential for wildlife species to forage on and adjacent to the pipeline alignments when moving through the area. However, due to the amount of surrounding development and available areas of undeveloped land in the region, no portions of the survey area provide a suitable corridor for wildlife species to move from one area of undeveloped habitat to another.

Critical Habitat

Under the FESA the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) are required to designate Critical Habitat for endangered and threatened species. Critical Habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated Critical Habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated Critical Habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical Habitat delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

As shown on **Figure 3.4-3**, the proposed Mountain Avenue North, South and East recharge basin sites, as well as a small portion of the raw water pipeline, occur within USFWS-designated Critical Habitat for San Bernardino kangaroo rat. Critical Habitat for San Bernardino kangaroo rat was designated by USFWS as a Final Rule on November 17, 2008. In general, habitat for this species includes alluvial fans with loose rock, gravel and sand substrates deposited by streams, and includes floodplains, washes, and braided channels. Suitable substrates consist of sand, loam, and gravelly soils associated with alluvial processes allowing San Bernardino kangaroo rat to dig burrows for cover and rearing offspring (USFWS, 2007). Associated alluvial sage scrub habitat is also necessary for normal behavior by providing cover and food resources. Both suitable cover and soils is required to adequately support this species.

The Federal Register Notice describes three Primary Constituent Elements (PCEs) that are essential for conservation for the species, and include:

1. Alluvial fans, washes, and associated floodplain areas containing soils consisting predominately of sand, loamy sand, sandy loam, and loam, which provide burrowing habitat necessary for sheltering and rearing offspring, storing food in surface caches, and movement between occupied patches.

2. Upland areas adjacent to alluvial fans, washes, and associated floodplain areas containing alluvial sage scrub habitat and associated vegetation, such as coastal sage scrub and chamise chaparral, with up to approximately 50 percent canopy cover providing protection from predators, while leaving bare ground and open areas necessary for foraging and movement of this subspecies.
3. Upland areas adjacent to alluvial fans, washes, and associated floodplain areas, which may include marginal habitat such as alluvial sage scrub with greater than 50 percent canopy cover with patches of suitable soils (PCE 1) that support individuals for repopulation of wash areas following flood events.

The proposed Mountain Avenue North and East recharge basins are located in upland areas adjacent to the San Jacinto River, separated by a levee. The San Jacinto River floodplain located approximately 100 feet to the east of the survey area contains alluvial fan sage scrub vegetation; but the vegetation communities observed within the project survey area lacks the necessary canopy cover and friable soils suitable for digging burrows. However, the storm water return pipelines that are proposed within ruderal grassland with sandy soils could provide suitable cover for San Bernardino kangaroo rat. Due to the close proximity of the basins and storm water return pipelines to the San Jacinto River, there is a potential for San Bernardino kangaroo rat to forage and find refuge in these areas when moving through the area to suitable habitats located within the San Jacinto River floodplain approximately 100 feet east of the survey area. However, the survey area lacks suitable PCE's necessary for conservation to support the species even though the survey area is located adjacent to the San Jacinto River, which does contain suitable PCE's for San Bernardino kangaroo rat.

Additionally, a portion of the proposed potable water pipeline will occur within USFWS-designated Critical Habitat for spreading navarretia (*Navarretia fossalis*) and thread-leaved brodiaea (*Brodiaea filifolia*). Critical Habitat for spreading navarretia was designated in 2010 and includes 5,477 acres of ephemeral wetland intermixed with upland habitat and soils that support ponding in Riverside County. Thread-leaved brodiaea Critical Habitat was designated in 2011 and includes 1,100 acres with clay soils and a variety of native upland habitats. The proposed potable water pipeline that would occur within Critical Habitat in the southwestern portion of the project alignment will be installed entirely within existing public ROWs that are entirely disturbed and subject to ongoing disturbances from vehicular use. Therefore, there is no potential for spreading navarretia or thread-leaved brodiaea to occur within the ROWs and this portion of the pipeline alignment would not have effect on the designated Critical Habitat of these species.

3.4.2 Regulatory Setting

The following provides a general description of the applicable regulatory requirements for the Proposed Program, including federal, state, and local policies and guidelines.

Federal

FESA (USC, Title 16, § 1531 through 1543)

The FESA and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines

species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and NMFS share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in the California Code of Regulations (CCR) Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing “take” (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of “harm” includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. “Harass” is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at 50 CFR 13 and 17 for species under the jurisdiction of USFWS and 50 CFR 217, 220, and 222 for species under the jurisdiction of NMFS.

Migratory Bird Treaty Act (16 USC 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

Federal Clean Water Act (33 USC 1251 through 1376)

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project operator for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered

by USACE that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies. USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as that portion that falls within the limits of the ordinary high water mark (OHWM). Typically, the OHWM corresponds to the two-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (USACE, 1987).

State

California Endangered Species Act **(CFG Code § 2050 et seq.)**

The CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under CFG Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b).

CFG Code § 1602

Under these sections of the CFG Code, the project operator is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or

other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events.

Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

California Fully Protected Species

California fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the CFG Code. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

CFG Code §§ 2080 and 2081

Section 2080 of the CFG Code states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.” Pursuant to Section 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess State-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

CFG Code §§ 3503, 3503.5, 3513, and 3800

Section 3503 of the CFG Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including its nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction. This statute does not provide for the issuance of any type of incidental take permit.

Section 3800 of the CFG Code affords protection to all nongame birds, which are all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. Section 3513 of the CFG Code upholds the MBTA by prohibiting any take or

possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA.

CEQA Guidelines, § 15380

Although threatened and endangered species are protected by specific federal and state statutes, *CEQA Guidelines* § 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the CFG Code dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected, and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDDB as sensitive are considered by CDFW to be significant resources and fall under the *CEQA Guidelines* for addressing impacts. Local planning documents such as general plans often identify these resources as well.

Native Plant Protection Act

(CFG Code §§ 1900 through 1913)

California's NPPA requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

California Wetland Definition

Unlike the federal government, California has adopted the Cowardin et al. (1979) definition of wetlands. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50 percent of the aerial vegetative cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by state agencies consists

of the union of all areas that are periodically inundated or saturated or in which at least seasonal dominance by hydrophytes may be documented or in which hydric soils are present.

Section 401 Clean Water Act

Under Section 401 of the CWA, the local RWQCB, Santa Ana RWQCB, must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the state is required.

Porter-Cologne Water Quality Control Act

The RWQCB also has jurisdiction over waters deemed ‘isolated’ or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

Regional

Riverside County Tree Ordinance

Ordinance No. 559 of the Riverside County municipal code regulates the removal of any living native tree on any parcel or property greater than 0.5 acre in size, located in an area above 5,000 feet in elevation, and within the unincorporated area of the County of Riverside. Applications for a permit to remove one or more living native trees shall be made in writing to the Planning Director on the form provided by the Riverside County Planning Department. The application shall be accompanied by a filing fee set forth in County Ordinance No. 671 and an environmental assessment pursuant to the Rules to Implement the CEQA.

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional HCP focused on the conservation of species and their associated habitats in western Riverside County. The primary goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region. The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The MSHCP was developed to serve as a HCP pursuant to the NCCP Act and Section 10(a)(1)(B) of the FESA. The MSHCP encompasses 1.26 million acres and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line as well as jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. The overarching purpose of the plan is to balance development and economic interests with species and lands conservation goals. The MSHCP permits development of lands and take of species “in exchange for the assembly and management of a coordinated MSHCP Conservation Area” (Western Riverside County Regional Conservation Authority, 2003a).

The City of Hemet and the City of San Jacinto have adopted ordinances to implement the MSHCP, which addresses habitat protection issues throughout the County and Cities and establishes “criteria areas,” which require high levels of habitat protection. All development projects within criteria areas are first required to undergo an extensive habitat assessment and if necessary, undergo an acquisition process from the Western Riverside County Regional Conservation Authority (RCA). However, EMWD is not a Participating Entity in the MSCHP and is not required to demonstrate Program consistency with the goals and provisions of the MSHCP as they pertain to biological resources.

3.4.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to biological resources. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or USFWS.
3. 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.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

Impacts and Mitigation Measures

Special-Status Species

Impact BIO-1: Implementation of the Proposed Program and the Proposed Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or UUSFWS.

Program-Level Impacts

Future development of the Proposed Program has the potential to result in impacts to special-status species that have a potential to occur or are known to occur in the existing habitat located within the proposed Mountain Avenue North, East, and South sites, as well as the proposed

monitoring, extraction, and conveyance facilities. The proposed facilities that may result in future impacts to special-status species are discussed in detail below. Given the timeline of Proposed Program implementation over the next 20 to 30 years, the status of the species identified may change over time. As explained below, future environmental review would be required to confirm species occurrence and to identify other potential species in the Proposed Program areas.

Recharge, Monitoring, Extraction and Conveyance Facilities

Suitable habitat for San Bernardino kangaroo rat, Stephens' kangaroo rat, Los Angeles pocket mouse, and burrowing owl occurs within the three Proposed Program recharge basin and monitoring well sites (Mountain Avenue North, East, and South). These species have a potential to occur within the grassland, disturbed, and ruderal habitats associated with each proposed recharge basin.

San Bernardino Kangaroo Rat

A focused habitat evaluation survey for San Bernardino kangaroo rat was conducted within the proposed Mountain Avenue South site, which resulted in observed sign of current occupancy on the site (HELIX, 2017). This finding of presence also substantiates previous trapping efforts on the Mountain Avenue South site that captured San Bernardino kangaroo rat. Therefore, this species is determined to currently occupy the proposed Mountain Avenue South site, and potential impacts to this species could occur from implementation of recharge and monitoring facilities at this site. Direct impacts to San Bernardino kangaroo rat may occur during construction of recharge basins and monitoring wells at the Mountain Avenue South site as part of the Proposed Program. Any activity that results in take of an individual San Bernardino kangaroo rat would be considered significant. Once constructed, the basins and monitoring wells would no longer provide suitable habitat for the species and operation and maintenance would not result in any additional impacts.

A habitat assessment survey for San Bernardino kangaroo rat was also conducted for the proposed Mountain Avenue North and Mountain Avenue West sites in 2016 (ESA, 2016). The survey determined that these two sites do not contain suitable habitat or burrows, and are not connected to suitable habitat within the adjacent San Jacinto River. Therefore, there would be no potential for San Bernardino kangaroo rat to occur within the proposed Mountain Avenue North and Mountain Avenue West sites, and development of recharge basins and monitoring wells at these sites would result in no significant impacts to this species.

Stephens' Kangaroo Rat

Stephens' kangaroo rat has a high potential to occur within the grassland habitat located within the Mountain Avenue North and South sites. This species is able to burrow into compacted soils, increasing the potential for this species to occur. Additionally, a portion of the conveyance pipeline that occurs in the City of Hemet is within the Stephens' Kangaroo Rat HCP and thus the Proposed Program is within the known range of this species. Direct impacts to Stephens' kangaroo rat may occur during construction of recharge basins and monitoring wells at the Mountain Avenue North and South sites as part of the Proposed Program. Any activity that results in take of an individual Stephens' kangaroo rat would be considered significant. Once

constructed, the basins and monitoring wells would no longer provide suitable habitat for the species, and operation and maintenance would not result in any additional impacts.

Los Angeles Pocket Mouse

The presence of Los Angeles pocket mouse was assessed during the San Bernardino kangaroo rat focused habitat evaluation surveys. Los Angeles pocket mouse was also detected during the survey due to the presence of sign and suitable burrows. Therefore, this species is also determined to be present on the proposed Mountain Avenue South site. Direct impacts to Los Angeles pocket mouse may occur during construction of recharge basins and monitoring wells at the Mountain Avenue South sites as part of the Proposed Program. Any activity that results in take of an individual San Bernardino kangaroo rat would be considered significant. Once constructed, the basins and monitoring wells would no longer provide suitable habitat for the species, and operation and maintenance would not result in any additional impacts.

Burrowing Owl

The presence of burrowing owl was also assessed during the San Bernardino kangaroo rat focused surveys. Burrowing owl was determined to not be present at the proposed Mountain Avenue South site due to the lack of observed individuals and sign (i.e. whitewash, feathers, pellets). Although, ground squirrel burrows were observed adjacent to the proposed Mountain Avenue North site. Additionally, burrowing owl has a medium potential to occur within the proposed Mountain Avenue East site and within the proposed extraction well area depending on locations due to the presence of suitable habitat. However, focused surveys for this species have not been conducted to determine their presence/absence.

Other Special-Status Wildlife Species

Five additional species that are listed as California SSC, State sensitive, or Watch List species, have a medium to high potential to occur on or immediately adjacent to disturbed habitat and grassland areas associated with the recharge basins, extraction wells, and conveyance pipelines. These species include the coastal whiptail, coast horned lizard, California horned lark, northern harrier, and San Diego black-tailed jackrabbit. All of these species generally occur within grassland habitats with non-compacted soils that occur partly within and immediately adjacent to the Proposed Program components, including Mountain Avenue North, East, and South sites, the Hewitt and Evans site, and the raw, potable, and well water conveyance pipelines. Therefore, construction activities may result in potential direct and indirect impacts to these species. If these species are found to occur on the survey area they may be directly impacted through habitat removal or indirectly impacted through harassment if nesting adjacent to the project. Focused protocol and preconstruction surveys will be required within suitable habitat areas identified above to determine the presence of these five species, followed by avoidance measures if presence is confirmed. Additional avoidance and minimization measures for California horned lark and northern harrier are provided in the discussion of nesting birds below.

Nesting Birds

The Proposed Program occurs within portions of undeveloped areas characterized as Riversidean sage scrub, California annual grassland, ruderal grassland, disturbed habitat, and agricultural land, as well as developed public ROW that is entirely disturbed or with some portions containing

landscaped trees within public sidewalks. Many of the areas located along the proposed conveyance pipeline alignments contain suitable nesting habitat for birds protected under the MBTA and CFG Code §3500, including California horned lark and northern harrier. Potential Program impacts to nesting birds may occur particularly during the general avian nesting season of February through August. Habitat for ground-nesting species will be directly impacted as a result of construction/grading for the Program, and while no trees are proposed to be removed as part of the Program, the close proximity of trees to the recharge basins, monitoring and extraction facilities, and conveyance pipelines may result in indirect impacts to active nests from construction noise and vibration. Impacts to birds outside of their nesting season would be negligible, as birds are expected to be temporarily displaced while construction is occurring and would forage in areas outside of the construction impact zone. The operation and maintenance phase of the Program would not result in a significant impact to nesting birds as no additional activities are proposed during this phase that could result in a significant impact to nesting birds.

Special Status Plant Species

A review of the CNDDDB and CNPS determined that 38 special-status plant species have been recorded within the vicinity of the survey area. Based on existing habitat and soils on the project alignment 29 species were determined to have a potential to occur within the habitats located within or adjacent to the proposed program conveyance facilities, of which only Munz's onion was determined to have a medium potential to occur within the grassland habitat located in an undeveloped area immediately adjacent to the proposed conveyance pipeline in the southwestern portion of the Proposed Program. Munz's onion is listed as a federally-endangered and state-threatened species and impacts to a single individual plant would be considered significant. However, the proposed potable water conveyance pipeline will be constructed entirely within existing ROW and will not encroach into adjacent grassland habitat areas that could support this species. Therefore, even if present, this species would not be impacted by the Proposed Program and the construction or operation and maintenance of the proposed potable water conveyance pipeline will have a less than significant impact on this species.

Impact Determination

Construction of the Proposed Program has the potential to result in a significant impact to special-status wildlife species with a potential to occur or are known to occur within the survey area for the Proposed Program. Implementation of **Mitigation Measure BIO-PMM-1** would require general biological resources surveys be conducted at all Proposed Program facilities prior to construction to confirm previously known species occurrences or to establish presence of new species. If species currently known to occur are confirmed by the survey, **Mitigation Measures BIO-PMM-2** through **BIO-PMM-5** below would be implemented. With implementation of these mitigation measures, impacts to special-status species would be mitigated to a less than significant level.

Program Mitigation Measures

BIO-PMM-1: Future Surveys. Given that future projects to be implemented under the Proposed Program would be constructed over a 20- to 30-year timeline, a general biological resources survey shall be conducted at each Proposed Program facility location to confirm previously known species occurrences or to establish presence of new species. If special-status species are detected, preconstruction surveys, focused surveys and/or

trapping efforts shall be implemented as indicated in Mitigation Measures BIO-PMM-2 through BIO-PMM-5, or as determined by EMWD depending on the species present.

BIO-PMM-2: Focused Trapping Efforts. For future projects to be constructed as part of the Proposed Program at Mountain Avenue South and Mountain Avenue North and in areas determined to potentially contain San Bernardino kangaroo rat, Stephens' kangaroo rat, and Los Angeles pocket mouse, presence/absence shall be confirmed with a focused trapping effort by a USFWS-permitted biologist. If San Bernardino kangaroo rat or Stephens' kangaroo rat are determined to be present and would be impacted by the Proposed Program, an Incidental Take Permit (ITP) from CDFW and USFWS would be required, which would include measures to mitigate for impacts to both species. CDFW would not require an ITP for impacts to San Bernardino kangaroo rat since it is listed as a California SSC. Formal consultation with both USFWS and CDFW would also be required through Section 10 of the FESA and Section 2081 of CFG Code. Agency consultation and permitting would require demonstration of adequate mitigation to reduce impacts and would also require the preparation of a HCP. If Los Angeles pocket mouse is found during trapping, impacts to this species would be reduced through implementation of BIO-PMM-3 below.

BIO-PMM-3: Preconstruction Surveys. For all future projects to be constructed as part of the Proposed Program, EMWD shall conduct pre-construction surveys, as necessary, for species found during surveys conducted under BIO-PMM-1. If species are present, such as Los Angeles pocket mouse, construction Best Management Practices (BMPs) (such as limiting vehicle speed and covering trenched areas) and Worker Environmental Awareness Program (WEAP) training conducted by a knowledgeable biologist shall be implemented during construction activities to avoid and minimize potential impacts to these species and reduce impacts to a less than significant level.

BIO-PMM-4: Focused Burrowing Owl Surveys. Burrowing owl habitat identified by surveys conducted in BIO-PMM-1 for future projects to be implemented under the Proposed Program will require focused protocol surveys for burrowing owl, to be conducted by a qualified biologist following protocol outlined in the most recent CDFW report for burrowing owl mitigation (currently: 2012 Staff Report on Burrowing Owl Mitigation). If burrowing owl is observed during the focused surveys and found to be potentially impacted by the Proposed Program, additional avoidance and mitigation measures will be required, such as constructing Proposed Program facilities outside the breeding season, establishing a suitable buffer around an active burrow, restricting activities around certain times of year, and excluding and relocating owls. A Burrow Exclusion Plan approved by CDFW will be required to implement exclusion and relocation. Permanent impacts to land that previously contained burrowing owls may also require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation with CDFW.

BIO-PMM-5: Nesting Birds. Construction of the future projects part of the Proposed Program shall avoid work during the general avian nesting season (February through August). If construction of Proposed Program facilities must occur during the general avian nesting season, a pre-construction clearance survey should be conducted within 10 days prior to the start of construction activities to determine if any active nests or nesting activity occurs on or within 500 feet of the Proposed Program components. If no sign of

nesting activity is observed, construction may proceed without potential impacts to nesting birds.

If an active nest is observed during the pre-construction clearance survey, an adequate buffer should be established around the active nest depending on sensitivity of the species and proximity to Proposed Program impact areas and as deemed appropriate by a monitoring biologist. On site construction monitoring may also be required to ensure that no direct or indirect impacts occur to the active nest. Program activities may encroach into the buffer only at the discretion of the monitoring biologist. The buffer should remain in place until the nest is no longer active as determined by the monitoring biologist.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge and Monitoring Facilities

The proposed Mountain Avenue West site previously contained agricultural land but has recently been rough graded and no longer contain row crops. In its current condition, the proposed Mountain Avenue West site consists of disturbed habitat devoid of vegetation and does not contain suitable habitat to support any special-status species. Additionally, the perimeter of Mountain Avenue West where the proposed monitoring wells would be installed is primarily disturbed habitat areas that contain compacted bare ground and non-native species, reducing the suitability of the habitat to support any special-status species. Therefore, no impacts to any special-status plant and wildlife species would occur as a result of construction, or operation and maintenance, of the recharge and monitoring facilities for the Proposed Project.

Extraction and Conveyance Facilities

Special Status Wildlife

Based on existing habitat and soils within the Proposed Project survey area, five special-status wildlife species have a medium to high potential to occur on or immediately adjacent to the grassland and disturbed habitats within Wells 201, 202, and 203, the treatment/blending and disinfection facilities at Hewitt and Evans site, and portions of the well water collector pipelines, and may be impacted during construction activities. These five species include coastal whiptail, coast horned lizard, burrowing owl, California horned lark, and San Diego black-tailed jackrabbit. These five species all generally occur within grassland habitats with non-compacted soils. Therefore, construction activities may result in potential impacts to these species if these species are found to occur on or immediately adjacent to the Project area and may be directly impacted through habitat removal or indirectly impacted through harassment if nesting adjacent to the Proposed Project. These potential direct and indirect impacts would be considered significant.

Nesting Birds

Portions of the Proposed Project sites are undeveloped areas characterized as Riversidean sage scrub, California annual grassland, ruderal grassland, disturbed habitat, and agricultural land, as well as developed public ROW that is entirely disturbed or with some portions containing landscaped trees within public sidewalks. Many of the areas located within the proposed

conveyance pipelines contains suitable nesting habitat for birds protected under the MBTA and CFG Code 3500, particularly during the nesting season of February through August. Habitat for ground-nesting species would be directly impacted as a result of construction/grading for the Proposed Project. While no trees are proposed to be removed as part of the Proposed Project, the close proximity of trees to the project alignment may result in indirect impacts to active nests from construction noises and vibrations. Impacts to birds outside of their nesting season would be negligible, as birds are expected to be temporarily displaced while construction is occurring and would forage in areas outside of the construction impact zone.

Impact Determination

Construction of the proposed extraction Wells 201, 202, and 203, the treatment/blending and disinfection facilities at Hewitt and Evans, and all pipelines may result in impacts to coastal whiptail, coast horned lizard, burrowing owl, California horned lark, and San Diego black-tailed jackrabbit and nesting birds in general, should they be determined to be present. Impacts to these special-status species that would result in the greater population to drop below self-sustaining levels would be considered significant. Additionally, Project activities that result in nest failure or direct mortality to a nesting bird would be considered a significant impact. Implementation of **Mitigation Measures BIO-MM-1** through **BIO-MM-3** would reduce potential impacts to less than significant levels for the extraction, treatment, and conveyance facilities.

Mitigation Measures

BIO-MM-1: Focused Burrowing Owl Surveys. Focused protocol surveys for burrowing owl shall be conducted prior to initiation of the Proposed Project in areas that contain suitable habitat for the species. The focused protocol surveys shall be conducted by a knowledgeable biologist following protocol outlined in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If burrowing owl is observed during the focused surveys and found to be potentially impacted by the Proposed Project, additional avoidance and mitigation measures will be required. Avoidance measures include constructing Proposed Project facilities outside the breeding season, establishing a suitable buffer around an active burrow, restricting activities around certain times of year, and excluding and relocating owls. A Burrow Exclusion Plan approved by CDFW will be required to implement exclusion and relocation. Permanent impacts to land that previously contained burrowing owls may also require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation with CDFW.

BIO-MM-2: Preconstruction Surveys. EMWD shall conduct pre-construction surveys for coastal whiptail, coast horned lizard, California horned lark, and San Diego black-tailed jackrabbit to determine if these species are present within the Proposed Project impact areas for extraction and conveyance facilities. If any of these species are present, construction BMPs and WEAP training shall be implemented during construction activities to avoid and minimize potential impacts to these species. Example BMPs to be implemented during construction include limiting vehicle speed onsite to 15 miles per hour, covering trenches and open pits, if trenches are left open adding wooden ramps in the trench to allow small mammals to escape, temporarily fencing work areas using silt fencing, and cleaning up all trash and debris daily. Additional avoidance measures may include establishing a buffer around the species an onsite monitoring should a population of a special-status species be found. Additionally, the WEAP training will be conducted

by a knowledgeable biologist to identify species that could be impacted and summarize the construction BMPs to be implemented. Construction personnel will be instructed to not directly harm any special-status species onsite by halting activities until the species can move to offsite areas or contact a qualified biologist to move the species out of harm's way.

BIO-MM-3: Nesting Birds. Construction of the Proposed Project shall avoid the general avian nesting season of February through August. If construction of Proposed Project facilities that contain or are immediately adjacent to suitable nesting habitat must occur during the general avian nesting season, a pre-construction clearance survey should be conducted within 10 days prior to the start of construction activities to determine if any active nests or nesting activity is occurring on or within 500 feet of the Proposed Project. If no sign of nesting activity is observed, construction may proceed without potential impacts to nesting birds. If an active nest is observed during the pre-construction clearance survey, an adequate buffer should be established around the active nest depending on sensitivity of the species and proximity to Proposed Project impact areas. Typical buffer distances include up to 300-feet for passerines and up to 500-feet for raptors, but can be reduced as deemed appropriate by a monitoring biologist. On site construction monitoring may also be required to ensure that no direct or indirect impacts occur to the active nest. Proposed Project activities may encroach into the buffer only at the discretion of the monitoring biologist. The buffer should remain in place until the nest is no longer active as determined by the monitoring biologist.

Significance Conclusion

Less than Significant with Mitigation

Sensitive Natural Communities

Impact BIO-2: Implementation of the Proposed Program and the Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or USFWS.

Program-Level Impacts

Recharge Facilities, Monitoring Facilities, Extraction Facilities and Conveyance Facilities

The sensitive natural communities recorded within a 9-quad search around the Proposed Program include: Canyon Live Oak Ravine Forest, Desert Fan Palm Oasis Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Scrub, and Southern Sycamore Alder Riparian Woodland. The habitat assessment confirmed that there are no sensitive natural communities located on or immediately adjacent to the Proposed Program impact areas. None of these natural communities are present within or immediately adjacent to the Proposed Program area, although sensitive riparian communities may occur within the San Jacinto River floodplain more than 100 feet east from the Proposed Program.

Impact Determination

No sensitive natural communities occur within areas to be affected by the Proposed Program. No sensitive natural communities will be impacted through construction, or operation and maintenance of the Proposed Program.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The sensitive natural communities recorded within a 9-quad search around the Proposed Project include: Canyon Live Oak Ravine Forest, Desert Fan Palm Oasis Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Scrub, and Southern Sycamore Alder Riparian Woodland. The habitat assessment confirmed that there are no sensitive natural communities located on or immediately adjacent to the Proposed Project impact areas. None of these natural communities are present within or immediately adjacent to the Proposed Project, although sensitive riparian communities may occur within the San Jacinto River floodplain more than 100 feet east from the Proposed Project area.

Impact Determination

No sensitive natural communities occur within areas to be affected by the Proposed Project. No sensitive natural communities will be impacted through construction, or operation and maintenance of the Proposed Project.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Wetlands

Impact BIO-3: Implementation of the Proposed Program and the Proposed Project would not 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.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Based on the results of the habitat assessment, and a review of aerial photography (historic and current), as well as topographic maps, there are no natural drainage features or potentially

jurisdictional resources located on or immediately adjacent to the Proposed Program impact area. Additionally, due to unsuitable soils and lack of surface hydrology, no federally-protected wetlands occur or have the potential to occur. Construction, or operation and maintenance, of the recharge, monitoring, extraction, and conveyance facilities would all occur in upland areas that lack any state or federally protected waters or wetlands.

Impact Determination

Construction, and operation & maintenance, of the Proposed Program would not result in any impacts to State or federally protected waters or wetlands. There would be no impact to any jurisdictional features that would require mitigation and permitting from USACE, CDFW, or RWQCB.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Based on the results of the habitat assessment, and a review of aerial photography (historic and current), as well as topographic maps, there are no natural drainage features or potentially jurisdictional resources located on or immediately adjacent to the Proposed Project impact area. Additionally, due to unsuitable soils and lack of surface hydrology, no federally-protected wetlands occur or have the potential to occur. Construction, or operation and maintenance, of the recharge, monitoring, extraction, and conveyance facilities would all occur in upland areas that lack any State or federally protected waters or wetlands.

Impact Determination

Construction, or operation and maintenance, of the Proposed Project would not result in any impacts to State and federally protected waters or wetlands. There will be no impact to any jurisdictional features that would require mitigation and permitting from USACE, CDFW, or RWQCB.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Migratory Wildlife Corridors

Impact BIO-4: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring, Extraction, and Conveyance Facilities

The Proposed Program is located within an urbanized area of the Cities of San Jacinto and Hemet, and partially within unincorporated Riverside County, and is surrounded by residential and commercial development. Most of the aboveground facilities associated with the Proposed Program are located on vacant lands interspersed within the developed landscape. As such, no portions of the Proposed Program function as a wildlife movement corridor. These undeveloped parcels are fragmented and do not function as a corridor between large stands of habitat. The Proposed Program is located adjacent to, and west of, the San Jacinto River floodplain that does function as a wildlife movement corridor between the San Jacinto Mountains to the east and the Lakeview Mountains to the northwest. The River is located outside of the Proposed Program area and would not be impacted as a result of implementation of the Proposed Program. Additionally, the Proposed Program is proposing to install recharge basins surrounded by fencing that will allow wildlife to pass through, and proposed conveyance pipelines would be located entirely underground and predominantly within existing ROW, such that no significant physical alteration to the land would occur to create a barrier that would impede the movement of wildlife through the general area.

Impact Determination

Construction, or operation and maintenance, of the Proposed Program would occur on fragmented parcels that do not function as a wildlife movement corridor. The Proposed Program is adjacent to the San Jacinto River and would not affect the use of the river as a wildlife corridor.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project is located within an urbanized area of the City of San Jacinto and is surrounded by residential and commercial development. Similar to the Proposed Program, the aboveground facilities associated with the Proposed Project are located on vacant lands interspersed within the developed landscape. As such, there are no portions of the Proposed Project that function as a wildlife movement corridor. These undeveloped parcels are fragmented and do not function as a corridor between large stands of habitat. The Proposed Project recharge facilities are adjacent to, and west of, the San Jacinto River floodplain that does function as a wildlife movement corridor between the San Jacinto Mountains to the east and the Lakeview

Mountains to the northwest. The River is located outside of the Proposed Project area and will not be impacted as a result of constructing the Proposed Project. Additionally, the Proposed Project is proposing to install recharge basins at Mountain Avenue West, that will remain open and available to avian species and small ground-dwelling wildlife species. The Mountain Avenue West site would be enclosed by wrought iron perimeter fencing with poles set wide enough apart for native resident species to pass through. Proposed conveyance pipelines would be located entirely underground and predominantly within existing ROW, such that no significant physical alteration to the land would occur to create a barrier that would impede the movement of wildlife through the general area. Therefore, no potential impacts to established wildlife corridors are anticipated to occur by the Proposed Project.

Impact Determination

Construction, or operation and maintenance, of the Proposed Project would occur on fragmented parcels in the City of San Jacinto that do not function as a wildlife movement corridor. The Proposed Project is adjacent to the San Jacinto River and would not affect the use of the river as a wildlife corridor.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Local Policies and Ordinances

Impact BIO-5: Implementation of the Proposed Program and the Proposed Project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program occurs primarily within the City of San Jacinto, and partially within the City of Hemet and unincorporated County of Riverside. The removal of trees within each jurisdiction is regulated by a respective Tree Ordinance that protects native and/or street trees. Ordinance No. 559 of the County of Riverside municipal code regulates the removal of any living native tree on any parcel or property greater than one-half acre in size, located in an area above 5,000 feet in elevation and within the unincorporated area of the County of Riverside.

Applications for a permit to remove one or more living native trees must be made in writing to the County Planning Director.

Chapter 12.20 of the City of San Jacinto municipal code regulates the removal of any public or street tree. As stipulated, no trees or shrubs shall be planted upon or removed from any of the public parks, public grounds, public streets, alleys, ways and parking places in the city. Additionally, any trees or shrubs which shall be removed in accordance with this Chapter of the

municipal code to facilitate construction or removal of buildings shall be replaced, where possible or practical, upon the completion of such removal or construction at the expense of the person for whose convenience the same were removed. Any such replacement shall be made only when the particular tree or shrub has been approved by the parks and recreation commission.

Section 2-227 of the City of Hemet municipal code regulates planting and removal of trees and shrubs on public property. No trees or shrubs shall hereafter be planted or removed upon or from any of the public parks, public grounds, public streets, alleys and ways and parking places in the city. Any trees or shrubs which are removed in accordance with this section to facilitate construction or removal of buildings shall be replaced, where possible or practical, upon the completion of such removal or construction, at the expense of the person for whose convenience the trees or shrubs were removed, and any such replacement shall be made only when the particular tree or shrub has been approved by the park commission.

The Proposed Program is not anticipated to result in the removal of any native, street, or public tree located within the Proposed Program area. Therefore, there is not a potential for the Proposed Program to result in a significant impact related to local tree policies. However, in the event that a tree must be removed by the Proposed Program, EMWD would obtain the necessary tree removal permit from the appropriate jurisdiction in accordance with the municipal codes described above.

Impact Determination

As currently designed, the Proposed Program would not conflict with any local tree policies and ordinances.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project occurs entirely within the City of San Jacinto and construction of the Proposed Project will be required to adhere to Chapter 12.20 of the City of San Jacinto municipal code. As stipulated, no trees or shrubs shall be planted upon or removed from any of the public parks, public grounds, public streets, alleys, ways and parking places in the city. Additionally, any trees or shrubs which shall be removed in accordance with this Chapter of the municipal code to facilitate construction or removal of buildings shall be replaced, where possible or practical, upon the completion of such removal or construction at the expense of the person for whose convenience the same were removed. Any such replacement shall be made only when the particular tree or shrub has been approved by the parks and recreation commission.

The Proposed Project is not anticipated to result in the removal of any native, street, or public tree located within the Proposed Project area. Therefore, there is not a potential for the Proposed Project to result in a significant impact related to local tree policies. However, in the event that a

tree must be removed by the Proposed Project, EMWD would obtain the necessary tree removal permit from the City of San Jacinto in accordance with the city municipal code.

Impact Determination

As currently designed, the Proposed Project would not conflict with any local tree policies and ordinances.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

HCP and NCCP

Impact BIO-6: Implementation of the Proposed Program and the Proposed Project would not conflict with provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program is located within the boundaries of the MSHCP and partially within the Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP). Although the Proposed Program occurs within the boundaries of the MSHCP, EMWD is a special water district and is not a signatory to the MSCHP. Therefore, the Proposed Program is not required to demonstrate consistency with the goals and provisions of the MSHCP, as they pertain to biological resources. Additionally, no other regional HCP's such as the SKRHCP would apply to the Proposed Program.

Impact Determination

Construction, or operation and maintenance, of the Proposed Program will not conflict with the provisions of any regional or local HCPs or NCCPs

Program Mitigation Measures

None Required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project is located within the boundaries of the MSHCP. Although the Proposed Project occurs within the boundaries of the MSHCP, EMWD is a special water district and is not a signatory to the MSCHP. Therefore, the Proposed Project is not required to demonstrate

consistency with the goals and provisions of the MSHCP, as they pertain to biological resources. Additionally, no other regional HCP's would apply to the Proposed Project.

Impact Determination

Construction, or operation and maintenance, of the Proposed Project will not conflict with the provisions of any regional or local HCPs or NCCPs

Mitigation Measures

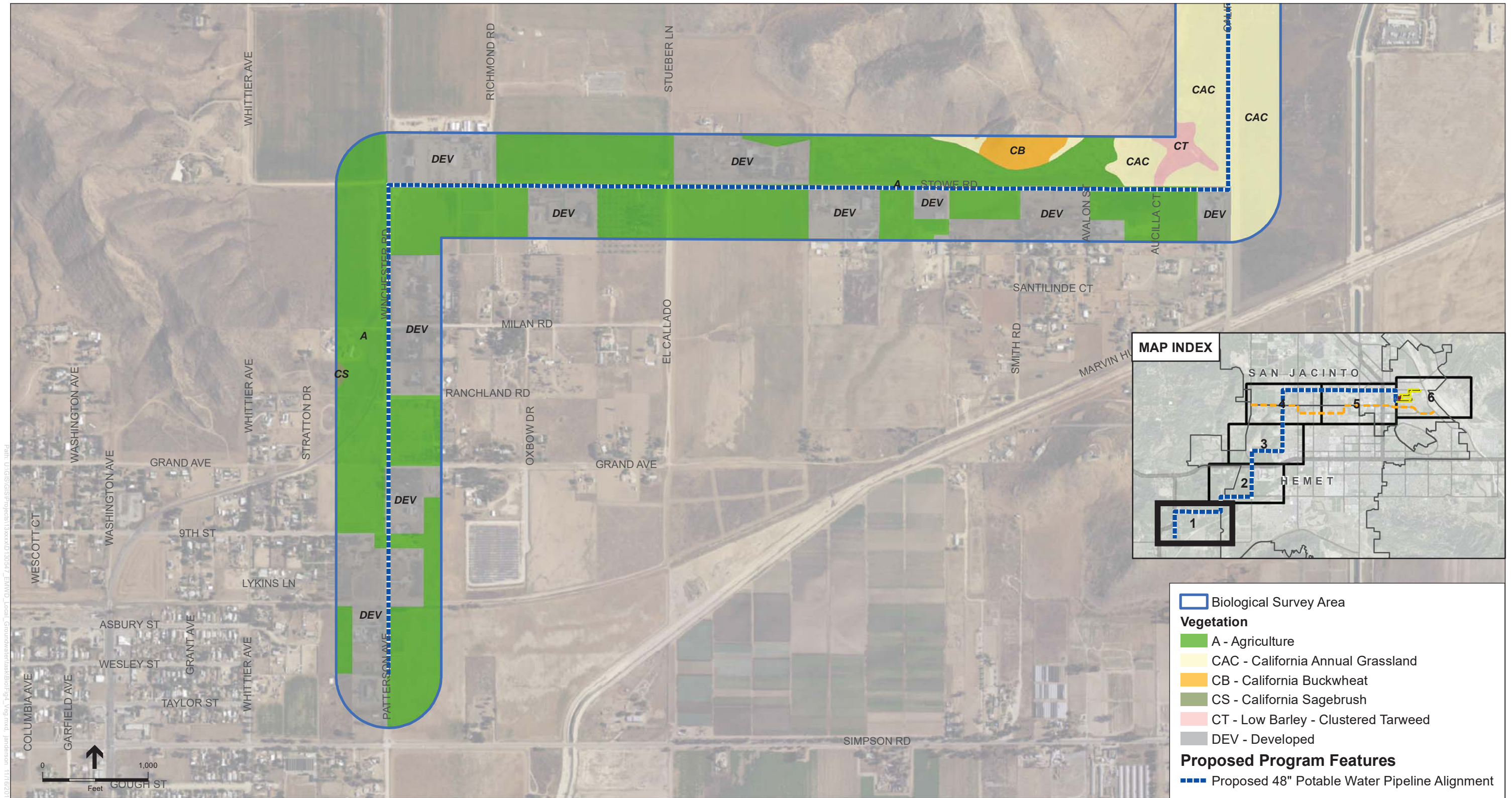
None Required.

Significance Conclusion

No Impact

3.4.4 References

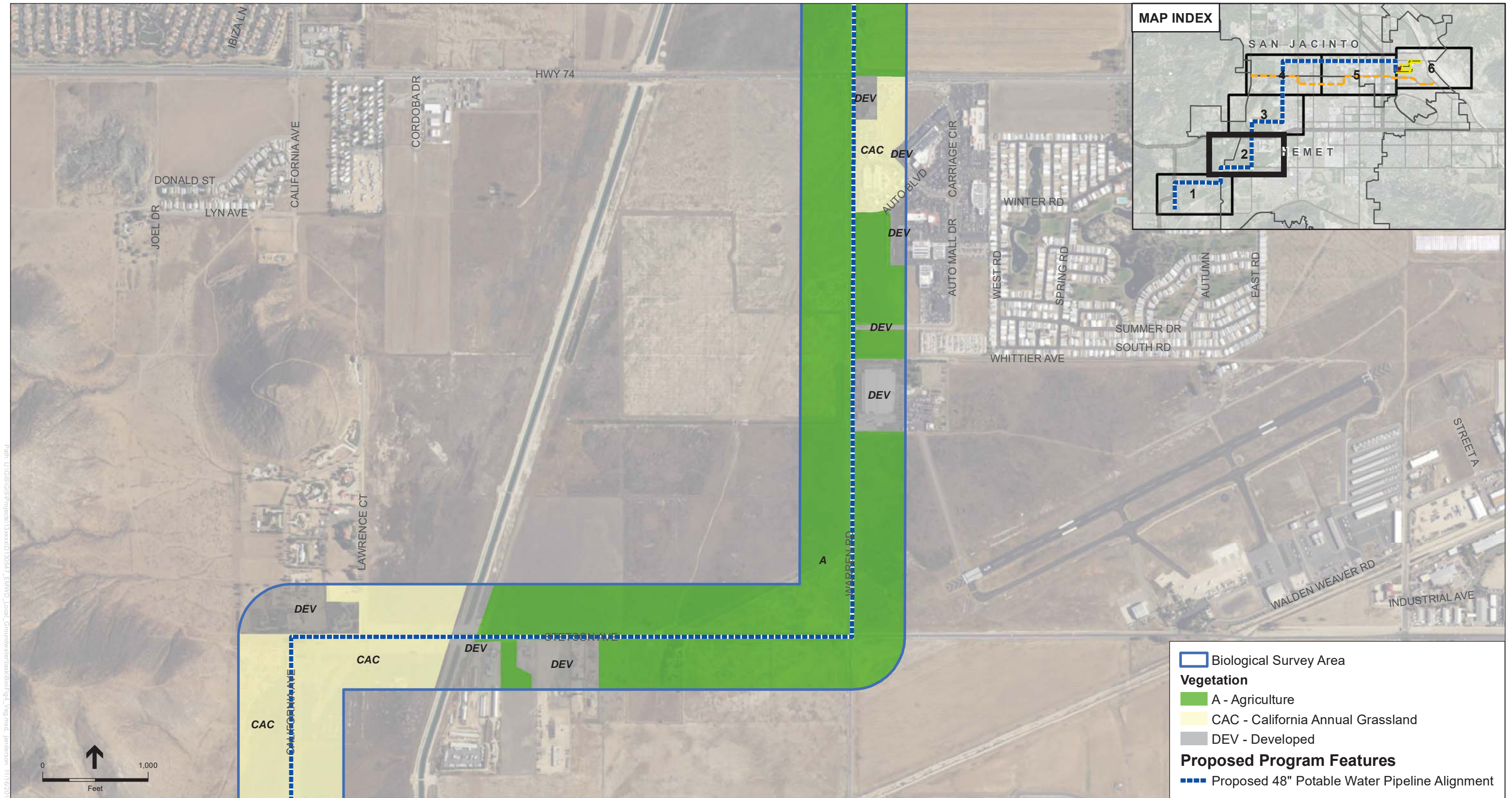
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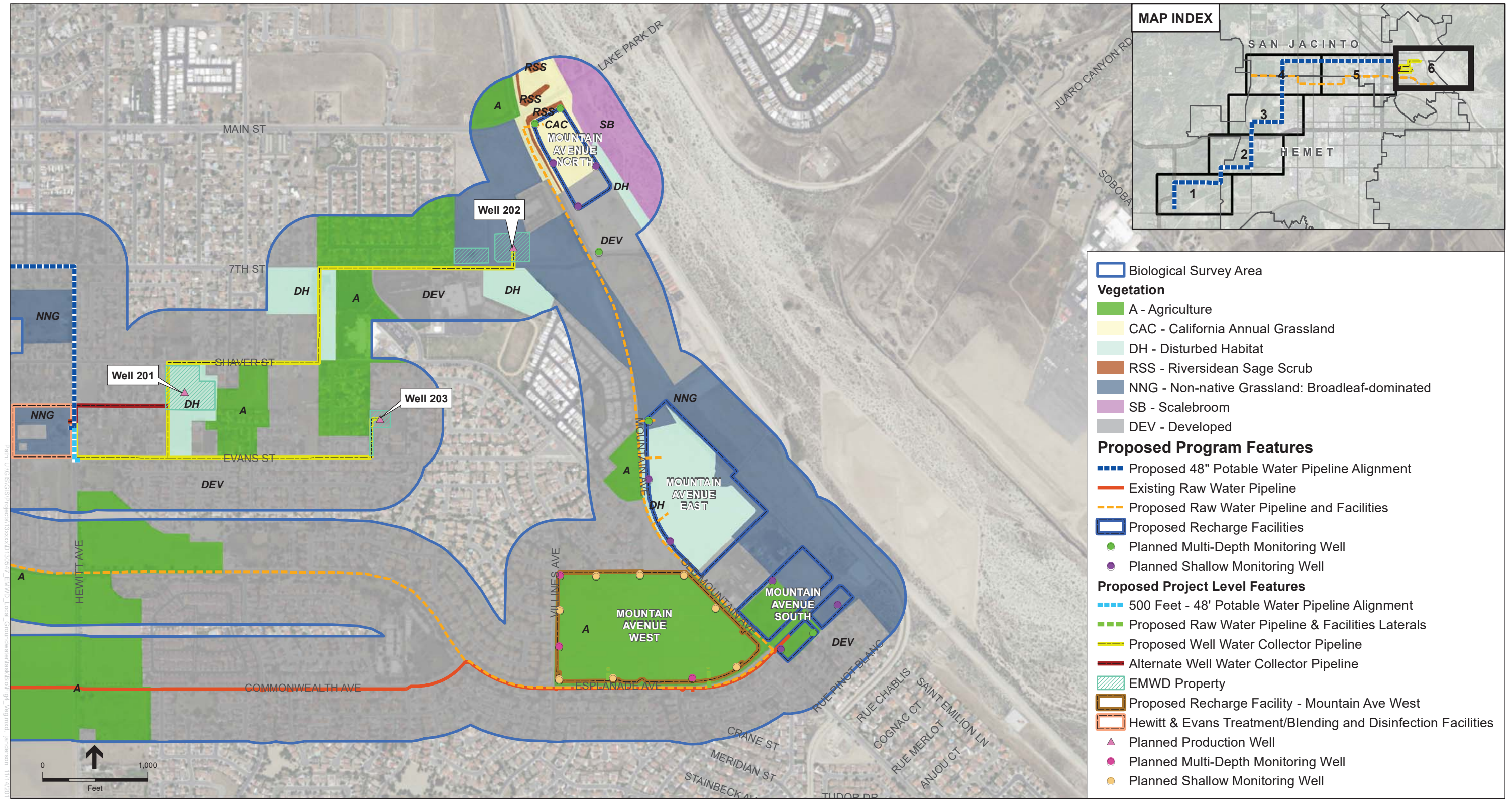


SOURCE: ESRI; Riverside County GIS.

EMWD Local Groundwater Banking Project . 130547.05

Figure 3.4-1
Vegetation

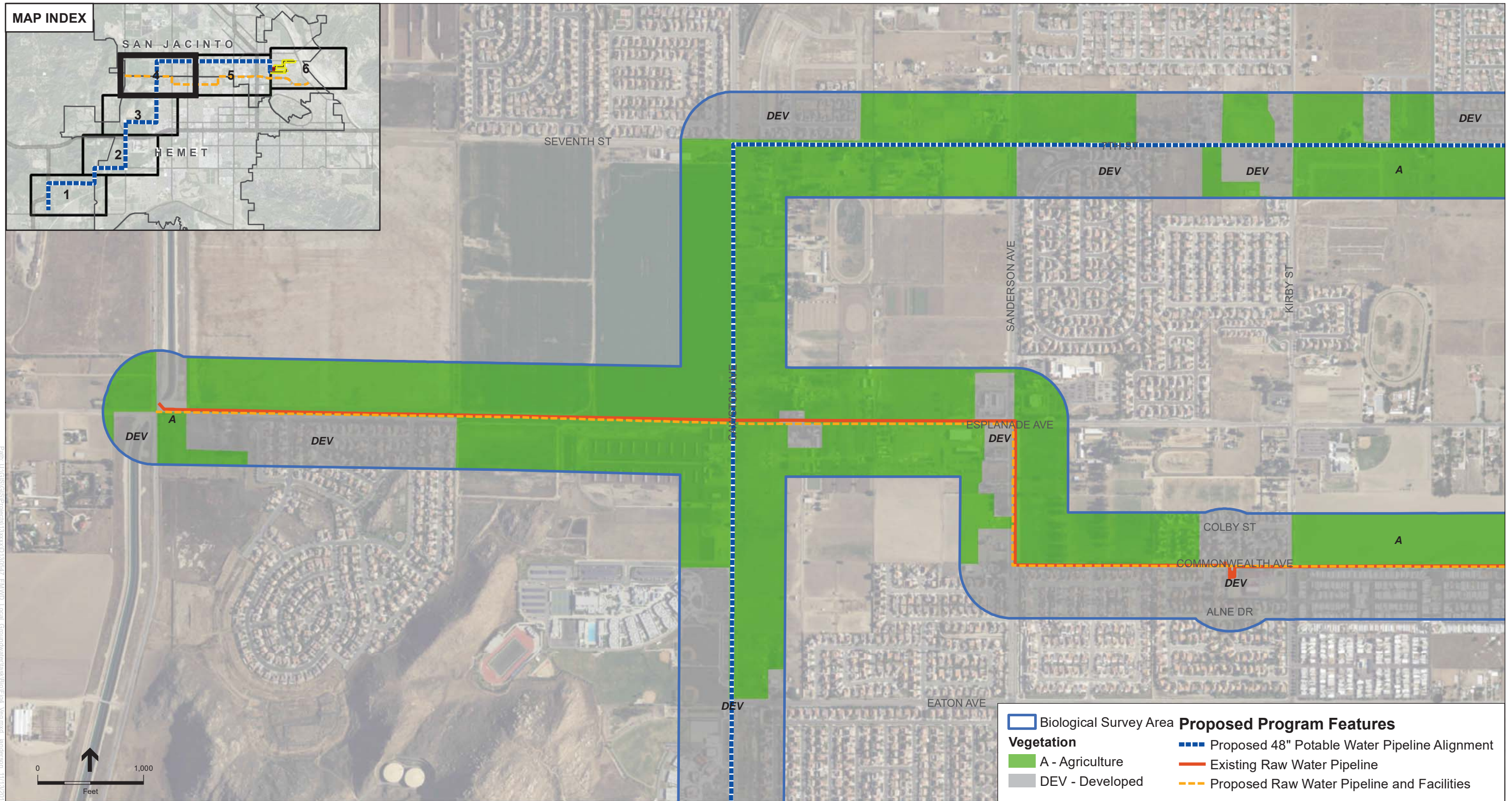




SOURCE: ESRI; Riverside County GIS.

EMWD Local Groundwater Banking Project . 130547.05

Figure 3.4-3
Vegetation



SOURCE: ESRI; Riverside County GIS.

EMWD Local Groundwater Banking Project . 130547.05

Figure 3.4-4
Vegetation

3.5 Cultural Resources

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to cultural resources. The section includes a description of the environmental setting to establish baseline conditions for cultural resources; a summary of the regulations related to cultural resources; and an evaluation of the Proposed Program and Project's potential effects on cultural resources.

The analysis included a records search at the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC), a Sacred Lands File (SLF) search conducted by the California Native American Heritage Commission (NAHC) and Native American outreach, and a database search at the Natural History Museum of Los Angeles County (LACM). In addition, the Proposed Project components were subject to Phase 1 cultural resources surveys; paleontological resources surveys were not conducted.

3.5.1 Environmental Setting

Regional Setting

The Proposed Program is located in the cities of San Jacinto, Hemet, and Winchester, within Riverside County, California. Regional geographic features surrounding the area include the San Jacinto Mountains to the east and the Lakeview Mountains to the northwest. The San Jacinto Mountains reach 10,834 feet at San Jacinto Peak, which is located approximately 14.5 miles east of the proposed Project. The San Jacinto River is the principal drainage for the San Jacinto Mountains, which flows southwest in two forks and eventually empties into Lake Hemet and Mystic Lake. The climate in the region is Mediterranean, with dry summers and moderately wet winters. Plant communities typically found within the region include a mosaic of xeric habitats such as alluvial scrub and buckwheat scrub (ESA, 2017). Riparian (associated with or dependent on a water course) or woodland habitat associated with riverine or other aquatic features traverse the landscape as well. Most waterways in the region are intermittent and convey only seasonal flows, including the San Jacinto River. Most of the smaller creeks have been channelized within urban areas (ESA, 2017).

Program Setting

Much of the western portion of the Proposed Program is comprised of agricultural lands punctuated by residential development. The eastern portion of the Proposed Program is located within the southern portions of the City of San Jacinto. Much of the Proposed Program area within the City of San Jacinto is surrounded by residential and commercial development. The eastern-most components of the Proposed Program bound the western side of the San Jacinto River, which has remained relatively undeveloped and is comprised of existing basins and levees, and is dominated by ruderal vegetation.

Project Area Setting

The Proposed Project setting is the same as that described above for the eastern portion of the Proposed Program setting, located with the City of San Jacinto and surrounded by residential and commercial development.

Prehistoric Setting

While it is not certain when humans first came to California, their presence in coastal southern California by about 11,000 before present (B.P.) has been well documented. In western Riverside County, few Early Holocene (11,000 to 8,000 B.P.) sites are known to exist. One exception is site CA-RIV-2798, which contains deposits dating to as early as 8,580 cal. B.P. (Grenda, 1997). During the Early Holocene, the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

During the Middle Holocene (8,000 to 4,000 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy in coastal and inland southern California. The processing of plant foods, particularly acorns, increased, a wider variety of animals were hunted, and trade with neighboring regions intensified (Byrd and Raab, 2007).

Native populations became less mobile during the Late Holocene (4,000 B.P. to A.D. 1769) as populations began to gather in small sedentary villages with satellite resource-gathering camps (Byrd and Raab, 2007). Around 1,000 B.P., there was an episode of sustained drought, known as the Medieval Climatic Anomaly, which likely led to changes in subsistence strategies in order to deal with the substantial stress on resources (Jones and Schwitalla, 2008). Asphaltum (tar), seashells and steatite were traded from southern California to the Great Basin. Major technological changes included the advent of the bow and arrow, which largely replaced the use of the dart and atlatl (Byrd and Raab, 2007). Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are representative of the Late Holocene.

Ethnographic setting

Luiseno

The Luiseno were named after Mission San Luis Rey, to which many of them were relocated following its establishment by the Spanish in 1798. The language of the Luiseno people belongs to the Cupan group of the Takic subfamily, which is part of the larger Uto-Aztecan language family (Bean and Shipek, 1978). Luiseno territory includes portions of northern San Diego, southern Orange, and Riverside Counties, and would have encompassed a diverse environment including lagoons and marshes, coastal areas, inland river valleys, foothills, and mountains.

The Luiseno subsisted on small game, coastal marine resources, and a wide variety of plant foods such as grass seeds and acorns. Luiseno houses were conical thatched reed, brush, or bark structures. The Luiseno inhabited permanent villages centered around patrilineal clans, each headed by a chief, and were typically located in proximity to a food or water source, or in defensive locations, often near valley bottoms, streams, sheltered coves or canyons, or coastal

strands (Sparkman, 1908; Bean and Shipek, 1978). It is estimated that there may have been around 50 Luiseño villages with a population of about 200 each at the time of the first Spanish contact (Bean and Shipek, 1978).

Today, there are six federally recognized tribes in California who share Luiseño tribal affiliation, language, and culture, including the La Jolla Band of Luiseño Indians (La Jolla), Rincon Band of Luiseño Indians (Rincon), Pauma Yuima Band of Mission Indians (Pauma), Pechanga Band of Luiseño Indians (Pechanga), Pala Band of Mission Indians (Pala), and Soboba Band of Luiseño Indians (Soboba).

Cahuilla

The Cahuilla spoke a language belonging to the Cupan group of the Takic subfamily (Bean, 1978). The Cahuilla are generally divided into three groups based on their geographic setting: the Pass Cahuilla of the Beaumont/Banning area; the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains; and the Desert Cahuilla from the Coachella Valley, as far south as the Salton Sea. The Cahuilla occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges.

Villages were placed near canyons that received substantial precipitation or were adjacent to streams and springs (Bean, 1978). House structures of the Cahuilla ranged from “brush shelters to dome-shaped or rectangular structures 15-20 feet long” (Bean, 1978). Cahuilla social structure revolved around clans and exogamous moieties (components connected through inter-marriage). Hunting, in conjunction with the exploitation of a variety of available resources, governed Cahuilla subsistence strategy. The material culture of the Cahuilla was extensive and varied, and included pottery, ornamental items, and a number of knapped stone tools.

Today, there are nine federally recognized tribes in California who share Cahuilla tribal affiliation, language, and culture, including the Agua Caliente Band of Cahuilla Indians (Agua Caliente), Augustine Band of Cahuilla Indians (Augustine), Cabazon Band of Mission Indians (Cabazon), Cahuilla Band of Mission Indians, Los Coyotes Band of Cahuilla and Cupeño Indians (Los Coyotes), Morongo Band of Mission Indians (Morongo), Ramona Band of Cahuilla Indians (Ramona), Santa Rosa Band of Cahuilla Indians (Santa Rosa), and Torres-Martinez Desert Cahuilla Indians (Torres-Martinez).

Historic Setting

Juan Bautista de Anza was the first recorded European visitor to the Proposed Program area. He is credited with the discovery of an inland route from Sonora to the northern coast of California in 1774, bringing him through much of what is now known as Riverside County, via the San Jacinto Mountains (Rolle, 2003). With de Anza, the colonization of Alta California began in earnest. With the opening of the overland route, Spanish pueblos were established, evolving into the Spanish system of governance.

The Spanish established missions in California to encourage the assimilation of Native populations to Spanish customs, language, and religion (Horne and McDougall, 2003). Mission San Luis Rey, located in modern-day Oceanside approximately 40 miles southwest of the

Proposed Program area, established a cattle ranch in the San Jacinto Valley in 1820 (City of San Jacinto, 2015). The ranch was named for Saint Hyacinth, San Jacinto in Spanish, from which the valley took its name.

In 1821, Mexico gained independence from Spain, and the California missions were subsequently secularized. Mission property was largely transferred to civil administrators and then to private owners through land grants. The Proposed Project area is located within the former 35,500-acre San Jacinto Viejo land grant, bestowed upon Jose Antonia Estudillo in 1842 by Governor Pio Pico (City of San Jacinto, 2015). After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall, 2003).

The Mexican-American War of 1846-1848 led to the cessation of California to the United States as part of the Treaty of Guadalupe Hidalgo, and California attained statehood in 1850 (Starr, 2007). After the discovery of gold in northern California in 1848, a huge influx of people from other parts of North America flooded into California. The transcontinental railroad came to the region in 1869, bringing industry and settlers to the area; the City of Riverside became the first of these colonized areas in what is now Riverside County. Cattle ranches were slowly replaced by citrus farming and agriculture, industries of major importance to the populace of the area now known as Riverside County.

Brief History of the Proposed Program Area

San Jacinto

In the late 1860s, the Estudillo family began selling their portion of Rancho San Jacinto, prompting the first American settlers to move into the San Jacinto Valley. By 1868, a community developed on the south side of the valley, near the San Jacinto River, and by 1869, a school district was established (City of San Jacinto, 2015).

Sometime between 1868 and 1870, a Russian immigrant named Procco Akimo established the first general store in the region (City of San Jacinto, 2015). His store was located on the west side of Hewitt Street, between Old 2nd Street and Evans Street (formerly Mountain Avenue) within the Hewitt and Evans Treatment Facilities site (Johnson, 2014). A cluster of other businesses soon appeared, including a blacksmith shop, a livery stable, and a saloon, spurring the growth of the small community (Johnson, 2014). In 1878, Akimo sold his store to Henry T. Hewitt, a prominent pioneer in early San Jacinto (Mathes and Brigandi, 2015; Warneke and Holzclaw, 2008). In partnership with Joseph Jordan and Emmaline (McCleary) Jordan, Hewitt expanded the store to include a post office, courtroom, and boardinghouse, with Emmaline helping manage the business (Mathes and Brigandi, 2015; Warneke and Holzclaw, 2008). Hewitt rebuilt the property in the mid-1880s as the Palma Hotel, a 2-story brick building containing 52 rooms (The Daily Courier, 1888; Mathes and Brigandi, 2015).

In March 1882, author Helen Hunt Jackson traveled through San Jacinto while researching articles on California missions for *Century Magazine*, staying at Hewitt and Jordan's boardinghouse. In 1883 she re-visited the area just days after Juan Diego, a local Cahuilla Indian, was killed by Sam Temple for allegedly stealing his horse from Hewitt and Jordan's corral; an event that is reflected

in the climax of Jackson's immensely popular novel *Ramona* published in 1884 (Mathes and Brigandi, 2015).

In 1882-1883, a group of Los Angeles investors created the San Jacinto Land Association and laid out a new town site less than 2 miles away from Hewitt's growing community. The two towns, known as "Old" San Jacinto and "New" San Jacinto, vied to become the social and commercial centers of the valley. In 1888, the Santa Fe railroad built a branch line from Perris to "New" San Jacinto and "Old" San Jacinto eventually faded away (Howell, 1912). The new City of San Jacinto was incorporated that same year on April 9, 1888 (City of San Jacinto, 2015).

In 1897, Riverside County purchased the Palma Hotel for use as a county hospital. The hospital was damaged by fire in 1898, but re-built onsite. In 1899, a 6.8-magnitude earthquake damaged the building so severely that it was torn down and the hospital was moved (Warneke and Holzclaw, 2008). The portion of the Hewitt and Evans Treatment Facilities site where the hotel/hospital was located appears to have remained largely vacant ever since, with the exception of a house that was located there during the 1960s to 1980s.

Hemet

Francisco Estudillo sold 3,000 acres of Rancho San Jacinto to Edward L. Mayberry, Albert H. Judson and Peter Potts in 1886, who quickly sold some of their interests Hancock M. Johnston. These four men, along with Mayberry's San Francisco capitalist friend William Whittier, purchased another 3,000 acres from H.T. Hewitt, which provided the basis for the Lake Hemet Company and the Hemet Land Company (City of Hemet, n.d.). In 1895, the Lake Hemet Water Company completed a dam to create Lake Hemet and provide a reliable water source for the region (LHMWD, 2008).

Edward L. Mayberry built a three-story brick hotel on Florida Avenue between Harvard Street and State Street, and William Whittier built a warehouse, an opera house, and business shops on North Harvard Street (City of Hemet, n.d.). In 1893, residences and businesses in the town of Hemet were buying domestic water from the Lake Hemet Water Company, and farmers were using irrigation water on their alfalfa fields, fruit orchards and row crops, particularly potatoes (City of Hemet, n.d.). In 1899, Whittier acquired full control of the Hemet Land Company and started the Bank of Hemet, built rental cottages, and established a water filtration system and a stage line to Idyllwild. The City of Hemet was incorporated in 1910.

The character of Hemet changes dramatically in the early 1960s with the development of Sierra Dawn, the county's first mobile home subdivision. Other mobile home parks and retirement housing developments followed, and Hemet became known as a retirement community (City of Hemet, n.d.). Presently, the economy of Hemet is based primarily on service to the senior community.

Winchester

The Winchester town site was surveyed and laid out in 1887, and named for Amy Winchester, a local land owner. The San Jacinto Valley Railway arrived in May 1888. By 1890, the town had a population of 200, with a brick business block, two warehouses, a hotel, store, blacksmith shop,

tin shop, feed stable, wagon shop, and two physicians (McKenna, n.d.). Today, Winchester is a rural farming community with a population of 2,534 and is serviced by Highway 79 and Simpson Road.

San Diego Aqueduct System

The First San Diego Aqueduct was constructed as a result of the World War II population boom in San Diego. As war-time needs outstripped the local water supply, President Franklin D. Roosevelt quickly authorized the U.S. Bureau of Reclamation (BOR) to complete designs for an aqueduct to transport water from the San Jacinto Portal of the Colorado River Aqueduct (CRA) to San Diego (Crawford, 2010).

Construction of Pipeline 1 of the First San Diego Aqueduct began on September 12, 1945 and was completed in November 1947. By January 1951, the addition of another pipeline (Pipeline 2) was proposed (Crawford, 2010). Pipeline 2, constructed by BOR, roughly parallels Pipeline 1 and the two pipelines share common tunnels and inverted siphons and operate as single units (BOR, 2012). In 1956, a Second San Diego Aqueduct (Pipeline 3) was under consideration. Construction began on January 15, 1957, and was completed by 1960. Pipeline 4 was added to the Second San Diego Aqueduct in 1969/1970 and Pipeline 5 was added in 1982 (BOR, 2012).

San Jacinto Valley Railway

The San Jacinto Valley Railway was built by Riverside County entrepreneurs C.W. Smith, Fred Perris, and J.A. Green who obtained a charter from the Atchison, Topeka, and Santa Fe Railroad (ATSF) to form the San Jacinto Valley Railway Company with the purpose of building a railway connecting the city of Perris to the eastern San Jacinto Valley (Holterhoff, 1914). The railway was completed in 1888, linking the valley's agricultural output with urban markets in San Diego and Los Angeles and providing passenger service to Los Angeles (Hamilton, 2009). Construction of modern highways in the 1950s reduced the need for the railroad (Beedle, 2005). Though no longer in use, the railway right-of-way still exists and bisects the proposed potable water pipeline and proposed raw water pipeline at multiple locations.

Identification of Cultural Resources

EIC Records Search

A records search for the Proposed Program was conducted on December 4, 2015 at the CHRIS EIC, housed at the University of California, Riverside. A total of 118 cultural resources studies have been conducted within a 0.5-mile radius of the Proposed Program area. Of the 118 previous studies, 56 overlap portions of the Proposed Program area. There are 12 additional studies that provide overviews of cultural resources within the vicinity of the Proposed Program area. Approximately 20 percent of the Proposed Program area has been included in previous cultural resources surveys.

A total of 171 cultural resources have been previously recorded within a 0.5-mile radius of the Proposed Program area. Of the 171 resources, 37 are prehistoric archaeological sites, 13 are historic-period archaeological sites, 112 are historic-period built resources, 5 are prehistoric isolates, and 4 are historic-period isolates. Of the 171 resources located within the 0.5-mile radius around the Proposed Program, 25 are located within or immediately adjacent to (within 100 feet)

the Proposed Program components (**Table 3.5-1**). Of the 25 resources located within or immediately adjacent to the Proposed Program components, 24 are historic-period built resources and 1 is a prehistoric isolate.

Two previously recorded resources are located within or immediately adjacent to Proposed Project components (see **Table 3.5-1**). These two resources include P-33-007344 (vernacular residence constructed in 1920), located within the Mountain Avenue West Recharge Basin, and P-33-007357 (Craftsmen bungalow constructed in 1925), located within 100 feet of the Hewitt and Evans Treatment/Blending and Disinfection Facilities.

**TABLE 3.5-1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN OR IMMEDIATELY ADJACENT TO THE PROPOSED PROGRAM AREA**

Primary Number (P-33-)	Permanent Trinomial (CA-RIV-)	Other Designation	Description	Date Recorded	Distance from Proposed Program
000863 ^{††}	863	-	Prehistoric isolate consisting of a single metate fragment	1976	Within 50 feet of potable water pipeline
005780 ^{††}	-	Hemet-Ryan Airport and Hemet-Ryan Air Attack Base	Historic-period built resources (district) consisting of the 1942 Hemet-Ryan Airport and associated structures	1994	Within 100 feet of potable water pipeline
006257 [†]	-	42425 Berkley Ave.	Historic-period built resource consisting of a 1930, Vernacular Wood Framed house	1982	Within Well Area
006258 [†]	-	42625 Berkley Ave.	Historic-period built resource consisting of a 1917, single story, Bungalow-style house	1982	Within Well Area
006271 [†]	-	42484 Charlton Ave.	Historic-period built resource consisting of a 1912, two-story, Craftsman Bungalow-style house	1982	Within Well Area
006315 [†]	-	24979 Hemet St.	Historic-period built resource consisting of a 1923, Vernacular Wood Framed house	1982	Within Well Area
007301 ^{††}	-	37255 7th St.	Historic-period built resource consisting of a 1920, Craftsman Bungalow-style house	1982	Within 100 feet of potable water pipeline
007313 [†]	-	41980 E. Main St.	Historic-period built resource consisting of a 1920, Vernacular Ranch house	1982	Within Well Area
007334 ^{††}	-	344 E. 7th St.	Historic-period built resource consisting of a 1890, Vernacular Wood Frame house	1982	Within 100 feet of potable water pipeline
007335 ^{††}	-	39510 W. 7 th Street	Historic-period built resource consisting of a house built in 1926	1981	Within 100 feet of potable water pipeline
007344 [*]	-	41730 & 41740 Commonwealth	Historic-period built resource consisting of a 1920, Vernacular Wood Frame house	1982	Within Mountain Avenue West recharge basin
007357 [*]	-	23816 Hewitt St.	Historic-period built resource consisting of a 1925, Craftsman Bungalow-style house	1982	Within 100 feet of Hewitt and Evans site
007399 [†]	-	41240 Washington Ave.	Historic-period built resource consisting of a 1910, Craftsman Bungalow-style, brick, wood frame, farm house, bunkhouse, and barn	1982	Within Well Area

Primary Number (P-33-)	Permanent Trinomial (CA-RIV-)	Other Designation	Description	Date Recorded	Distance from Proposed Program
011172 ^{††}	6720H	-	Historic-period built resources consisting of a 1914-1945 wood-sided house, single car garage, outbuilding, wood and corrugated tin barn, corrugated tin outbuilding, a 12' concrete cistern	2001	Within 100 feet of potable water pipeline
012194 ^{††}	-	Estudillo Mansion	Historic-period built resource consisting of a 1885-1901, Italianate-style Mansion built by Francisco Estudillo	2001	Within 100 feet of potable water pipeline
014251 ^{††}	-	-	Historic-period built resource consisting of a foundation and an animal cleansing/milking station	2005	Within potable water pipeline portion
015267 ^{††}	-	-	Historic-period built resource consisting of a post WWII era, Modern Ranch-style house	2006	Within 100 feet of potable water pipeline
015734 [†]	8195	San Diego Aqueduct System	Historic-period built resource consisting of the San Diego Aqueduct System	2005	Within potable water pipeline
015738 ^{††}	-	-	Historic-period built resources consisting of house constructed in 1928.	2006	Within 100 feet of potable water pipeline
015739 ^{††}	-	-	Originally recorded as a historic-period built resource consisting of a farmstead comprised of two houses (one modern), a large barn, and three poultry houses. Update reveals all buildings have been demolished and only foundations remain.	2005	Within 100 feet of potable water pipeline
015743 [†]	8196	San Jacinto Valley Railway segment	Historic-period built resource consisting of a 0.3-mile segment of the 1888 San Jacinto Valley Railway	2005	Within potable water and raw water pipelines
015749 ^{††}	-	-	Historic-period built resource consisting of a 1952, one-story ranch house and several outbuildings	2005	Within 100 feet of raw water pipeline
016028 ^{††}	-	975 Shaver Street	Historic-period built resource consisting of a home built in 1915	2007	Within 100 feet of Well Area
016943 [†]	-	Corwin Ranch, 895 N. Hemet Street	Historic-period built resource consisting of a 1920s, Vernacular-style house and several outbuildings	2007	Within Well Area
020539 [†]	10440	-	Historic-period built resource consisting of Stowe Road	2011	Within potable water pipeline
020540 [†]	10441	-	Historic-period built resource consisting of a segment of asphalt-paved and compact dirt, unnamed road	2011	Within potable water pipeline
020541 [†]	10442	-	Historic-period built resource consisting of Patterson Avenue	2011	Within potable water pipeline

* Indicates resource is located within or immediately adjacent to (within 100 feet of) Project-level components
[†] Indicates resource is located within Program-level components
^{††} Indicates resource is located immediately adjacent to (within 100 feet of) Program-level components
 NR = National Register of Historic Places
 CR = California Register of Historical Resources

Historic Maps and Aerial Photographs Review

Historic maps and aerial photographs were examined to provide historical information about the Proposed Project area and to contribute to an assessment of the archaeological sensitivity of the Proposed Project area. Maps dating to 1891 and 1896 depict the community of Bowers, also known as “Old” San Jacinto, established by Henry Hewitt in the late 1870s. A number of structures are depicted on the maps and include the Palma Hotel located on the west side of Hewitt Street between Mountain Avenue (Evans Street) and 2nd Street (Old 2nd Street). This indicates that the Palma Hotel and its ancillary structures were located on the block where the Hewitt and Evans Treatment Facilities will be located. The portion of the Hewitt and Evans site where the hotel was located appears to have remained largely vacant ever since, with the exception of a house that was present in the 1960s to 1980s as depicted on aerial maps. A 1901 map shows the San Jacinto Division of the Southern California Railroad bisecting the proposed potable water pipeline at the present-day intersection of Oakwood Avenue and North State Street. Two 1943 maps also show the railroad, but it is labeled as the Atchison Topeka and Santa Fe Railroad. Maps dating to 1953 show the San Diego Aqueduct bisecting the proposed potable water pipeline near the present-day intersections of Warren Road and Highway 74, Devonshire Avenue and Myers Street, and Cawston Avenue and 7th Street. The aqueduct also bisects the proposed raw water pipeline near the intersection of Cawston Avenue and Esplanade Avenue. Aerial photographs indicate that the Proposed Project vicinity was largely used for agricultural purposes from at least the mid-20th century onward; however, during the last decade of the 20th century, the northern portion of the Proposed Project area became largely urbanized with the construction of a number of housing developments associated with the expansion of San Jacinto.

Native American Heritage Commission

A search of the NAHC’s SLF on October 7, 2015 indicated that Native American cultural resources are not known to be located within the vicinity of the proposed Project. Follow-up contact with Native American groups and/or individuals identified by the NAHC as having affiliation with the Proposed Program area was conducted on December 10, 2015 and January 11, 2016.

To date three responses have been received. In a letter dated December 29, 2015, Vincent Whipple, Manager of the Rincon Band of Luiseño Indians (Rincon) Cultural Resources Department, stated that the Proposed Program area is located outside of Rincon’s historic boundaries and deferred to the Pechanga Band of Luiseño Indians (Pechanga) and the Soboba Band of Luiseño Indians (Soboba). In a letter dated January 25, 2016, Katie Craft, archaeologist for the Tribal Historic Preservation Office of the Agua Caliente Band of Cahuilla Indians (Agua Caliente), stated that the Agua Caliente have no concerns regarding the Proposed Program and defer to the Soboba. In a letter dated February 22, 2016, Raymond Huaute, Cultural Resources Specialist for the Morongo Band of Mission Indians (Morongo), stated that the Proposed Program is located outside the traditional use area of the Morongo and recommended that groups with cultural affiliation to the Proposed Program area be contacted.

Cultural Resources Surveys

Cultural resources surveys of the Proposed Project area were conducted on February 3, 2016, October 19, 2017, and December 12, 2017. As a result of the surveys, a total of six resources were documented or updated, including two archaeological resources (ESA-Feature-001H and ESA-Site-001H) and four historic-period built resources (P-33-007344 [no longer extant], 1162 S. Hewitt Street [P-33-007357], 1073 S. Hewitt Street, and ESA-Built-001) (**Table 3.5-2**).

**TABLE 3.5-2
 RESOURCES IDENTIFIED OR UPDATED DURING THE SURVEYS**

Resource Identifier	Description	Location	Program or Project-level	Comments
ESA-Feature-001H	Concrete and cinder block foundation or well pad	Mountain Avenue West Recharge Basin	Project	Associated with P-33-007344
ESA-Site-001H	Historic-period archaeological site consisting of a sparse scatter of household refuse	*Mountain Avenue North Recharge Basin	Program	-
P-33-007344 (41730 & 1740 Commonwealth)	Vernacular wood frame house constructed in 1920	Mountain Avenue West Recharge Basin	Project	No longer extant
P-33-007357 (1162 S. Hewitt Street)	Craftsman bungalow constructed in 1925	Adjacent Hewitt and Evans Facilities	Project	-
1073 S. Hewitt Street	Residence constructed prior to 1938	Adjacent Hewitt and Evans Facilities	Project	-
ESA-Built-001	Structures associated with trap shooting club	*Mountain Avenue North Recharge Basin	Program	-

*At the time of the surveys, this component was being analyzed at the Project-level; however, it is now being examined at the Program-level.

Paleontological Resources

LACM Records Search

The results of the LACM database search indicate that the Proposed Program area is underlain by younger Quaternary alluvium. No vertebrate paleontological localities are known to be within the Proposed Project boundaries, but the LACM did state that significant vertebrate fossils had been recovered from nearby sediments that are somewhat similar to those presumably underlying the Proposed Project (McLeod, 2016). McLeod (2016) reported two vertebrate localities from Pleistocene sediments similar to those underlying the Proposed Project. A fossil horse (*Equus*) was reported north-northwest of the Proposed Project from the gravel pits west of Jackrabbit trail at an unspecified depth below the surface. Fossil specimens of mammoth (*Mammuthus*) and bison (*Bison*) were reported south of the southwestern portion of the Proposed Project area at Skinner Reservoir, also at an unspecified depth.

Literature Review

Although the Proposed Program area is entirely underlain by recently deposited Quaternary alluvium (Qa), there are outcrops of Pleistocene Quaternary older alluvium (Qoa) less than 1,000 feet from the proposed potable and raw water line alignments on the western side of the Proposed Program. While Pleistocene sediments have yielded numerous scientifically significant paleontological resources throughout southern California, including several localities near the

Proposed Program, Quaternary alluvium is generally too young to preserve significant paleontological resources in the uppermost layers. According to Jefferson (1991), the Pleistocene fossil locality nearest to the Proposed Program area is located just over a mile from the southern terminus of the proposed potable water pipeline at Diamond Valley Lake Reservoir, where almost 100,000 identifiable fossils of late Pleistocene age were salvaged during construction of the reservoir (Springer et al., 2009). The fossils salvaged from the Diamond Valley Lake project were found in subsurface deposits of Pleistocene alluvium as shallow as 2.5 feet below the surface (PaleoSolutions, 2013). The next closest Pleistocene fossil locality is located Lake View Hot Springs where fossil amphibians, reptiles, birds, and mammals were recovered from an unspecified depth. Finally, in the city of Beaumont, a fossil bison (*Bison antiquus*) was recovered from an unspecified depth below the ground surface.

Paleontological Sensitivity

The results of the records search, literature review, and map research indicate that the area is potentially highly sensitive for paleontological resources at depths below 3 feet below ground surface.

3.5.2 Regulatory Setting

State

California Environmental Quality Act

Under CEQA, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR); (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 (Title 14 California Code of Regulations [CCR] Section 15064.5). The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA 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 may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA 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:

- 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; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. 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* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired” (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

- A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- B. 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. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

California Register of Historical Resources

The CRHR 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” (PRC Section 5024.1[a]). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the National Register of Historic Places (NRHP).

To be eligible for the CRHR, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four 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 CRHR 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 NRHP, but it may still be eligible for listing in the CRHR.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed on the NRHP and those formally determined eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; and,
- 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 CRHR.

Other resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the NRHP, the CRHR, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98 provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

Assembly Bill 52

Assembly Bill 52 (AB 52) (Chapter 532, Statutes of 2014) requires lead agencies to consider the effects of projects on tribal cultural resources and to conduct consultation with federally and non-federally recognized Native American Tribes early in the environmental planning process. AB 52 applies specifically to projects for which a NOP or a notice of Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The Final NOP for the Project was filed on June 29, 2015. Because the Final NOP was filed prior to July 1, 2015 it is not subject to the statutes of AB 52, and EMWD is not required to undertake AB 52 consultation with Native American groups.

Paleontological Resources

State

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will “disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study.”

Professional Standards

The Society for Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP’s assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California state regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

3.5.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to cultural resources. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of formal cemeteries.

Impacts and Mitigation Measures

Historical Resources

Impact CUL-1: Implementation of the Proposed Program and the Proposed Project could cause a substantial adverse change in the significance of a historical resource.

Under CEQA, “historical resources” include both historic-period built resources and archaeological resources that are listed in or eligible for listing in the CRHR or a local register, or that have been determined eligible by the lead agency, and analysis of both historic-period built resources and archaeological resources is included under Impact CUL-1.

Program-Level Impacts

As a result of the archival research and surveys, a total of 27 cultural resources were identified within or immediately adjacent to (within 100 feet) the Proposed Program components and are listed in **Table 3.5-3**. The table also provides the proximity to each Proposed Program component, the eligibility status of each resource, the potential impact, and required mitigation. Of the 27 resources, 25 are historic-period built resources, one is a historic-period archaeological site, and one is a prehistoric isolate. Seven of these resources have been evaluated as ineligible for the NRHP, CRHR, or local listing and are not considered historical resources under CEQA; five have previously been listed in the NRHP or CRHR, or found eligible for listing in the NRHP, CRHR, or local listing, and are considered historical resources under CEQA. The remaining 15 unevaluated resources are considered potential historical resources under CEQA: P-33-006257, -006258, -006271, -006315, -007301, -007313, -007334, -007335, -007399, -011172, -014251, -020539, -020540, -020541, and ESA-Built-001.

In addition, given the proximity of the San Jacinto River, which would have served as a water source and provided abundant natural resources to Native America inhabitants in prehistoric/ethnohistoric times, the area would have been an attractive resource procurement and habitation area. The area was also one of the earliest settled areas in the region and there could be cultural remains related to historical occupation of the area. Thus, the Proposed Program area is

considered sensitive for the presence of subsurface prehistoric and historic-period archaeological deposits that may qualify as historical resources under CEQA.

A discussion of known historical resources within each Proposed Program component and an assessment of the potential to impact known and unknown historical resources within each component follows the table. As EMWD implements future phases of the Proposed Program over the next 30 to 30 years, additional environmental review under CEQA may be required to assess cultural resources for each facility implemented as part of the Proposed Program.

Recharge Facilities

Mountain Avenue North and East Recharge Basins

Surveys of the Mountain Avenue North and East recharge basins were conducted in February 2016 when these components were being considered as part of the Proposed Project. However, these two basins are now Proposed Program components. Two resources (ESA-Built-001 and ESA-Site-001H) were identified within the Mountain Avenue North recharge basin as a result of the EIC records search and survey. ESA-Built-001 consists of a complex of three buildings that occur outside the footprint for the Mountain Avenue North recharge basin, and will not be directly impacted by the Project. No resources were documented within the Mountain Avenue East recharge basin as a result of the EIC records search and survey.

ESA-Site-001H occurs within the footprint for the Mountain Avenue North Recharge Basin. This resource is a historic-period refuse scatter that consists of domestic items consisting primarily of beverage bottle fragments that date to the early and mid-20th century. The site is located in a highly disturbed context within an existing basin. Given this high degree of disturbance it is likely that the site represents a secondary deposit of artifacts, possibly resulting from the construction of the basin. Alternatively, the artifacts may have been washed in by water pumped in to the basin from the San Jacinto River Channel. Because the site likely represents a secondary deposit and its original provenience cannot be established, the site was recommended not eligible for listing in the CRHR, nor does it qualify as a unique archaeological resource under CEQA, and impacts to the resource would not be considered significant.

Although no known resources will be significantly impacted within the Mountain Avenue North and East recharge basins, there exists the possibility that unknown archaeological deposits that may qualify as historical resources underlie the recharge basins. As such, implementation of the Proposed Program has the potential to significantly impact possible historical resources associated with the Mountain Avenue North and East recharge basins.

Mountain Avenue South Recharge Basin

No previously recorded resources have been identified within the Mountain Avenue South Recharge Basin. However, the Mountain Avenue South Recharge Basin has not been previously surveyed, and previously unrecorded resources that qualify as historical resources may exist within the recharge basin. Therefore, implementation of the Proposed Program has the potential to significantly impact possible historical resources associated with the Mountain Avenue South Recharge Basin.

**TABLE 3.5-3
CULTURAL RESOURCES WITHIN OR IMMEDIATELY ADJACENT TO THE PROPOSED PROGRAM-LEVEL COMPONENTS**

Primary Number (P-33-)	Permanent Trinomial (CA-RIV-)	Other Designation	Description	Distance from Proposed Program-Level Components	Eligibility Status	Source	Potential Impact	Mitigation Measure	Significance Conclusion
000863	863	-	Prehistoric isolate consisting of a single metate fragment	Within 50 feet of potable water pipeline	*Not eligible for NR/CR	ESA, 2018	N/A	N/A	N/A
005780	-	Hemet-Ryan Airport and Hemet-Ryan Air Attack Base	Historic-period built resources (district) consisting of the 1942 Hemet-Ryan Airport and associated structures	Within 100 feet of potable water pipeline	Eligible for NR	Easter and Beedle, 2005a	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
006257	-	42425 Berkley Ave.	Historic-period built resource consisting of a 1930, Vernacular Wood Framed house	Within Well Area	Unevaluated	Warren, 1982a	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
006258	-	42625 Berkley Ave.	Historic-period built resource consisting of a 1917, single story, Bungalow-style house	Within Well Area	Unevaluated	Warren, 1982b	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
006271	-	42484 Charlton Ave.	Historic-period built resource consisting of a 1912, two-story, Craftsman Bungalow-style house	Within Well Area	Unevaluated	Warren, 1982c	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
006315	-	24979 Hemet St.	Historic-period built resource consisting of a 1923, Vernacular Wood Framed house	Within Well Area	Unevaluated	Warren, 1982d	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
007301	-	37255 7th St.	Historic-period built resource consisting of a 1920, Craftsman Bungalow-style house	Within 100 feet of potable water pipeline	Unevaluated	Swift, 1982	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
007313	-	41980 E. Main St.	Historic-period built resource consisting of a 1920, Vernacular Ranch house	Within Well Area	Unevaluated	Summer, 1982	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
007334	-	344 E. 7th St.	Historic-period built resource consisting of a 1890, Vernacular Wood Frame house	Within 100 feet of potable water pipeline	Unevaluated	Stuart, 1982	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
007335	-	39510 W. 7 th Street	Historic-period built resource consisting of a house built in 1926	Within 100 feet of potable water pipeline	Unevaluated	Stuart, 1981	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
007399	-	41240 Washington Ave.	Historic-period built resource consisting of a 1910, Craftsman Bungalow-style, brick, wood frame, farm house, bunkhouse, and barn	Within Well Area	Unevaluated	Warren, 1982e	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
011172	6720H	-	Historic-period built resources consisting of a 1914-1945 wood-sided house, single car garage, outbuilding, wood and corrugated tin barn, corrugated tin outbuilding, a 12' concrete cistern	Within 100 feet of potable water pipeline	Unevaluated	Briggs et al., 2001	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
012194	-	Estudillo Mansion	Historic-period built resource consisting of a 1885-1901, Italianate-style Mansion built by Francisco Estudillo	Within 100 feet of potable water pipeline	Listed in NR/CR	Hewitt, 2001	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
014251	-	-	Historic-period built resource consisting of a foundation and an animal cleansing/milking station	Within potable water pipeline portion	Unevaluated	Brian F. Smiths and Associates, 2005	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
015267	-	-	Historic-period built resource consisting of a post WWII era, Modern Ranch-style house	Within 100 feet of potable water pipeline	Not eligible for NR/CR	McElroy, 2006	N/A	N/A	N/A
015734	8195	San Diego Aqueduct System	Historic-period built resource consisting of the San Diego Aqueduct System	Within potable water pipeline	Eligible for NR/CR	Easter and Beedle, 2005ab	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
015738	-	-	Historic-period built resource consisting of house constructed in 1928.	Within 100 feet of potable water pipeline	Not eligible for CR	Easter and Beedle, 2006	N/A	N/A	N/A

Primary Number (P-33-)	Permanent Trinomial (CA-RIV-)	Other Designation	Description	Distance from Proposed Program-Level Components	Eligibility Status	Source	Potential Impact	Mitigation Measure	Significance Conclusion
015739	-	-	Originally recorded as a historic-period built resource consisting of a farmstead comprised of two houses (one modern), a large barn, and three poultry houses. Update reveals all buildings have been demolished and only foundations remain.	Within 100 feet of potable water pipeline	Not eligible for NR/CR (no longer extant)	Ballester, 2013	N/A	N/A	N/A
015743	8196	San Jacinto Valley Railway segment	Historic-period built resource consisting of a 0.3-mile segment of the 1888 San Jacinto Valley Railway	Within potable water and raw water pipelines	Eligible for NR/CR	Easter and Beedle, 2005d	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
015749 ^{††}	-	-	Historic-period built resource consisting of a 1952, one-story ranch house and several outbuildings	Within 100 feet of raw water pipeline	Not eligible for NR/CR; eligible for local listing	Easter and Beedle, 2005e	Potentially significant	CUL-PMM-1	Less than Significant with Mitigation
016028	-	975 Shaver Street	Historic-period built resource consisting of a home built in 1915	Within 100 feet of Well Area	Not eligible for NR/CR	Hoover, 2007	N/A	N/A	N/A
016943	-	Corwin Ranch, 895 N. Hemet Street	Historic-period built resource consisting of a 1920s, Vernacular-style house and several outbuildings	Within Well Area	Not eligible for NR/CR	Smallwood, 2007	N/A	N/A	N/A
020539	10440	-	Historic-period built resource consisting of Stowe Road	Within potable water pipeline	Unevaluated	Stanton, 2001a	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
020540	10441	-	Historic-period built resource consisting of a segment of asphalt-paved and compact dirt, unnamed road	Within potable water pipeline	Unevaluated	Stanton, 2011b	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
020541	10442	-	Historic-period built resource consisting of Patterson Avenue	Within potable water pipeline	Unevaluated	Stanton, 2011c	Potentially Significant	CUL-PMM-1	Less than Significant with Mitigation
-	-	ESA-Site-001H	Historic-period archaeological site consisting of a sparse scatter of household refuse	Within Mountain Avenue North Recharge Basin	*Not eligible for NR/CR	ESA, 2018	N/A	N/A	N/A
-	-	ESA-Built-001	Historic-period built resource consisting of structures associated with trap shooting club	Within Mountain Avenue North Recharge Basin	Unevaluated	ESA, 2018	No impact	None	No impact

* = does not meet definition of unique archaeological resource (CEQA Statutes Section 21083.2(g))

NR = National Register of Historic Places

CR = California Register of Historical Resources

Monitoring Facilities

The monitoring facilities associated with the Mountain Avenue North and Mountain Avenue East recharge basins were subject to cultural resources survey. Two resources (ESA-Site-001H and ESA-Built-001) were identified adjacent to the monitoring facilities associated with the Mountain Avenue North recharge basin. No resources were identified within the Mountain Avenue East recharge basin. The monitoring facilities associated with the Mountain Avenue South recharge basin have not been subject to a cultural resources survey as part of this analysis. The monitoring facilities associated with the Mountain Avenue North recharge basin would not result in significant impacts to known resources. Although no known resources will be significantly impacted by the monitoring facilities, there exists the possibility that unknown archaeological deposits that may qualify as historical resources underlie the recharge basins. As such, implementation of the Proposed Program has the potential to significantly impact possible historical resources associated with the monitoring facilities.

Extraction Facilities

Of the 11 extraction wells proposed, only three (Wells 201, 202, and 203¹) have been subject to cultural resources survey. The remaining eight well locations have not been identified, but all will be installed within the multi-point well area that encompasses much of San Jacinto and unincorporated portions of Riverside County. Seven previously recorded historic-period built resources (P-33-006257, -006258, -006271, -006315, -007313, -007399, and -016028) have been documented within the multi-point well area. One of the resources (P-33-016028) has been previously recommended ineligible for listing in the NRHP and CRHR, and does not qualify as a historical resource. However, six of the resources (P-33-006257, -006258, -006271, -006315, -007313, and -007399) have not been previously evaluated for inclusion in the NRHP or CRHR and may qualify as historical resources. Much of the multi-point well area has not been previously surveyed, and there may exist currently unknown cultural resources within the area that qualify as historical resources. As such, implementation of the Proposed Program has the potential to impact the six previously recorded resources that may qualify as historical resources, as well as unknown built and archaeological resources that may qualify as historical resources within or adjacent to the eight extraction facilities that have not been subject to analysis.

Conveyance Facilities

The EIC records search indicates that much of the conveyance facilities have not been previously surveyed. The records search also indicates that 16 previously recorded historic-period built resources (P-33-005780, -007301, -007334, -007335, -011172, -012194, -014251, -015267, -015734, -015738, -015739, -015743, -015749, -020539, -020540, and -020541) and one previously recorded archaeological resource (P-33-000863) are located within or immediately adjacent to the Proposed Program's conveyance facilities. Of the 16 built resources, five (P-33-005780, -012194, -015734, -015743, and -015749) qualify as historical resources; eight (P-33-007301, -007334, -007335, -011172, -014251, -020539, -020540, and -020541) have not been previously evaluated for inclusion in the NRHP or CRHR and therefore may be found to qualify as historical resources; and three (P-33-015267, -015738, and -015739) have been found ineligible for listing in the NRHP and CRHR and do not qualify as historical resources. As such,

¹ These three wells are being analyzed at the Project level.

implementation of the Proposed Program has the potential to impact five known historical resources, and eight potential historical resources. The single prehistoric isolate (P-33-000863) is recommended not eligible for the CRHR. By definition isolates are not eligible for listing in the CRHR, and do not otherwise meet CEQA's definitions for historical resources or unique archaeological resources. The Proposed Program also has the potential to impact unknown built and/or archaeological resources that may qualify as historical resources within or adjacent to the conveyance facilities.

Impact Determination

Implementation of the Proposed Program has the potential to impact five known historical resources (P-33-005780, -012194, -015734, -015743, and -015749), and 14 potential historical resources that have not been previously evaluated, (P-33-006257, -006258, -006271, -006315, -007301, -007313, -007334, -007335, -007399, -011172, -0014251, -020539, -020540, and 020541), as well as unknown built or archaeological resources that may qualify as historical resources. Therefore, the Proposed Program has the potential to cause a substantial adverse change in the significance of a historical resource.

Program Mitigation Measures

CUL-PMM-1: Historic Resources Assessment. Prior to development of future projects implemented under the Proposed Program within 100 feet of structures that are more than 45 years old, EMWD shall retain a qualified architectural historian to conduct a historic resources assessment. All identified historic resources shall be assessed for the Proposed Program's potential to result in direct and/or indirect effects to those resources and any historic resource that may be affected shall be evaluated for its potential significance (i.e., listing in the CRHR) prior to EMWD's approval of project plans and publication of subsequent CEQA documents. The qualified architectural historian shall provide recommendations for avoiding or minimizing impacts, or for the treatment of historical resources that will be impacted by the Proposed Program.

CUL-PMM-2: Archaeological Resources Assessment. Prior to development of future projects implemented under the Proposed Program that involve ground disturbance, EMWD shall retain a qualified archaeologist to conduct a Phase 1 Archaeological Resources Assessment. The Assessment shall provide recommendations regarding archaeological and Native American monitoring, protection of avoided resources, and/or recommendations for additional work or treatment of significant resources (i.e., resources that qualify as historical resources or unique archaeological resources under CEQA) that will be affected by the Proposed Program.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

As a result of the archival research and surveys, a total of four cultural resources were identified within or immediately adjacent to (within 100 feet) the Proposed Project components, and are listed in **Table 3.5-4**. The table also provides the proximity to each Proposed Project component, the eligibility status of each resource, the potential impact, and required mitigation measures. Of the four resources, one is a historic-period archaeological feature and three are historic-period built resources. Three of these resources are ineligible for listing in the NRHP, CRHR, or local

designation and are not considered historical resources under CEQA (P-007344 and -007357, and 1073 S. Hewitt Street). One has not been evaluated and is considered a potential historical resource under CEQA (ESA-Feature-001H).

In addition, given the proximity of the San Jacinto River, which would have served as a water source and provided abundant natural resources to Native America inhabitants in prehistoric/ethnohistoric times, the area would have been an attractive resource procurement and habitation area. The area was also one of the earliest settled areas in the region and there could be cultural remains related to historical occupation of the area. Thus, the Proposed Project area is considered sensitive for the presence of subsurface prehistoric and historic-period archaeological deposits that may qualify as historical resources under CEQA.

A discussion of known historical resources within each Proposed Project component and an assessment of the potential to impact known and unknown historical resources within each component follows the table.

Recharge Facilities

Two resources (P-33-007344 and ESA-Feature-001H) were identified within the Mountain Avenue West recharge basin as a result of the EIC records search and survey. The EIC records search indicates that one previously recorded historic-period built resource (P-33-007344), consisting of a residence constructed in the 1920s, has been documented within the southern portion of the Mountain Avenue West recharge basin. During the cultural resources survey, it was determined that the previously recorded residence within the Mountain Avenue West recharge basin (P-33-007344) no longer exists. ESA-Feature-001H was documented during the survey. It is a concrete and cinder block foundation or well pad located within 100 feet of the mapped location of P-33-007344 (no longer extant), and may be associated with it. However, ESA-Feature-001H is located outside the proposed construction footprint for the Mountain Ave West recharge basin and will not be directly or indirectly affected or impacted by the Proposed Project. Although P-33-007344 is no longer present, there may be existing subsurface archaeological deposits associated with the resource that could qualify as a historical resource. Should archaeological deposits associated with P-33-007344 underlie the Mountain Avenue West recharge basin, they may be impacted by implementation of the Proposed Project.

Monitoring Facilities

Two resources (P-33-007344 [no longer extant] and ESA-Feature-001) were identified adjacent to the monitoring facilities associated with the Mountain Avenue West recharge basin as a result of the EIC records search and survey. Although the monitoring facilities would not result in significant impacts to these known resources, this does not preclude the possibility that subsurface archaeological deposits that qualify as historical resources underlie the proposed monitoring facilities. As such, implementation of the Proposed Project has the potential to significantly impact possible historical resources associated with the monitoring facilities.

**TABLE 3.5-4
CULTURAL RESOURCES WITHIN OR IMMEDIATELY ADJACENT TO THE PROPOSED PROJECT-LEVEL COMPONENTS**

Primary Number (P-33-)	Permanent Trinomial (CA-RIV-)	Other Designation	Description	Current Eligibility Status	Source	Distance from Proposed Project-Level Component	Potential Impact	Mitigation Measure	Significance Conclusion
007344	-	41730 & 41740 Commonwealth	Historic-period built resource consisting of a 1920, Vernacular Wood Frame house (no longer extant)	Not eligible for NR/CR	ESA, 2018	Within Mountain Avenue West recharge basin	N/A	N/A	N/A
007357	-	1162 S. Hewitt St. (23816 Hewitt St.)	Historic-period built resource consisting of a 1925, Craftsman Bungalow-style house	Not eligible for NR/CR	ESA, 2018	Within 100 feet of Hewitt and Evans site	N/A	N/A	N/A
-	-	1073 S. Hewitt St.	Residence constructed prior to 1938	Not eligible for NR/CR	ESA, 2018	Within 100 feet of Hewitt and Evans site	N/A	N/A	N/A
-	-	ESA-Feature-001H	Concrete and cinder block foundation or well pad	Unevaluated	ESA, 2018	Within Mountain Avenue West Recharge Basin	No impact	None	No impact

NR = National Register of Historic Places
CR = California Register of Historical Resources

Extraction Facilities

No cultural resources were identified within or adjacent to the extraction facilities as a result of the EIC records search or survey. Although the extraction facilities would not result in significant impacts to known historical resources, this does not preclude the possibility that subsurface archaeological deposits that qualify as historical resources underlie the proposed extraction facilities. As such, implementation of the Proposed Project has the potential to significantly impact possible historical resources associated with the extraction facilities.

Treatment/Blending and Disinfection Facilities

Two historic-period built resources (P-33-007357 [1162 S. Hewitt Street], and 1073 S. Hewitt Street), both residences, were identified adjacent to the Hewitt and Evans treatment/blending and disinfection facilities as a result of the EIC records search and survey. Both residences were evaluated for listing in the NRHP and CRHR under Criteria A/1-D/4. The residence at 1162 S. Hewitt Street (P-33-007357) was constructed in 1925 in the Craftsman style of architecture. The residence at 1073 S. Hewitt Street was constructed sometime before 1938 in a vernacular style of architecture. Neither residence reflects the early settlement patterns of Old San Jacinto during the late 19th century, and were likely constructed well after the community of San Jacinto had relocated to the new town site developed by the San Jacinto Land Association in 1883 (Criterion A/1). Occupancy research of the residences did not reveal an association with any significant personages related to national, state, or local history (Criterion B/2). The residences are not exceptional, distinctive, outstanding, or singular examples of their types or styles either individually or as contributors to a district. Also, original construction permits identifying an architect or builder could not be found; however, the residences do not appear to be the notable work of a master builder or architect (Criterion C/3). Finally, both residences are simple examples of early 20th century residential architecture, reflecting construction methods that have been well documented; therefore, neither residence appears to yield significant information adding to our current knowledge or theories of design, methods of construction, operation, or other information that is not already known regarding the construction of single-family residences during the early 20th century (Criterion D/4). The residences do not appear to be eligible for listing in the NRHP and CRHR, and they do not qualify as historical resources under CEQA.

Based on historical research, the Hewitt and Evans site was identified as having a higher potential for buried historic-period archaeological resources, which might include structural remains, sheet refuse, and privy deposits. This site was the location of the region's first trading post/general store, established ca. 1868 by Russian immigrant Procco Akimo, and was the site of a boarding house (later the Palma Hotel). This site served as the founding of San Jacinto and is home to some of the earliest and most significant historical events in the region. In 1897, Riverside County purchased the Palma Hotel for use as a county hospital, which was severely damaged by an earthquake in 1899 and subsequently demolished. The portion of the Hewitt and Evans site where the hotel/hospital was located appears to have remained largely vacant ever since, with the exception of a house that was present in the 1960s to 1980s. Should archaeological deposits exist within the Hewitt and Evans Facility site, they would be eligible for listing in the California Register under Criterion 1 (events), Criterion 2 (important persons), and Criterion 4 (information potential) and would qualify as historical resources under CEQA, as defined in PRC Sections 15064.5(a), due to their association with the establishment of Old Town San Jacinto and persons

significant in its development. As such, this Proposed Project component is considered to have a higher archaeological sensitivity, and implementation associated with the construction of the treatment facilities has the potential to directly impact subsurface archaeological deposits that may qualify as historical resources.

Impact Determination

Implementation of the Proposed Project has the potential to directly impact potential archaeological deposits, if present, particularly those associated with the establishment of Old Town San Jacinto, the first trading post, and Hewitt's boarding house (later the Palma Hotel and Riverside County Hospital) and those associated with previously recorded resource P-33-007344.

Mitigation Measures

CUL-MM-1: Archaeological Sensitivity Training. Prior to the start of any ground-disturbing activity, a Qualified Archaeologist shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains.

CUL-MM-2: Cultural Resources Mitigation and Monitoring Program. Prior to the start of any ground-disturbing activity, the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on Proposed Project design plans. The CRMMP shall include provisions for archaeological monitoring of all ground disturbance related to construction of the Proposed Project, procedures to be followed in the event of discovery of archaeological resources, and protocols for Native American coordination and input, including review of documents. The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and provisions for future Native American monitoring in the event that resources of Native American origin are discovered. The CRMMP shall include provisions for Native American monitoring during testing or data recovery efforts for resources that are Native American in origin.

CUL-MM-3: Archaeological Monitoring. All Project-related ground disturbance shall be monitored by archaeological monitor(s) familiar with the types of resources that could be encountered and shall work under the direct supervisor of the Qualified Archaeologist. Archaeological monitor(s) shall be empowered to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with EMWD, and Native American representatives in the event the resource is Native American in origin. The Qualified Archaeologist may reduce the amount of monitoring that is required in certain areas if it is determined that the potential to encounter archaeological resources in that area is low based on observations of soil stratigraphy and other factors.

CUL-MM-4: Archaeological Discovery. In the event archaeological resources are encountered during construction, activity in the vicinity of the find shall cease, and the protocols and procedures for discoveries outlined in the CRMMP shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist (under all four California Register criteria). If the Qualified Archaeologist determines that the resource may be significant, the archaeologist shall develop an appropriate treatment plan for the resource in accordance with the CRMMP. The Qualified Archaeologist shall also determine the level of archaeological monitoring that is warranted during future ground disturbance in the area, and whether work may proceed in other parts of the Proposed Project area while treatment for archaeological resources is being carried out.

Significance Conclusion

Less than Significant with Mitigation

Archaeological Resources

Impact CUL-2: Implementation of the Proposed Program and the Proposed Project could cause a substantial adverse change in the significance of an archaeological resource.

Under CEQA, archaeological resources can be either “historical resources” (resources that are listed in or eligible for listing in the CRHR or a local register, or that have been determined eligible by the lead agency) or “unique archaeological resources” (an archaeological artifact, object, or site that: (1) contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information; (2) has a special and particular quality such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person). If an archaeological resource does not meet the criteria to qualify as a historical resource, it is then considered for its potential qualification as a unique archaeological resource. Impacts to archaeological resources as “historical resources” are addressed under Impact CUL-1. Impacts to archaeological resources as “unique archaeological resources” are addressed under Impact CUL-2.

Program-Level Impacts

No known significant or unique archaeological resources were identified within Proposed Program components (see **Table 3.5-3**). However, as discussed under Impact CUL-1, there is a potential for the Proposed Program to significantly impact unknown archaeological resources that could qualify as unique archaeological resources.

Impact Determination

Implementation of the Proposed Program has the potential to cause a substantial adverse change in the significance of a unique archaeological resource.

Program Mitigation Measures

Implementation of Mitigation Measure CUL-PMM-2.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

AS discussed under Impact CUL-1, one archaeological resource (ESA-Feature-001H) was identified within Proposed Project components (see **Table 3.5-4**), however, this resource will not be directly or indirectly affected or impacted by the Proposed Project. Also, as discussed under Impact CUL-1, there is a potential for the Proposed Project to significantly impact unknown archaeological resources, which could qualify as unique archaeological resources.

Impact Determination

Implementation of the Proposed Project has the potential to cause a substantial adverse change in the significance of an archaeological resource.

Mitigation Measures

Implementation of Mitigation Measures CUL-MM-1 through CUL-MM-4.

Significance Conclusion

Less than Significant with Mitigation

Paleontological Resources

Impact CUL-3: Implementation of the Proposed Program and the Proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Program-Level Impacts

Recharge Facilities

Based on the LACM paleontological records search and literature review, the entirety of the Proposed Program components, including the recharge facilities, are underlain by surficial deposits consisting of Quaternary alluvium (Qa) that typically does not contain significant paleontological resources in the uppermost layers due to the young age of the sediments. However, older Quaternary deposits with the potential to yield significant paleontological resources can underlie recent deposits at a shallow depth. Ground disturbance associated with the recharge facilities would extend to depths of 10-13 feet and has the potential to impact unique paleontological and/or unique geologic features within these older Quaternary deposits.

Monitoring Facilities

As noted above, the entire Proposed Program is underlain by surficial deposits consisting of Quaternary alluvium (Qa) which has the potential to yield significant paleontological resources at shallow depths. Ground disturbance associated with the monitoring facilities would extend to depths of 1,200 feet and has the potential to impact unique paleontological and/or unique geologic features.

Extraction Facilities

As noted above, the entire Proposed Program is underlain by surficial deposits consisting of Quaternary alluvium (Qa) which has the potential to yield significant paleontological resources at shallow depths. Ground disturbance associated with the extraction facilities has the potential to impact unique paleontological and/or unique geologic features.

Conveyance Facilities

As noted above, the entire Proposed Program is underlain by surficial deposits consisting of Quaternary alluvium (Qa) which has the potential to yield significant paleontological resources at shallow depths. Ground disturbance associated with the conveyance facilities has the potential to impact unique paleontological and/or unique geologic features.

Impact Determination

Implementation of the Proposed Program has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Program Mitigation Measures

CUL-PMM-3: Paleontological Monitoring. For all future projects implemented as part of the Proposed Program, EMWD shall retain a Qualified Paleontologist prior to the start of earth moving activities to attend any pre-grade construction meetings to determine when and where excavations will occur below a depth of 3 feet below the existing ground surface. All excavations below this depth shall be monitored by a Qualified Paleontologist or Qualified Monitor. The paleontologist, in consultation with EMWD may adjust the level of monitoring, as warranted.

In the event of unanticipated discovery of paleontological resources when a paleontological monitor is not present, the contractor shall cease ground-disturbing activities within 50 feet of the find until it can be assessed by the Qualified Paleontologist and recovery and reporting measures can be implemented, if necessary.

CUL-PMM-4: Paleontological Sensitivity Training. Prior to start of earth moving activities of all futures projects implemented as part of the Proposed Program, the Qualified Paleontologist shall conduct pre-construction worker sensitivity training that covers what types of paleontological resources could be encountered during excavations, what to do in case an unanticipated discovery is made by a worker, and laws protecting paleontological resources. All construction personnel shall be informed of the possibility of encountering fossils and instructed to immediately inform the construction foreman or supervisor if any bones or other potential fossils are unexpectedly unearthed in an area where a paleontological monitor is not present.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge Facilities

As noted above, the entire Proposed Program, which includes the Proposed Project, is underlain by surficial deposits consisting of Quaternary alluvium (Qa) which has the potential to yield significant paleontological resources at shallow depths. Ground disturbance associated with the

recharge facilities would extend to depths of 10-13 feet and has the potential to impact unique paleontological and/or unique geologic features.

Monitoring Facilities

As noted above, the entire Proposed Program, which includes the Proposed Project, is underlain by surficial deposits consisting of Quaternary alluvium (Qa) which has the potential to yield significant paleontological resources at shallow depths. Ground disturbance associated with the monitoring facilities has the potential to impact unique paleontological and/or unique geologic features.

Extraction Facilities

As noted above, the entire Proposed Program, which includes the Proposed Project, is underlain by surficial deposits consisting of Quaternary alluvium (Qa) which has the potential to yield significant paleontological resources at shallow depths. Ground disturbance associated with the extraction facilities has the potential to impact unique paleontological and/or unique geologic features.

Impact Determination

Implementation of the Proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Mitigation Measures

CUL-MM-5: Paleontological Monitoring. Prior to the start of earth moving activities, EMWD shall retain a Qualified Paleontologist to attend any pre-grade construction meetings to determine when and where excavations will occur below a depth of 3 feet below the existing ground surface. Working with EMWD and the construction crew, the Qualified Paleontologist shall determine a paleontological monitoring schedule.

The Qualified Paleontologist, or a paleontological monitor working under the direct supervision of the Qualified Paleontologist, shall monitor all ground-disturbing activity below a depth of 3 feet below the existing ground surface. The location, duration, and timing of monitoring shall be determined by the Qualified Paleontologist designated for the Proposed Project in consultation with the EMWD and shall be based on a review of geologic maps and grading plans. During the course of monitoring, if the Qualified Paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, increased, or discontinued, the paleontologist, in consultation with EMWD may adjust the level of monitoring, as warranted.

CUL-MM-6: Paleontological Sensitivity Training. Prior to start of earth moving activities, the Qualified Paleontologist shall conduct pre-construction worker paleontological resources sensitivity training. This training shall include information on what types of paleontological resources could be encountered during excavations, what to do in case an unanticipated discovery is made by a worker, and laws protecting paleontological resources. All construction personnel shall be informed of the possibility of encountering fossils and instructed to immediately inform the construction foreman or supervisor if any bones or other potential fossils are unexpectedly unearthed in an area where a paleontological monitor is not present.

CUL-MM-7: Unanticipated Paleontological Discovery. In the event of unanticipated discovery of paleontological resources when a paleontological monitor is not present, the contractor shall cease ground-disturbing activities within 50 feet of the find until it can be assessed by the Qualified Paleontologist. The Qualified Paleontologist shall assess the find, implement recovery and reporting measures, if necessary, and determine if paleontological monitoring is warranted once work resumes.

Significance Conclusion

Less than Significant with Mitigation

Human Remains

Impact CUL-4: Implementation of the Proposed Program and the Proposed Project could disturb any human remains, including those interred outside of formal cemeteries.

Program-Level Impacts

There is no indication that any Proposed Program component has been used for human burial purposes in the recent or distant past; however, the known prehistoric and historic activity in the area and the general sensitivity of the area for buried prehistoric and historic resources means that there is a possibility of uncovering human remains during Proposed Program implementation. In the event that human remains are discovered during project construction, including those interred outside of formal cemeteries, the human remains could be inadvertently disturbed, which could be a significant impact.

Impact Determination

Implementation of the Proposed Program has the potential to disturb any human remains, including those interred outside of formal cemeteries.

Program Mitigation Measures

CUL-PMM-5: Human Remains. If human skeletal remains are uncovered during implementation of any future project part of the Proposed Program, EMWD shall immediately halt work and contact the Riverside County coroner to determine whether the remains are human. If the County Coroner determines that the remains are Native American, they shall contact the NAHC, as required by law. The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD) of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. EMWD shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

There is no indication that any Proposed Project component has been used for human burial purposes in the recent or distant past; however, the known prehistoric and historic activity in the

area and the general sensitivity of the area for buried prehistoric and historic resources means that there is a possibility of uncovering human remains during Proposed Project implementation. In the event that human remains are discovered during project construction, including those interred outside of formal cemeteries, the human remains could be inadvertently disturbed, which could be a significant impact.

Impact Determination

Implementation of the Proposed Project has the potential to disturb any human remains, including those interred outside of formal cemeteries.

Mitigation Measures

CUL-MM-8: Human Remains. If human skeletal remains are uncovered during Proposed Project implementation, EMWD shall immediately halt work, contact the Riverside County coroner to determine whether the remains are human, and follow the procedures and protocols outlined in the CRMMP (see Mitigation Measure CUL-MM-2). If the County Coroner determines that the remains are Native American, they shall contact the NAHC as required by law. The NAHC shall then identify the person(s) thought to be the MLD of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. EMWD shall ensure that the immediate vicinity where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations.

Significance Conclusion

Less than Significant with Mitigation

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3.6 Geology, Soils, and Seismicity

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project due to geology, soils, and seismicity conditions. The section includes a description of the environmental setting to establish baseline conditions for geology, soils, and seismicity; a summary of the regulations related to geology, soils, and seismicity; and an evaluation of the Proposed Program and Proposed Project's potential effects due to geology, soils, and seismic conditions.

3.6.1 Environmental Setting

Program Area Setting

Geomorphology

The Proposed Program is located in western Riverside County, which is within the Peninsular Ranges geomorphic province. This province consists of a series of mountain ranges separated by long valleys, formed from faults branching from the San Andreas Fault. Due to tectonic movement, the Peninsular Ranges are slowly moving northward along the coast headed toward Alaska. The generalized geology of this province is summarized as intrusive granitic rocks that have pushed into older metamorphic rocks (California State Parks, 2015).

The Proposed Program area is located in between the four 7.5 minute quadrangles of Lakeview, San Jacinto, Winchester, and Hemet. These four quadrangles are located in the northern part of the Peninsular Ranges Province between the Elsinore fault zone and San Jacinto fault zone, within the geologically complex region of Southern California referred to as the Peninsular Ranges geomorphic province, a large natural region dominated by similar rocks and geologic structures. The Peninsular Ranges province lies in the southwestern-most region of California and extends south 775 miles past the United States/Mexico border. It is bounded by the Transverse Ranges to the north, the Colorado Desert to the east, and the Pacific Ocean to the West. Included within the province is Orange County, as well as portions of Los Angeles, San Bernardino, Riverside, San Diego, and Imperial Counties.

The topography of the province is similar to the Coast Ranges, with northwest trending ranges and valleys, but the geology is more like that of the Sierra Nevada province, with granitic rock intruding the older metamorphic rocks (CGS, 2002a). The area is underlain by Cretaceous age and older plutonic rocks that are part of the composite Peninsular Ranges batholiths. There is a wide variety of intermediate composition granitic rocks in the quad, mainly of tonalitic composition but ranging from monzogranite to diorite. Crossing the quad diagonally is the channel and floodplain of the ephemeral San Jacinto River, located southeast of the Proposed Program area. Most of the alluviated area west of the San Jacinto River consists of Pleistocene age fluvial deposits, the upper part of which forms the Paloma surface (USGS, 2003).

The Proposed Program area is located east of the northwest trending Perris Valley, surrounded by Diamond Valley to the south and San Jacinto Valley to the north. The Proposed Program area is underlain by weathered granitic bedrock of variable thickness overlain by alluvial deposits at

lower elevations left by stream and slope wash. A majority of the Proposed Program area is generally flat and composed of varying degrees of sandy to silty loam soils (USDA, 2013). The Proposed Program area elevation ranges from approximately 1,600 feet above mean sea level (amsl) to 1,620 feet amsl.

According to the Preliminary Geologic Map of the Palm Springs 30' x 60' Quadrangle, the Proposed Program area is covered with various surficial deposits. Most of the Proposed Program area is covered by young alluvial fan deposits from the Holocene to late Pleistocene (Qyf). These sedimentary units are unconsolidated to slightly consolidated, and undissected to slightly dissected. Other major Quarternary bedrock can be found in the immediate vicinity of the Proposed Project, and area flanked by the aforementioned alluvial fan deposits. Coarse-grained formations of Pleistocene age and younger (Qss) bedrock is found in the region of Park Hill, south of the Proposed Program area, and alluvial wash deposits (Qw) is found northwest of the Proposed Program area. In the southern edge of the Proposed Program area very old alluvial fan surficial deposits (Qvof) that are moderately to well-consolidated.

Seismicity

Southern California is a region of high seismic activity with numerous active and potentially active faults. Earthquakes along the San Andreas Fault relieve convergent plate stress in the form of right lateral strike slip offsets. The Transverse Ranges work as a block causing the San Andreas Fault to bend, producing compressional stresses that are manifested as reverse, thrust, and right lateral faults. Faulting associated with the compressional forces creates earthquakes and is primarily responsible for the mountain building, basin development, and regional upwarping found in this area.

Major earthquakes have affected the region in the past and can be expected to occur again in the near future on one of the principal active faults in the San Andreas Fault System. The principal active faults in the region include the San Andreas, San Jacinto and Elsinore faults. Over the last 100 years, there have been approximately four significant seismic events, or earthquakes, in the San Jacinto region according to the Southern California Earthquake Data Center (SCEC) (SCEC, 2013).

Earthquake magnitude and intensity are two separate characteristics that can be measured to describe an earthquake. Magnitude measures the energy released at the source of the earthquake, and is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location, and is described by the Maximum Modified Mercalli Intensity Scale. Intensity is determined from effects on people, human structures, and the natural environment. Although magnitude and intensity describe different aspects of an earthquake, they are inherently linked. **Table 3.6-1** below lists the earthquake intensities associated with earthquake magnitudes, along with a description of these intensities.

**TABLE 3.6-1
 MODIFIED MERCALLI INTENSITY SCALE**

Magnitude	Intensity	Description
1.0-3.0	I	<ul style="list-style-type: none"> I. Not felt except by a very few under especially favorable conditions.
3.0-3.9	II-III	<ul style="list-style-type: none"> II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
4.0-4.9	IV-V	<ul style="list-style-type: none"> IV. Felt indoors by many, outdoors by few during the day. Dishes, windows, doors disturbed. Sensation like heavy truck striking building. Standing motor cars rocked noticeably. V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
5.0-5.9	VI-VII	<ul style="list-style-type: none"> VI. Felt by all, many frightened. Some heavy furniture moved. Damage slight. VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken..
6.0-6.9	VII-IX	<ul style="list-style-type: none"> VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
7.0 and Higher	VIII or Higher	<ul style="list-style-type: none"> X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. XI. Few if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly. XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air.

SOURCE: USGS, 2017a.

Table 3.6-2 lists information about significant earthquakes (with a magnitude greater than 5.0) that have occurred within the vicinity of the Program area.

**TABLE 3.6-2
 SIGNIFICANT EARTHQUAKES IN THE PROGRAM AREA**

Seismic Event	Fault Involved	Magnitude	Year	Distance from Program Area (miles)
San Jacinto Earthquake	San Jacinto	6.8	1918	4
North San Jacinto Earthquake	San Jacinto	6.3	1923	23
White Wash Earthquake	None specified	5.5	1980	26
Elsinore Earthquake	Elsinore	6.0	1910	30

SOURCE: SCEDC, 2017.

Seismic Hazards

Given the highly seismic nature of southern California, the Proposed Program area is prone to experiencing seismic hazards associated with earthquakes. The probability of each seismic hazard with respect to the Program area is defined in more detail below.

Surface Fault Rupture

Surface rupture occurs when movement on a fault breaks through to the surface. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Fault rupture almost always follows preexisting faults, which are zones of weakness (CDOC, 2017a). The Alquist-Priolo Earthquake Fault Zoning Act, described in more detail under Section 3.6.2, *Regulatory Setting*, was passed in California following the 1971 San Fernando Earthquake to mitigate the hazard of surface faulting to structures for human occupancy. The law requires publication of earthquake fault zone maps around the surface traces of active faults so these areas can be avoided for future development (CDOC, 2017b). As shown in **Figure 3.6-1**, Alquist-Priolo Earthquake Fault Zones pass through the Program area, including the San Jacinto (Casa Loma Segment and Claremont Segment) that bisects the existing and proposed raw water pipeline and proposed potable water pipelines. The active faults in the vicinity of the Proposed Program are included in **Table 3.6-3**.

**TABLE 3.6-3
 ACTIVE FAULTS IN THE PROJECT VICINITY**

Fault	Location and Direction from Project Site	Recency of Movement	Fault Classification ^a	Historical Seismicity ^b	Maximum Moment Magnitude Earthquake (M _{max}) ^c
San Jacinto (Casa Loma Segment and Claremont Segment)	<1 mile south	Historic (historic rupture)	Active	M 6.6 1987 M 6.6 1968 Many >M 6.0	7.2
San Andreas	13 miles northeast	Historic (1906N, 1989N, 1857S ruptures)	Active	M 7.9 1857 M 7.1, 1989 M 7.9, 1906 M 7.0, 1838 Many >M 6.0	8.0
Elsinore	24 miles southwest	Historic (1861 rupture) Holocene	Active	M 6.0, 1910	7.1

^a Jennings, 1994, and Hart, 1997. An active fault is defined by the California Geological Survey as one that has had surface displacement within approximately the last 11,000 years. A potentially active fault is defined as a fault that has showed evidence of surface displacement during approximately the last 1.6 million years.

^b Richter magnitude (M) and year for recent and/or large events. Richter magnitude scale reflects the maximum amplitude of a seismic wave measured at a distance of 100 kilometers from the epicenter.

^c Moment magnitude is related to the physical size of a fault rupture and movement across a fault. The maximum moment magnitude (M_{max}) is the strongest earthquake that is likely to be generated along a fault and is based on empirical relationships of surface rupture length, rupture area, and fault type.

N=Northern
 S=Southern

SOURCES: Jennings, 1994; Hart, 1997; SCEDC, 2013, Treiman, 2007a and 2007b.

Ground Shaking

Earthquakes on major faults can produce strong ground shaking. Ground shaking is affected by several things including the size of the earthquake, the type of ground the earthquake waves travel through, and the distance away from the earthquake source (CDOC, 2017a). Peak ground acceleration (PGA), expressed as a percentage of gravity (%g), is a method of measuring ground shaking used primarily for formulating building codes and for designing buildings (CDOC, 2017c). Maps have been developed that show the PGA values that have a probability of being exceeded in a particular time period (typically 10 percent in 50 years) (USGS, 2017b). The Program area has PGAs ranging from 31-60 %g that have a probability of being exceeded in the next 50 years (ArcGIS, 2016).

Liquefaction

Liquefaction occurs when very wet soil is affected by strong ground motion. Soil particles (sand and silt) shift and separate during shaking. This reduces the ability of the ground to support the building on top of it, and may cause buildings to sink and foundations to separate (CDOC, 2017a). Shaking causes the soils to lose strength and behave as liquid. Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures or slumping. Liquefaction occurs primarily in saturated, loose, fine- to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the surface. Site-specific geotechnical studies are the only reliable way of determining the specific liquefaction potential of a site; however, a determination of general risk potential can be provided based on soil type and depth of groundwater. The Proposed Program areas contain areas of shallow groundwater with high liquefaction potential as shown in **Appendix GEO** (Riverside County, 2016).

Geologic Hazards

Landslides and Slope Failure

Seismically-induced landslides and rock falls throughout the Riverside County in a major earthquake, and occur most often on steep or compromised slopes. Factors controlling the stability of slopes include: 1) slope height and steepness; 2) engineering characteristics of the earth materials comprising the slope; and 3) intensity of ground shaking (Riverside County, 2016). Areas within the Proposed Program area with identified risk of landslides are shown in **Figure 3.6-1**.

Lateral Spreading

Lateral spreads are a type of landslide that usually occur on very gentle slopes or flat that are caused by liquefaction and move laterally. Lateral spread can be triggered by an earthquake or artificially induced. Lateral spreading in fine-grained materials on shallow slopes is usually progressive (USGS, 2004).

Expansive Soils

Expansive soils are soils that have a significant amount of clay particles which can give up water (shrink) or take on water (swell) depending on the amount of moisture present. The cyclical change in volume over time exerts stress on buildings and other loads placed on these soils that

can lead to damage. The ability of clayey soil to change volume can result in uplift or cracking to foundation elements or other rigid structures such as slabs-on-grade, rigid pavements, sidewalks, or other slabs or hardscape founded on these soils. Expansive soils can be widely dispersed and can be found in hillside areas as well as low-lying alluvial basins (Riverside County, 2016).

Subsidence

Under certain circumstances, densification or compaction of soils can result in settlement that can cause damage to foundations and structures, as well as water and sewer lines. Recently deposited alluvial sediments could be subject to settlement. Low-angle land sliding that is associated with liquefaction and occurs on mildly sloping surfaces such as drainage channels or stream banks is a condition called lateral spreading. Subsidence occurs when land collapses upon itself and is a result of excessive pumping of either groundwater or oil in certain types of sediments. The City of San Jacinto has experienced documented subsidence, and is susceptible to subsidence due to shallow groundwater levels (Riverside County, 2016). Documented subsidence areas in Riverside County are included in **Appendix GEO**. Other Project components in the City of Hemet and portions of unincorporated Riverside County are considered susceptible to subsidence (Riverside County, 2014).

Project Area Setting

As shown in **Figure 3.6-1**, the Project Area is not located in a liquefaction zone, Alquist-Priolo Fault Zone, or an area susceptible to landslides. The potential for earthquake-induced liquefaction lateral spreading, landsliding, or flooding at the site from offsite sources is considered low (Converse Consultants, 2016). The Mountain Avenue West recharge basin is underlain to a depth of at least 101.5 feet by alluvial sediments consisting primarily of sand and silty sand with some thin beds of silt and clay, and has a potential for up to five inches of dry seismic settlement, which is expected to be less than 0.5 inches over 40 horizontal feet (Converse Consultants, 2016).

3.6.2 Regulatory Setting

Federal

International Building Code

The International Building Code (IBC) is the building code that must be implemented throughout the United States and its territories, and is an essential tool to preserve public health and safety that provides safeguards from hazards associated with the built environment. It addresses design and installation of innovative materials that meet or exceed public health and safety goals. Provisions within the IBC are intended to ensure that structures can adequately resist seismic forces during earthquakes. These seismic provisions represent the best available guidance on how structures should be designed and constructed to limit seismic risk (FEMA, 2017).

State

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare

by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 IBC and took effect on January 1, 2017. The CBC provides requirements for general structural design and includes means for determining earthquake loads^[1]. Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. According to the CBC, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Although no guarantees can be made, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

Seismic design specifications are determined according to the seismic design category (SDC) in accordance with Chapter 16 of the CBC. Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act)

The Alquist-Priolo Act was passed in 1972 to provide a mechanism for reducing losses from surface fault rupture on a Statewide basis. The main intent of the Alquist-Priolo Act is to ensure public safety by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The Alquist-Priolo Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The law requires the State Geologist

[1] A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

to establish regulatory zones, known as Earthquake Fault Zones, around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones.

Construction General Permit

The National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002), otherwise referred to as the “Construction General Permit,” regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects (LUP), including installation of water pipelines and other utility lines (SWRCB, 2012).

The Construction General Permit requires the development and implementation of a SWPPP that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep sediment and other chemicals or pollutants from moving offsite into receiving waters. Types of BMPs include, but are not limited to, erosion control, sediment control, waste management, and good housekeeping. The Construction General Permit also includes post-construction requirements for construction projects that state post-project hydrology must match pre-project hydrology; however, LUPs including pipelines are not subject to post-construction requirements due to the nature of their construction to return project sites to preconstruction conditions. For LUPs, the permit states that one of the following conditions must be met: 1) at least 70 percent of pre-existing vegetative cover is reestablished following construction; 2) in areas that were not previously vegetated, sites must be returned to original grade and/or soils must be compacted 3) or equivalent measures such as blankets, soil cement or geotextiles have been. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment (SWRCB, 2012).

California Well Standards

In June of 1991, the California Department of Water resources published well standards to ensure groundwater quality is protected. These include surface construction features, sealing, casing, and rehabilitation and repair standards (DWR, 1991).

Local

Riverside County Well Permit Application

The County of Riverside Department of Environmental Health requires permits for the construction and/or abandonment of water wells, including monitoring and extraction wells. Permits be obtained by those who plan to build a well as well as companies that provide well drilling services (Riverside County, 2017b). The County application for a well permit requires

disclosure of well information including its location, depth, type of casing, perforation and sealed zones (Riverside County, 2017c). Wells are inspected by the County during different stages of construction to help verify State and County standards are being met (Riverside County, 2017b).

3.6.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to geology, soils, and seismicity resources. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) 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.
 - ii) Strong seismic ground shaking.
 - iii) Seismic-related ground failure, including liquefaction.
 - iv) Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. 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.
4. 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.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Impacts and Mitigation Measures

Earthquake faults

Impact GEO-1a: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring and Extraction Facilities

As shown in **Figure 3.6-1**, none of the Proposed Program recharge, monitoring or extraction facilities would be constructed or operated within an Alquist-Priolo fault zone. Therefore, impacts related to fault rupture would be less than significant.

Conveyance Facilities

As shown in **Figure 3.6-1**, segments of the proposed raw water pipeline and the proposed 48-inch potable water pipeline constructed as part of the Proposed Program would pass through an Alquist-Priolo fault zone, and could thus be exposed to fault rupture. However, all pipelines would be designed in accordance with EMWD's Engineering Standards and Specifications, which would help ensure structural resiliency should an earthquake occur within the Proposed Program area. Therefore, fault rupture impacts for construction and operation of conveyance facilities would be less than significant.

Impact Determination

As shown in **Figure 3.6-1**, although some conveyance facilities would pass through an Alquist-Priolo fault zone, facility design according to EMWD's Engineering Standards and Specifications that would ensure structural resiliency. Other Proposed Program facilities would not pass through an Alquist-Priolo fault zone. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As shown in **Figure 3.6-1**, none of the recharge, monitoring, extraction or conveyance facilities that would be constructed or operated as part of the Proposed Project would be located within an Alquist-Priolo fault zone. Therefore, there would be no impacts related to fault rupture for the Proposed Project facilities.

Impact Determination

None of the Proposed Project facilities would be located within an Alquist-Priolo fault zone; there would be no impact to people or structures due to rupture of an earthquake fault.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Seismic Ground Shaking

Impact GEO-1b: Implementation of the Proposed Program and the Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

Program-Level Impacts

Recharge Facilities

Although not located within an Alquist-Priolo fault zone (see **Figure 3.6-1**), the recharge facilities would likely be exposed to ground shaking since the Proposed Program area has a 10 percent chance of experiencing PGAs between 40 and 60 percent of gravity over the next 50 years. Since the proposed recharge facilities are not classified as structures, the requirements of the California Building Code, including their seismic design provisions, would not apply. Since the recharge facilities would be unlined, they would be relatively flexible, so berms would be able to withstand a substantial amount of shaking before rupture. The berms would also be compacted such that the potential for failure would be relatively low. Per the recharge basin design, the water surface elevation in each pond would be at or below the ground surface even though the berms would be built up above ground surface. As such, in the event of berm rupture, the amount of water released offsite would be negligible because the ponds would be below ground surface. The ponds would be 10 to 15 feet below ground surface, and the berms would range from 3 to 8 feet above the ground surface. In addition, given the operation of the ponds for recharge, the water level would be constantly fluctuating such that the water surface elevation would only intermittently be at ground surface. Therefore, the potential for seismic ground shaking to expose people or structures to risk of loss, injury or death would be less than significant.

Monitoring and Extraction Facilities

Given the Program area's 10 percent chance of experiencing PGAs between 40 and 60 percent of gravity over the next 50 years, the monitoring and extraction facilities would likely experience ground shaking. Where applicable, the proposed monitoring and extraction facilities would be constructed according to California Building Code requirements, which include seismic design stipulations designed to reduce effects from ground shaking on these structures and minimize structural damage. Further, monitoring and extraction wells would be designed in accordance with California Well Standards, which include well sealing and casing provisions to prevent corrosion and leaks that would also help secure the well in the event of ground shaking. A permit must be obtained from Riverside County for all planned monitoring and extraction wells, which would trigger County review and inspection of the wells for structural stability and compliance with State and standards. Therefore, the potential for structural damage due to seismic ground shaking would be less than significant. The proposed monitoring and extraction facilities would not require onsite operators; as such there would be no risk of loss, injury or death due to seismic ground shaking.

Conveyance Facilities

As shown in **Figure 3.6-1**, segments of the Proposed Program's raw water pipeline and 48-inch potable water pipeline would pass through an Alquist-Priolo fault zone. In addition, all conveyance facilities would be located in an area with high PGA values and would likely experience strong seismic ground shaking. However, the proposed conveyance facilities would be

designed per EMWD's Engineering Standards and Specifications that would ensure structural resiliency. Therefore, the potential for structural damage due to seismic ground shaking would be less than significant.

Impact Determination

The proposed recharge facilities would be designed to withstand ground shaking. Construction of proposed extraction and monitoring wells in accordance with State well standards would help ensure their structural stability during ground shaking. Conveyance facilities would be constructed according to EMWD's Engineering Standards and Specifications that would ensure structural resiliency, which would reduce their potential for rupture during ground shaking.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge Facilities

PGA values for the surrounding area indicate the Mountain Avenue West recharge facility could experience substantive ground shaking. Since the Mountain Avenue West facility would not technically contain structures, the requirements of the California Building Code, including their seismic design provisions, would not apply. However, as described above for the Proposed Program's recharge facilities, the Mountain Avenue West berms are expected to withstand a substantial amount of shaking before rupture given the facility's unlined, relatively flexible design in which the water surface elevation in each pond would be at or below the ground surface even though the berms would be built up above ground surface. As such, in the event of berm rupture, the amount of water released offsite would be negligible because the ponds would be below ground surface. The Mountain Avenue West ponds would be 10 to 15 feet below ground surface, and the berms would range from 3 to 8 feet above the ground surface. In addition, given the operation of the ponds for recharge, the water level would be constantly fluctuating such that the water surface elevation would only intermittently be at ground surface. Therefore, the potential for seismic ground shaking to expose people or structures to risk of loss, injury or death would be less than significant.

Monitoring and Extraction Facilities

The Proposed Project's monitoring and extraction facilities could experience substantive ground shaking. The proposed monitoring and extraction facilities would be constructed according to California Building Code seismic design stipulations, where applicable, that would minimize effects from ground shaking on these structures. The proposed treatment/blending and disinfection facilities at Hewitt and Evans would include onsite storage of hazardous materials such as chlorine or chloramine; strong ground shaking has potential to cause accidental release of such hazardous materials. However, as described in Section 3.8, *Hazards and Hazardous Materials*, the facility design would be required to adhere to CBC requirements and include secondary containment around hazardous materials storage areas to ensure accidental spills are

contained onsite. Further, monitoring and extraction wells would be designed in accordance with California Well Standards, which include well sealing and casing provisions to prevent corrosion and leaks that would also help secure the well in the event of ground shaking. Each monitoring and extraction well would also require a permit from Riverside County, which would trigger County review and inspection of the wells for their structural stability and compliance with State and standards. Therefore, the Proposed Project's monitoring and extraction facilities would not expose people or structures to potential substantial adverse effects due to strong seismic ground shaking.

Conveyance Facilities

The Proposed Project's conveyance facilities would be located in an area with high seismic hazards, and would thus likely experience ground shaking. However, the proposed conveyance facilities would be designed per EMWD's Engineering Standards and Specifications that would ensure structural resiliency. Therefore, ground shaking impacts would be less than significant for Proposed Project conveyance facilities through use of standard design seismic guidelines for pipeline design.

Impact Determination

The recharge basins at Mountain Avenue West facility would be designed to withstand strong seismic ground shaking. Construction of proposed extraction and monitoring wells in accordance with State well standards would help ensure their structural stability during ground shaking. The treatment/blending and disinfection facilities at Hewitt and Evans site would be built in accordance with CBC seismic design requirements. Conveyance facilities would be constructed according to EMWD's Engineering Standards and Specifications, which would reduce their potential for rupture during ground shaking.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Liquefaction

Impact GEO-1c: Implementation of the Proposed Program and the Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

Program-Level Impacts

Recharge, Monitoring, Extraction, and Conveyance Facilities

The Proposed Program area is located in an area characterized with high liquefaction potential due to the potential for shallow groundwater (Riverside County, 2016). In accordance with **Mitigation Measure GEO-PMM-1**, a soils and geotechnical report would be prepared for all Program facilities with potential to encounter shallow groundwater. The geotechnical report will

determine whether liquefaction risk exists for each Program site and provide recommendations for materials and design that shall be incorporated into the specifications for each facility. In addition, all monitoring and extraction wells would require a permit from Riverside County; during permit review, well design would be reviewed for compliance with State well standards and structural stability. Conveyance facilities would be designed in accordance with EMWD's Engineering Standards and Specifications, which ensure stability in the event of an earthquake and subsequent ground instability, including liquefaction. With implementation of Mitigation Measure GEO-PMM-1, impacts would be less than significant.

Impact Determination

The Proposed Program area is located in an area characterized with high liquefaction potential due to the potential for shallow groundwater. Incorporation of recommendations from the soils report and geotechnical report required by Mitigation Measure GEO-PMM-1 into the design of Program facilities would reduce potential liquefaction impacts to less than significant levels.

Program Mitigation Measures

GEO-PMM-1: Soils Reports and Geotechnical Investigation. For all future projects implemented under the Proposed Program, a soils report and geotechnical investigation report shall be prepared by a California licensed geotechnical engineer. These reports shall evaluate various geotechnical characteristics including existing liquefaction risk, expansive soils, and soil stability. The reports shall provide recommendations for facility design per these findings; these recommendations shall be incorporated into facility design.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge and Monitoring Facilities

A geotechnical investigation was conducted for some components of the Proposed Program, including Mountain Avenue West (Converse Consultants, 2016). The geotechnical investigation report concluded that earthquake-induced liquefaction risk at Mountain Avenue West was low. Impacts associated with liquefaction would be less than significant.

Extraction and Conveyance Facilities

The extraction and conveyance facilities are located in an area generally characterized with high liquefaction potential due to the potential for shallow groundwater (Riverside County, 2016). In accordance with **Mitigation Measure GEO-MM-1**, a soils and geotechnical report would be prepared for all Project facilities with potential to encounter shallow groundwater. The geotechnical report will determine whether liquefaction risk exists and provide recommendations for materials and design that shall be incorporated into the specifications for each Project facility. In addition, all extraction wells would require a permit from Riverside County; during permit review, well design would be reviewed for compliance with State well standards and structural stability. Conveyance facilities would be designed in accordance EMWD's Engineering Standards and Specifications that would ensure structural resiliency in the event of an earthquake

and subsequent ground instability, including liquefaction. With implementation of Mitigation Measure GEO-MM-1, impacts would be less than significant.

Impact Determination

The Proposed Project area is located in an area characterized with high liquefaction potential due to the potential for shallow groundwater. Incorporation of recommendations from the soils report and geotechnical report required by Mitigation Measure GEO-MM-1 into the design of Project facilities would reduce potential liquefaction impacts to less than significant levels.

Mitigation Measures

GEO-MM-1: Soils Reports and Geotechnical Investigation. A soils report and geotechnical investigation report shall be prepared by a California licensed geotechnical engineer for all Project facilities with potential to encounter shallow groundwater or expansive soils. These reports shall evaluate various geotechnical characteristics including existing liquefaction risk, expansive soils, and soil stability, and whether the operation of Project facilities would exacerbate an existing risk of liquefaction or soil instability or create a new risk. The reports and evaluation shall provide recommendations for facility design per these findings; these recommendations shall be incorporated into facility design.

Significance Conclusion

Less than Significant with Mitigation

Landslides

Impact GEO-1d: Implementation of the Proposed Program and the Proposed Project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

Program-Level Impacts

Recharge, Monitoring and Extraction Facilities

As shown in **Figure 3.6-1**, none of the proposed recharge, monitoring or extraction facilities would be located within an area identified by the State with substantial landslide risk. The Proposed Program facilities would be installed in area that are relatively flat and surrounded by development. Therefore, the potential for landslides is low, and impacts related to landslides would be less than significant for proposed Program recharge, monitoring and extraction facilities.

Conveyance Facilities

As shown in **Figure 3.6-1**, small segments of the proposed 48-inch potable water pipeline alignment and the proposed raw water pipeline would pass through State-identified areas of landslide risk. However, the proposed conveyance facilities would be installed belowground, and the existing grade would be restored following their installation. Therefore, conveyance facilities would not be exposed to the adverse risks of landslides on the ground surface, nor add to the landslide risk of the area. Impacts related to landslides would be less than significant for Proposed Program conveyance facilities.

Impact Determination

None of the Proposed Program recharge, monitoring or extraction facilities would be located in an area with landslide risk. Although some conveyance facilities would pass through landslide risk areas, they would not exacerbate landslide potential or be impacted during landslides since they would operate belowground.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring and Extraction Facilities

As shown in **Figure 3.6-1**, neither the proposed Mountain Avenue West recharge facility nor monitoring and extraction facilities would be located within an area identified by the State with substantial landslide risk. These facilities would be installed in relatively flat areas surrounded by development. Thus, the potential for landslides is low, and impacts related to landslides would be less than significant for Proposed Project recharge, monitoring and extraction facilities.

Conveyance Facilities

As shown in **Figure 3.6-1**, none of the Proposed Project conveyance facilities would be located within a State-identified landslide risk area. Conveyance facilities would be installed belowground, and the existing grade would be restored following their installation. Therefore, conveyance facilities would not be exposed to the adverse risks of landslides on the ground surface. Impacts related to landslides would be less than significant for Proposed Project conveyance facilities.

Impact Determination

None of the Proposed Project recharge, monitoring, extraction or conveyance facilities would be located in an area with landslide risk.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Soil Erosion

Impact GEO-2: Implementation of the Proposed Program and the Proposed Project could result in substantial soil erosion or the loss of topsoil.

Program-Level Impacts

Recharge and Conveyance Facilities

Construction of the proposed recharge and conveyance facilities would require ground-disturbing activities such as grading and excavation, and formation of earthen berms to create the recharge ponds. The existing soils onsite would be used to create earthen berms and conveyance facilities would be installed underground primarily within previously-disturbed areas; as such there would be no loss of topsoil. However, ground disturbance could result in stormwater-driven or wind-driven soil erosion. Construction of these facilities would likely disturb greater than an acre of ground surface and would thus require coverage under the Construction General Permit, which includes preparation and implementation of a SWPPP (see Section 3.9, *Hydrology and Water Quality*). A SWPPP includes various BMPs designed to minimize the occurrence of erosion and sedimentation during construction. Therefore, compliance with the Construction General Permit would reduce erosion impacts during construction of recharge and conveyance facilities to less than significant levels.

Once operational, recharge facilities would require routine removal of dried, aquatic plant material and other debris present along the bottom of the ponds through the use of scrapers; this material would be stockpiled onsite for later disposal. Removal of this material would not result in erosion as it would occur within the recharge basin itself and disturbed soil would remain within the basin. Any soil material that could be potentially removed in addition to the plant and debris material during these maintenance activities is not considered topsoil since the recharge basin is an excavated depression in the ground surface. Since stockpiles would likely include sediment in addition to debris and aquatic material, BMPs would be implemented during operation of all recharge facilities designed to prevent erosion from occurring by wind or storm events. All stockpiled debris and aquatic material left unmoved for 14 days would be covered and secured with fiber rolls to prevent erosion from occurring during wind and storm events. Conveyance facilities would operate belowground and would thus not cause erosion or the loss of topsoil. With implementation of soil stockpiling BMPs, impacts would be less than significant.

Monitoring and Extraction Facilities

Construction of monitoring and extraction facilities would disturb the ground surface. Each extraction facility could disturb up to one acre and the monitoring facilities together could disturb up to one acre. As such, construction of these facilities would thus require coverage under the Construction General Permit, which includes preparation and implementation of a SWPPP (see Section 3.9, *Hydrology and Water Quality*). A SWPPP includes various BMPs designed to minimize the occurrence of erosion and sedimentation during construction. Therefore, compliance with the Construction General Permit would reduce erosion impacts during construction of monitoring and extraction facilities to less than significant levels.

Impact Determination

Construction of the proposed recharge, monitoring, extraction, and conveyance facilities would disturb more than an acre and would require coverage under the Construction General Permit, which requires implementation of erosion control and sediment control BMPs. Operation of the recharge facilities would require stockpiling of recharge pond materials onsite, and implementation BMPs would ensure the potential for erosion of stockpiled soils is mitigated to less than significant levels.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge and Monitoring Facilities

Construction of the Mountain Avenue West recharge facilities and associated monitoring facilities would occur concurrently and would disturb greater than an acre of ground surface. Therefore, a SWPPP would be prepared in accordance with the Construction General Permit that includes erosion and sediment control BMPs designed to minimize the occurrence of stormwater-driven and wind-driven erosion and sedimentation during construction. Implementation of the BMPs required by the Construction General Permit would reduce erosion and topsoil loss-related impacts during construction of recharge and monitoring facilities to less than significant levels.

Once operational, the Mountain Avenue West recharge facility would require routine removal and stockpiling of dried, aquatic plant material and other debris deposited along the bottom of the ponds. Since stockpiles would likely include sediment in addition to debris and aquatic material, BMPs would be implemented during operation of Mountain Avenue West to prevent erosion from occurring by wind or storm events. All stockpiled debris and aquatic material left unmoved for 14 days must be covered and secured to prevent erosion from occurring during wind and storm events. With implementation of soil stockpiling BMPs, operation of monitoring facilities would not result in erosion or the loss of topsoil.

Extraction Facilities

Construction of extraction facilities would disturb the ground surface and could result in erosion or topsoil loss. As such, construction of extraction facilities would thus require coverage under the Construction General Permit, which includes preparation and implementation of a SWPPP (see Section 3.9, *Hydrology and Water Quality*). A SWPPP includes various BMPs designed to minimize the occurrence of erosion and sedimentation during construction. Therefore, compliance with the Construction General Permit would reduce erosion impacts during construction of extraction facilities to less than significant levels.

Conveyance Facilities

Construction of conveyance facilities would likely disturb greater than an acre of ground surface and could result in erosion or topsoil loss. As required by the General Construction Permit, a SWPPP would be prepared including erosion and sediment control BMPs. Once operational, conveyance facilities would be belowground and would not cause erosion or the loss of topsoil; related impacts would be less than significant.

Impact Determination

Construction of the proposed Mountain Avenue West recharge facilities and associated monitoring and extraction facilities would disturb more than an acre and would therefore require coverage under the Construction General Permit, which requires implementation of erosion control and sediment control BMPs. Operation of the recharge facilities would require stockpiling of recharge pond materials onsite and would involve BMPs that would ensure the potential for erosion of stockpiled soils is mitigated to less than significant levels.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Unstable Soils

Impact GEO-3: Implementation of the Proposed Program and the Proposed Project could 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.

Landslide impacts were addressed in Impact GEO-1d. Lateral spreading impacts is directly related to liquefaction and were addressed in Impact GEO-2. Expansive soil impacts will be addressed in Impact GEO-4. The following analysis addresses impacts related to soil instability that results in subsidence or collapse.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

All of the Proposed Program features located in the cities of San Jacinto and Hemet, and unincorporated portions of Riverside County would be situated within an area of documented subsidence (Riverside County, 2016). Subsidence could occur naturally based on geological movement of the San Jacinto fault, and/or become exacerbated by the extraction of groundwater that is proposed by the Program. Impacts of subsidence could include damage to new facilities and infrastructure, which would inhibit operation. The Proposed Program proposes to recharge water for use seasonally and in dry years, and would not involve extracting more water out of the basin than what is put in via recharge activities. As a result, subsidence is not anticipated to occur because the baseline groundwater levels would not decrease as a result of the Proposed Program.

Nevertheless, the Proposed Program includes installation of shallow and multi-point monitoring around the recharge basins and extraction wells to provide data points related to groundwater elevation and movement at different locations within the aquifer. Implementation of **Mitigation Measure GEO-PMM-2** would ensure that monitoring wells assess and record any groundwater fluctuation and prevent subsidence from occurring in cases where low groundwater levels are identified. With implementation of Mitigation Measure GEO-PMM-2, impacts would be less than significant.

Impact Determination

The Proposed Program's facilities could be subject to structural instability in the form of subsidence or collapse. Implementation of Mitigation Measure GEO-PMM-2 would ensure that groundwater levels do not lower below historic low elevations in the San Jacinto and Hemet areas which are susceptible to subsidence. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

GEO-PMM-2: Groundwater Monitoring. For all future projects implemented under the Proposed Program, EMWD shall monitor groundwater levels to identify if and when levels reach below historical low levels. If monitoring data show that groundwater levels have reached historically low levels, EMWD shall reduce recovery operations to prevent subsidence from occurring.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Similar to the Proposed Program, all of the Proposed Project features located in the City of San Jacinto would be situated within an area of documented subsidence (Riverside County, 2014). Subsidence could occur naturally based on geological movement of the San Jacinto fault, and/or become exacerbated by the extraction of groundwater that is proposed by three extraction wells that are part of the Proposed Project. Impacts of subsidence could include damage to new facilities and infrastructure, including the Hewitt and Evans treatment/blending and disinfection facility, which would disrupt operation. The Proposed Project proposes to recharge water at Mountain Avenue West for extraction seasonally or during dry years, but would not involve extracting more water out of the basin than what is put in via recharge activities. As a result, subsidence is not anticipated to occur because the baseline groundwater levels would not decrease as a result of the Proposed Project. Nevertheless, the Proposed Project includes installation of shallow and multi-point monitoring around Mountain Avenue West to provide data points related to groundwater elevation and movement at different locations within the aquifer. Implementation of **Mitigation Measure GEO-MM-2** would ensure that monitoring wells assess and record any groundwater fluctuation and prevent subsidence from occurring in cases where low groundwater levels are identified. With implementation of Mitigation Measure GEO-PMM-2, impacts would be less than significant.

Impact Determination

The Proposed Project's facilities could be subject to structural instability in the form of subsidence or collapse. Implementation of Mitigation Measure GEO-PMM-2 would ensure that groundwater levels do not lower below historic low elevations in the San Jacinto area which is susceptible to subsidence. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

GEO-MM-2: Groundwater Monitoring. EMWD shall monitor groundwater levels to identify if and when levels reach below historical low levels. If monitoring data show that groundwater levels have reached historically low levels, EMWD shall reduce recovery operations to prevent subsidence from occurring.

Significance Conclusion

Less than Significant with Mitigation

Expansive Soils

Impact GEO-4: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge Facilities

The Proposed Program recharge facilities would be comprised of multiple recharge ponds surrounded by berms. Since the facilities would be comprised of earthen material and would not include foundations, recharge facilities would not likely be affected by expansive soils. Impacts would be less than significant.

Monitoring, Extraction, and Conveyance Facilities

The Proposed Program monitoring, extraction, and conveyance facilities could be located in areas with expansive soils. Expansive soils could shrink and swell causing damage to Program facilities including cracking of rigid structures. Implementation of Mitigation Measure GEO-PMM-1 for all Program facilities would provide for the identification of expansive soils as part of a geotechnical investigation. If expansive soils are identified, the geotechnical investigation will include recommendations for materials and design to mitigate potential for infrastructure damage to occur, such as pipeline rupture. Such recommendations shall be incorporated into the design specifications for Program facilities. In addition, during permit review, well design would be reviewed for compliance with State well standards and structural stability, and conveyance facilities would be designed in accordance with EMWD's Engineering Standards and Specifications, which would ensure structural resiliency in the event of an earthquake. Pipelines designed for stability would also help mitigate the effects of soil expansiveness.

Impact Determination

The Proposed Program's recharge facilities would be constructed of earthen materials and would not be substantially affected by expansive soils. The geotechnical investigation required by Mitigation Measure GEO-PMM-1 would identify structural design requirements for the Proposed Program's monitoring, extraction, and conveyance facilities that would mitigate potential impacts associated with expansive soils. Impacts would be less than significant with mitigation.

Program Mitigation Measures

Implementation of Mitigation Measure GEO-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge Facilities

The Mountain Avenue West recharge facility would be comprised of multiple recharge ponds surrounded by berms. Since the facilities would be comprised of earthen material and would not include foundations, recharge facilities would not likely be affected by expansive soils. Impacts would be less than significant.

Monitoring, Extraction, and Conveyance Facilities

The Proposed Project monitoring, extraction, and conveyance facilities could be located in areas with expansive soils. Expansive soils could shrink and swell causing damage to Project facilities including cracking of rigid structures such as the building foundations for extraction well housing and treatment buildings at Hewitt and Evans. Implementation of Mitigation Measure GEO-MM-1 would provide for the identification of expansive soils as part of a geotechnical investigation. If expansive soils are identified, the geotechnical investigation will include recommendations for materials and design to mitigate potential for infrastructure damage to occur, such as pipeline rupture or cracking of structural foundations. Such recommendations shall be incorporated into the design specifications for Project facilities. In addition, during permit review, well design would be reviewed for compliance with State well standards and structural stability, and conveyance facilities would be designed in accordance with EMWD's Engineering Standards and Specifications, which would ensure structural resiliency in the event of an earthquake. Pipelines designed for stability would also help mitigate the effects of soil expansiveness.

Impact Determination

The Proposed Project's recharge facilities would be constructed of earthen materials and would not be substantially affected by expansive soils. The geotechnical investigation required by Mitigation Measure GEO-MM-1 would identify structural design requirements for the Proposed Project's monitoring, extraction, and conveyance facilities that would mitigate potential impacts associated with expansive soils. Impacts would be less than significant with mitigation.

Program Mitigation Measures

Implementation of Mitigation Measure GEO-MM-1.

Significance Conclusion

Less than Significant with Mitigation

Septic Tanks

Impact GEO-5: Implementation of the Proposed Program and the Proposed Project would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The proposed Program facilities would not include the construction or operation of septic tanks or alternative water disposal systems. No impact would occur.

Impact Determination

None of the Proposed Program facilities would include septic tanks. No impact would occur.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project facilities would not include the construction or operation of septic tanks or alternative water disposal systems. No impact would occur.

Impact Determination

None of the Proposed Project facilities would include septic tanks. As a result, no impact would occur.

Mitigation Measures

None required.

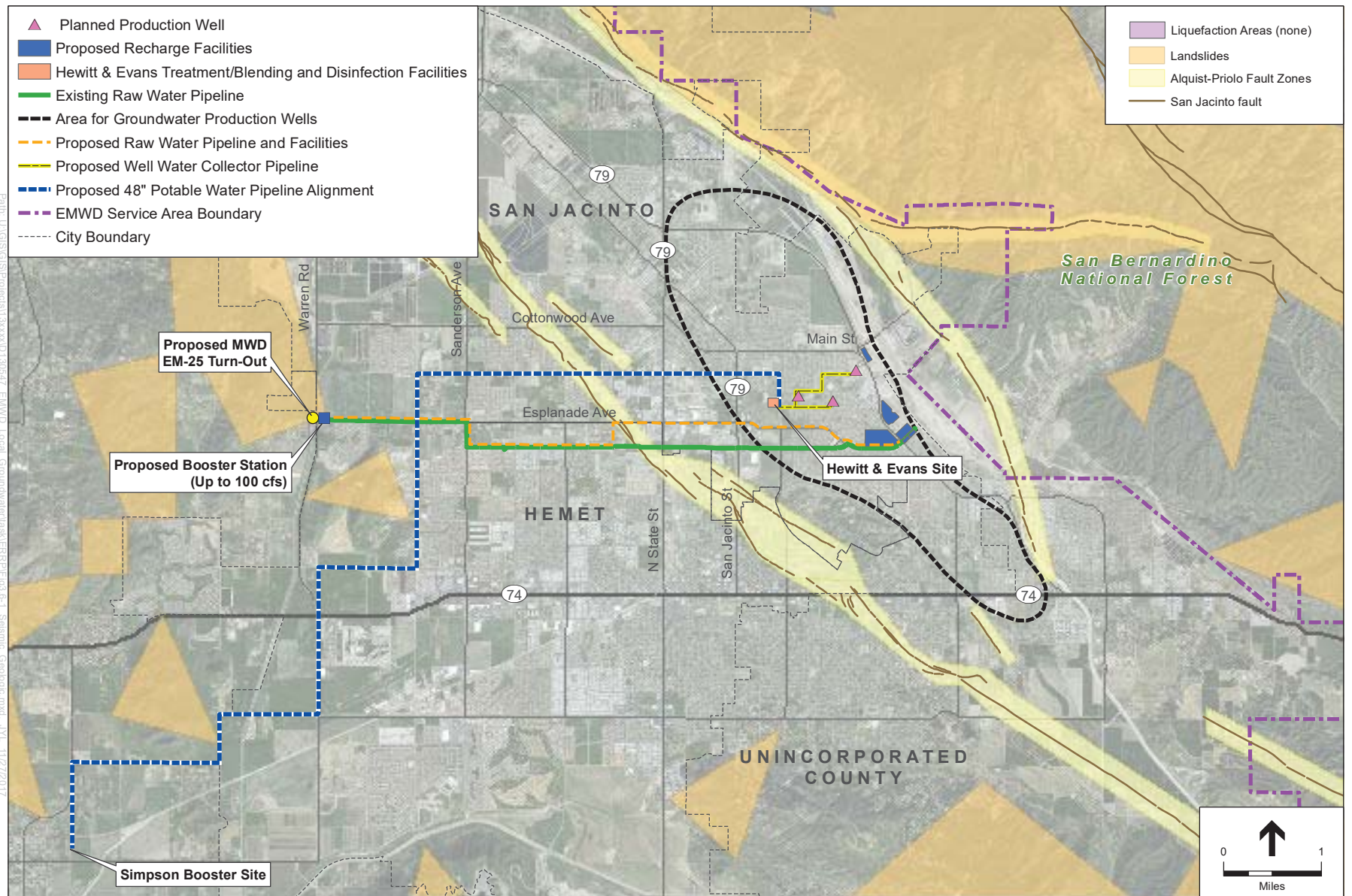
Significance Conclusion

No Impact

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SOURCE: ESRI; Eastern Municipal Water District; USGS

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.6-1
Seismic and Geologic Hazards

3.7 Greenhouse Gas Emissions and Energy

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to greenhouse gas emissions and energy use/consumption. The section includes a description of the environmental setting to establish baseline conditions for greenhouse gas emissions and energy; a summary of the regulations related to greenhouse gas emissions and energy; and an evaluation of the Proposed Program's and Proposed Project's potential effects on greenhouse gas emissions and energy.

As required pursuant to Appendix F of the *CEQA Guidelines*, a Draft EIR must include a discussion of the potential energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. PRC Section 21100(b)(3) and *CEQA Guidelines* Section 15126.4 also require Draft EIRs to describe feasible mitigation measures which could minimize, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. The energy analysis is therefore included in this section as GHG emissions and emissions reductions are closely related to energy consumption.

3.7.1 Environmental Setting

Regional Setting

The study area for climate change and the analysis of GHG emissions is broad given that worldwide emissions and their global effects influence climate change. However, the study area is also limited by the *CEQA Guidelines* Section 15064(d), which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact, which may be caused by a project.

The baseline against which to compare the Proposed Program's and Proposed Project's potential impacts includes the natural and anthropogenic drivers of global climate change, including worldwide GHG emissions from human activities, which grew more than 70 percent between 1970 and 2004. The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis relies on guidelines, analyses, policies, and plans for reducing GHG emissions established by CARB.

Global Climate Change – Greenhouse Gases

Greenhouse gases (GHGs) trap heat in the atmosphere. GHGs are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the earth's temperature. The six major GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The natural process through which heat is retained in the troposphere is called the "greenhouse effect."¹ The greenhouse effect traps heat in the troposphere through a threefold process: the Earth absorbs

¹ The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

short wave radiation emitted by the Sun; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit it into space and toward the Earth. This “trapping” of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and CO₂ (EPA, 2016a). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation. The GHGs that would be normally associated with the Proposed Program and Proposed Project include the following (IPCC, 2007a):²

- Carbon Dioxide (CO₂). Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO₂ emissions from fossil fuel combustion increased by a total of 7.4 percent between 1990 and 2014 (EPA, 2016a). Carbon dioxide is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
- Methane (CH₄). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The United States’ top three methane sources are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, used for space and water heating, steam production, and power generation. The Global Warming Potential of methane is 25.
- Nitrous Oxide (N₂O). Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. The Global Warming Potential of nitrous oxide is 298.
- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of chlorofluorocarbons (CFCs) and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 12 for HFC-161 to 14,800 for HFC-23 (EPA, 2016a).
- Perfluorocarbons (PFCs). Perfluorocarbons are compounds consisting of carbon and fluorine, and are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years) (EPA, 2016b). The Global Warming Potential of PFCs range from 7,390 to 12,200 (EPA, 2016b).
- Sulfur hexafluoride (SF₆). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. Sulfur hexafluoride is the most potent GHG that has been evaluated by the IPCC with a Global Warming Potential of 22,800 (EPA, 2016b).
- Water Vapor (H₂O). Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the

² All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change.

water vapor in our atmosphere, respectively. The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, it does not contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The IPCC has not determined a Global Warming Potential for water vapor.

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds could potentially contribute to the greenhouse effect. Some of these substances have been identified as produce ozone (O₃) depletors and their gradual phase out is currently in effect. These compounds are listed below:

- Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b (IPCC, 2007b).
- 1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The Global Warming Potential of methyl chloroform is 146 times that of carbon dioxide (CO₂ has a GWP of 1) (IPCC, 2007b).
- Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the EPA's Final Rule (57 FR 3374) for the phase out of O₃ depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with 100-year Global Warming Potentials ranging from 3,800 for CFC 11 to 14,400 for CFC 13 (IPCC, 2007b).

Energy

Pursuant to *CEQA Guidelines* Appendix F, the environmental setting may include “existing energy supplies and energy use patterns in the region and locality.” Existing energy supplies and energy use in the region and locality are described below. Energy consumption is analyzed in this Draft EIR due to the potential direct and indirect environmental impacts associated with the Proposed Program and Proposed Project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emissions of pollutants during both construction and operations.

Electricity/Natural Gas Services

Southern California Edison (SCE) provides electrical services to Riverside in California and has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, generation of electricity is usually not tied to the location of the fuel source and can be delivered great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). One MW provides

enough energy to power 1,000 average California homes per day. Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours (GWh).

The Southern California Gas Company (SCG) provides natural gas services to Riverside County. The Proposed Program and Proposed Project would consume natural gas or electricity with the operation of the new infrastructure. Natural gas is a hydrocarbon fuel found in reservoirs beneath the earth's surface and is composed primarily of methane (CH₄). It is used for space and water heating, process heating and electricity generation, and as transportation fuel. Use of natural gas to generate electricity is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels like oil and coal. In California and throughout the western United States, many new electrical generation plants that are fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. As of 2016, 50 percent of the electricity consumed in California was generated using natural gas (CEC, 2017a). While the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little, and imports 90 percent of its natural gas. Most imports are delivered via interstate pipelines from the Southwest, Rocky Mountains, and Canada (CEC, 2017a).

Electricity and natural gas service is available to locations where land uses could be developed. Riverside County's ongoing development review process includes a review and comment opportunity for privately owned utility companies, including SCE, to allow informed input from each utility company on all development proposals. The input facilitates a detailed review of all projects by service purveyors to assess the potential demands for utility services on a project-by-project basis. The ability of utility providers to provide services concurrently with each project is evaluated during the development review process. Utility companies are bound by contract to update energy systems to meet any additional demand.

Energy usage is typically quantified using the British Thermal Unit (BTU). Total energy usage in California was 7,676 trillion BTU in 2015 (the most recent year for which this specific data is available), which equates to an average of 197 million BTU per capita. Of California's total energy usage, the breakdown by sector is 39 percent transportation, 24 percent industrial, 19 percent commercial, and 18 percent residential. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (EIA, 2017). In 2016, taxable gasoline sales (including aviation gasoline) in California accounted for 15,487,956,872 gallons of gasoline (CBE, 2017).

The electricity consumption attributable to Riverside from 2007 to 2016 is shown in **Table 3.7-1**. As indicated in **Table 3.7-1**, energy consumption in Riverside County remained relatively constant between 2007 and 2016, with no substantial increase.

**TABLE 3.7-1
 ELECTRICITY CONSUMPTION IN RIVERSIDE 2007-2016**

Year	Electricity Consumption (in millions of kilowatt hours)
2007	14,956
2008	15,100
2009	14,518
2010	14,066
2011	14,420
2012	15,287
2013	15,151
2014	15,550
2015	15,668
2016	15,928

SOURCE: CEC, 2017b.

The natural gas consumption attributable to nonresidential land uses in Riverside County from 2007 to 2016 is shown in **Table 3.7-2**. Similar to energy consumption, natural gas consumption in Riverside County remained relatively constant between 2007 and 2016, with no substantial increase.

**TABLE 3.7-2
 NATURAL GAS CONSUMPTION IN RIVERSIDE COUNTY 2007-2016**

Year	Natural Gas Consumption (in millions of therms)
2007	406
2008	413
2009	384
2010	398
2011	405
2012	383
2013	383
2014	331
2015	353
2016	396

SOURCE: CEC, 2017b

Automotive fuel consumption in Riverside County from 2008 to 2016 is shown in **Table 3.7-3**. As shown in **Table 3.7-3**, automotive fuel consumption in Riverside County has declined steadily, since 2008.

**TABLE 3.7-3
AUTOMOTIVE FUEL CONSUMPTION IN CALIFORNIA 2008-2016**

Year	Automotive Fuel Consumption (Billion Gallons Gasoline)	Automotive Fuel Consumption (Billion Gallons Diesel)
2008	15.0	2.8
2009	14.8	2.6
2010	14.9	2.6
2011	14.6	2.6
2012	14.5	2.6
2013	14.5	2.7
2014	14.7	2.8
2015	15.1	2.8
2016	15.5	3.0

SOURCE: BOE

Program Area Setting

The Proposed Program overlies the San Jacinto Groundwater Basin and would be located on the east side of the basin (**Figure 2-1**), specifically within the Sub-Basin, which has been adjudicated and is managed by the Watermaster. The San Jacinto Groundwater Basin is located within Riverside County which is located within the SCAB and is under the jurisdiction of the South Coast Air Quality Management District SCAQMD.

Project Area Setting

The Proposed Project area setting is the same as the Proposed Program area setting.

3.7.2 Regulatory Setting

Federal

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States has historically been a strong supporter of activities under the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC).

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The IPCC's most recent reports have emphasized the scientific consensus around

the evidence that measurable changes to the climate are occurring because of human activity (www.ipcc.ch).³

On September 15, 2009, the National Highway Traffic Safety Administration (NHTSA) and EPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. On November 16, 2011, EPA and NHTSA issued a joint proposal to extend the national program of harmonized GHG and fuel economy standards to model year 2017 through 2025 passenger vehicles. In August 2012, President Obama finalized standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025.

In September 2009, the EPA finalized a GHG reporting and monitoring system that began on January 1, 2010. In general, this national reporting requirement would provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of carbon dioxide (CO₂) per year. This new program covers approximately 85 percent of the nation's GHG emissions and applies to approximately 10,000 facilities.

In addition to EPA efforts to implement GHG reporting and monitoring systems, the Obama Administration released *The President's Climate Action Plan* that promotes efforts to reduce GHG emissions by deploying clean energy solutions, developing and deploying advanced transportation technologies, and cutting energy waste in homes, businesses, and factories. Additionally, federal agencies are committing to release Climate Change Adaptation Plans, which promote the construction of stronger and safer communities and infrastructure, protect the economy and natural resources, and use sound science to manage climate impacts.

In the most recent international climate change agreement adopted at the Paris UNFCCC climate conference in December 2015 ("Paris Accord"), the United States set its intended nationally determined contribution to reduce its greenhouse gas emissions by 26 to 28 percent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 percent. These targets were set with the goal of limiting global temperature rise to below 2 degrees Celsius and getting to the 80 percent emission reduction by 2050 (UNFCCC, 2017).

However, on June 1, 2017, President Donald Trump issued a statement announcing that "the United States will cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country. This includes ending the implementation of the nationally determined contribution and, very importantly, the Green Climate Fund which is costing the United States a vast fortune (White House, 2017)."

Federal Clean Air Act, Section 111

The Federal Clean Air Act lays out distinct approaches for new and existing sources under Section 111, a federal program for new sources and state programs for existing sources. The EPA is using its authority under Section 111 of the Clean Air Act to issue standards, regulations or

³ Although many of these regulatory programs do not directly relate to California or ocean desalination, they are nonetheless relevant as regulatory means of reducing the global impact of GHG, which is by definition an issue of global, cumulative concern.

guidelines, as appropriate that address carbon pollution from new and existing power plants, including modifications of those plants. Section 111(b) creates a federal program to establish standards for new and reconstructed stationary sources. Section 111(d) is a state-based program for existing stationary sources where the EPA sets the guidelines and the states implement programs to meet those guidelines (EPA, 2016c).

Clean Power Plan⁴

On August 3, 2015, President Obama and the EPA announced the Clean Power Plan. The Clean Power Plan sets achievable standards to reduce carbon dioxide emissions by 32 percent from 2005 levels by 2030 (White House, 2016). This Plan establishes final emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, the EPA is establishing: (1) carbon dioxide emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil fuel-fired EGUs, fossil fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific CO₂ goals reflecting the CO₂ emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO₂ emission performance rates, which may be accomplished by meeting the state goals. This final rule will continue progress already under way in the U.S. to reduce CO₂ emissions from the utility power sector (EPA, 2015). It is noted that on February 9, 2016, the Supreme Court stayed implementation of the Clean Power Plan pending judicial review. Following full merits briefing, oral argument was held before the D.C. Circuit, sitting *en banc*, on September 27, 2016. That case is currently pending in the D.C. Circuit.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (42 USC 17001) includes several key provisions to increase energy efficiency and the availability of renewable energy to reduce greenhouse gas emissions. First, the Energy Independence and Security Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased CAFE Standards to require a minimum average fuel economy of 35 miles per gallon for the coed fleet of cars and light trucks by 2020. Third, the Energy Independence and Security Act includes a variety of new standards for lighting, residential, and commercial appliance equipment (EPA, 2007).

Greenhouse Gas Reporting Program (GHGRP)

The EPA adopted the GHGRP (40 CFR Part 98), a mandatory GHG reporting rule in September 2009. The rule requires suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the EPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers were required to begin reporting GHG emissions for model year 2011. In January 2012, EPA made the first year of GHGRP reporting data available to the public through its interactive Data Publication Tool, called Facility

⁴ Note that the Clean Power Plan is currently under review by the Trump Administration. See Executive Order on Energy Independence below.

Level Information on Greenhouse Gases Tool (FLIGHT), EPA will continue to update the tool and release additional data each reporting year (EPA, 2017a).

President Obama's Climate Action Plan⁵

On June 25, 2013, President Obama issued a Climate Action Plan. The three main goals are to cut carbon pollution, prepare the U.S. for the impacts of climate change, and lead international efforts to combat global climate change and prepare for its impacts. President Obama plans to cut carbon pollution by directing the EPA to complete carbon pollution standards in the power sector. This will reduce emissions from power plants and encourage renewable energy development. Other strategies to combat climate change are increasing energy efficiency, stricter vehicle and fuel standards, preserving forests as climate sinks, reducing energy waste, combating short-lived climate pollutants, mobilizing climate finance, and leading international negotiations on climate change (White House, 2013).

Executive Order on Energy Independence

On March 28, 2017, President Donald Trump signed the Executive Order on Energy Independence, which calls for:

- Review of the Clean Power Plan
- Review of the 2016 Oil and Gas New Source Performance Standards for New, Reconstructed, and Modified Sources
- Review of the Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units
- Withdrawal of Proposed Rules: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; and Clean Energy Incentive Program Design Details (EPA, 2017b)

Given this executive order, President Trump's decision to withdraw from the Paris Accord, and the Trump Administration's comments concerning climate change, the federal regulations on greenhouse gas emissions are currently uncertain.

State

Executive Order S-1-07

Executive Order S-1-07 proclaims that the transportation sector is California's main source of GHG emissions, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs the CARB to determine whether this Low Carbon Fuel Standard (LCFS) can be adopted as a discrete early-action measure, as part of the effort to meet AB 32 mandates.

⁵ Note that federal GHG laws and policies will likely change with the Trump administration. See Executive Order on Energy Independence below.

Executive Orders S-3-05 & B-30-15

Executive Order S-3-05 set forth the following targets for progressively reducing statewide GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the Secretary of the Cal/EPA to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary is also mandating that biannual reports be submitted to the California Governor and Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions.

Executive Order B-30-15 added the interim target to reduce statewide GHG emissions 40 percent below 1990 levels by 2030, and requires CARB to update its current AB 32 Scoping Plan to identify measures to meet the 2030 target.

Assembly Bill 32 & Senate Bill 32 – California Global Warming Solutions Act

The State passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires a reduction in statewide GHG emissions to 1990 levels by 2020.

Signed into law on September 8th 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) codifies the 2030 target in the recent Executive Order B-30-15 (40 percent below 1990 levels by 2030). SB 32 states the intent of the Legislature to continue to reduce GHG for the protection of all areas of the state and especially the state's most disadvantaged communities which are disproportionately impacted by the deleterious effects of climate change on public health (CLI, 2016). SB 32 was passed with companion legislation AB 197, which provides additional direction for developing the Scoping Plan.

Climate Change Scoping Plan

On December 11th, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve the California GHG reductions required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California would implement to reduce the projected 2020 Business as Usual (BAU) emissions to 1990 levels, as required by AB 32. These strategies are intended to reduce CO₂e⁶ emissions by 174 million MT, or approximately

⁶ Carbon Dioxide Equivalent (CO₂e) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

30 percent, from the State’s projected 2020 emissions level of 596 million MT CO₂e under a BAU⁷ scenario. This reduction of 42 million MT CO₂e, or almost ten percent from 2002 to 2004 average emissions, would be required despite the population and economic growth forecasted through 2020.

CARB’s Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. When CARB’s Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB’s Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

The 2008 Scoping Plan included several measures related to the water sector, including Measure W-1 (Water Use Efficiency), Measure W-2 (Water Recycling), Measure W-3 (Water System Energy Efficiency), Measure W-4 (Reuse Urban Runoff), Measure W-5 (Increase Renewable Energy Production), and Measure W-6 (Public Goods Charge). Of these measures, Measure W-3 is the most applicable to the Proposed Program and the Proposed Project, as the single measure with greatest GHG benefit and specifically aimed at reducing GHG related emissions for the overall water system for an agency by reducing the “magnitude and intensity” of energy use in California’s water systems (CARB, 2008). Measure W-3 has a “target” of 20 percent energy efficiency from 2006 levels. The Scoping Plan, however, also notes that GHG reductions in the water sector are not counted toward the AB 32 2020 goal and are “indirectly realized through the reduced energy requirements and are accounted for in the Electricity and Natural Gas sector” (CARB, 2008).

First Update to the Climate Change Scoping Plan (May 2014)

This First Update to California’s Climate Change Scoping Plan (Update) was developed by the CARB in collaboration with the Climate Action Team and reflects the input and expertise of a range of state and local government agencies. The Update reflects public input and recommendations from business, environmental, environmental justice, utilities and community-based organizations provided in response to the release of prior drafts of the Update, a Discussion Draft in October 2013, and a draft Proposed Update in February 2014.

This report highlights California’s success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The First Update includes recommendations for establishing a mid-term emissions limit that aligns with the State’s long-term goal of an emissions limit 80 percent below 1990 levels by 2050 and sector-specific discussions covering issues, technologies, needs, and ongoing State activities to significantly reduce emissions

⁷ “Business as Usual” refers to emissions expected to occur in the absence of any GHG reduction measure (California Environmental Protection Agency Air Resources Board Website, <http://www.arb.ca.gov/cc/inventory/data/bau.htm>, Accessed June 1, 2016). Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the “definition.”

throughout California's economy through 2050. The focus areas include energy, transportation, agriculture, water, waste management, and natural and working lands (CARB, 2013). With respect to the transportation sector, California has outlined several steps in the State's zero emission vehicle (ZEV) Action Plan to further support the market and accelerate its growth. Committed implementation of the actions described in the plan will help meet Governor Brown's 2012 Executive Order (EO) B-16-2012, which—in addition to establishing a more specific 2050 GHG target for the transportation sector of 80 percent from 1990 levels—called for 1.5 million ZEVs on California's roadways by 2025.

Proposed Second Update to the Climate Change Scoping Plan

On November 30, 2017, CARB released its proposed final version of *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving California's new SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels (CARB, 2017). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by E.O. B-30-15 to reduce Statewide GHG emissions by 2050 to 80 percent below 1990 levels. The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target Statewide 2030 emissions limit is 260 MMTCO_{2e}, and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO_{2e} beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15.

While acknowledging the water sector as essential to community health and long-term well-being, and the imperative for continued access to clean and reliable sources of drinking water, the 2017 Scoping Plan Update identifies the water sector as one of the state's largest energy users, referencing a 2013 study by the California Energy Commission (CEC) that shows 12 percent of the total energy used in the state is related to water, with 10 percent associated with water-related end uses (e.g., heating, cooling, pressurizing, and industrial processes), and 2 percent associated with energy used by water and wastewater systems (e.g., pump, convey, treat) (CDW, 2013).⁸ These figures indicate that the greatest potential for water-related energy savings resides with water end users, while water agencies have a role in improving end-user water conservation and in reducing the energy intensity of their portfolios. SB 350 and other regulations are expected to decarbonize the electricity sector over time, which will in turn reduce the consumption of fossil fuel-based energy to produce water.

The 2017 Scoping Plan Update describes the State's integrated water management effort, which includes several targeted, agricultural, urban, and industrial-based water conservation, recycling, and water use efficiency programs that will help achieve GHG reductions through reduced energy

⁸ California Department of Water Resources. Water-Energy Nexus: Statewide. Web page accessed November 2017 at: <http://www.water.ca.gov/climatechange/WaterEnergyStatewide.cfm>

demand within the water sector. The following high-level objectives and goals with respect to water are identified:

- Develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system with a focus on actions that provide direct GHG reductions.
- Make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change.
- Develop and support programs and projects that increase water sector energy efficiency and reduce GHG emissions through reduced water and energy use.
- Increase the use of renewable energy to pump, convey, treat, and utilize water.
- Reduce the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy.

The 2017 Scoping Plan Update recognizes the close ties between water reduction and energy/GHG reduction (as well as interactions with natural and working lands, agricultural, waste management and transportation). The 2017 Scoping Plan Update identifies the following ongoing and proposed measures to contribute to the broader energy efficiency goals and reduce GHG emissions in the water sector:

- As directed by Governor Brown’s Executive Order B-37-16, the California Department of Water Resources (DWR) and State Water Resources Control Board (SWRCB) will develop and implement new water use targets to generate more statewide water conservation than existing targets (the existing State law requires a 20 percent reduction in urban water use by 2020 [SBx7-7, Steinberg, Chapter 4, Statutes of 2009]). The new water use targets will be based on strengthened standards for indoor use, outdoor irrigation, commercial, industrial, and institutional water use.
- SWRCB will develop long-term water conservation regulation, and permanently prohibit practices that waste potable water.
- DWR and SWRCB will develop and implement actions to minimize water system leaks, and to set performance standards for water loss, as required by SB 555 (Wolk, Chapter 679, Statutes of 2015).
- DWR and the California Department of Food and Agriculture (CDFA) will update existing requirements for agricultural water management plans to increase water system efficiency.
- CEC will certify innovative technologies for water conservation and water loss detection and control.
- CEC will continue to update the State’s Appliance Efficiency Regulations (CCR, Title 20, Sections 1601–1608) for appliances offered for sale in California to establish standards that reduce energy consumption for devices that use electricity, gas, and/or water.
- CalEPA will oversee development of a registry for GHG emissions resulting from the water-energy nexus, as required by SB 1425 (Pavley, Chapter 596, Statutes of 2016).

- The SWP has entered long-term contracts to procure renewable electricity from 140 MW solar installations in California.
- As described in its Climate Action Plan, DWR will continue to increase the use of renewable energy to operate the State Water Project.

The following potential additional or supporting actions are also identified as having “the potential to reduce greenhouse gases” and “are included to spur thinking and exploration of innovation that may help the state achieve its long-term climate goals (CARB, 2017):”

- Where technically feasible and cost-effective, local water and wastewater utilities should adopt a long-term goal to reduce GHGs by 80 percent below 1990 levels by 2050 (consistent with DWR’s Climate Action Plan), and thereafter move toward low carbon or net-zero carbon water management systems.
- Local water and wastewater utilities should develop distributed renewable energy where feasible, using the expanded Local Government Renewable Energy Bill Credit (RES-BCT) tariff and new Net Energy Metering (which allow for installation without system size limit).
- In support of the Short-Lived Climate Pollutant Strategy, encourage resource recovering wastewater treatment projects to help achieve the goal of reducing fugitive methane by 40 percent by 2030, to include:
 - Determining opportunities to support co-digestion of food-related waste streams at wastewater treatment plants.
 - Incentivizing methane capture systems at wastewater treatment plants to produce renewable electricity, transportation fuel, or pipeline biomethane.
 - Support compact development and land use patterns, and associated conservation and management strategies for natural and working lands that reduce per capita water consumption through more water-efficient built environments.

With respect to project-level GHG reduction actions and thresholds for individual development projects, the 2017 Scoping Plan Update Indicates,

Beyond plan-level goals and actions, local governments can also support climate action when considering discretionary approvals and entitlements of individual projects through CEQA. Absent conformity with an adequate geographically-specific GHG reduction plan as described in the preceding section above, CARB recommends that projects incorporate design features and GHG reduction measures, to the degree feasible, to minimize GHG emissions. Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development (CARB, 2017).

Senate Bill 97

Senate Bill (SB) 97, enacted in August 2007, required the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. On April 13, 2009, the OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the *CEQA Guidelines* for GHG emissions on December 30, 2009. On February 16, 2010, the Office

of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

Senate Bill 375

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that would prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for passenger car and light truck regional emissions for 2020 and 2035. Reduction targets are updated every eight years, but can be updated every four years, if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may be ineligible for funding programmed after January 1, 2012.

California Green Building Standard Code

The California Green Building Standards Code (CCR, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2017.

The Code California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption (CBSC, 2015). These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets the standards (CBSC, 2016).

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. As a result of new law under AB 970, passed in the fall of 2000 in response to the state's electricity crisis, an emergency update of the standards went into effect in June 2001. The CEC then initiated an immediate follow-on proceeding to consider and adopt updated standards that could not be completed during the emergency proceeding.

The 2016 Standards, effective January 1, 2017, focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and

include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

California Renewable Portfolio Standard

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB X1-2, and again in 2015 under SB 350, California's Renewables Portfolios Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities (IOUs), electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by December 31, 2030.⁹

It also requires the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; provide for the evolution of the Independent System Operator (ISO) into a regional organization; and requires the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation (CLI, 2015).

Regional

Southern California Association of Governments

SCAG, which is the Metropolitan Planning Organization for the region in the Project operates, prepares the RTP/SCS every four years (CARB, 2017b). The RTP/SCS provides the regional blueprint for transportation improvements over the next twenty years as well as population forecasts and policies to encourage land use patterns that reduce GHG emissions in order to meet the GHG emissions reduction targets for the region. The population forecasts are used by a number of agencies to plan for the future. SCAQMD uses the SCAG forecast as the basis of the analysis in the AQMP.

In February 2011, CARB adopted targets for SCAG for transportation-related GHG emissions. On April 7, 2016, SCAG adopted the 2016 RTP/SCS, the four-year update to the 2012 RTP/SCS (SCAG, 2016). It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The 2016 RTP/SCS describes how the region can attain the GHG emission-reduction targets set by CARB by achieving an 8 percent reduction by 2020, 18 percent reduction by 2035, and 21 percent reduction by 2040 compared to the 2005 level on a per capita basis (SCAG, 2016). Compliance with and implementation of 2016 RTP/SCS policies and

⁹ As of 2016, California's top three POUs were on track or ahead of their respective RPS targets, with PG&E, SCE and SDG&E reporting RPS procurements for 2016 at 33%, 28% and 43%, respectively (www.cpuc.ca.gov/rps_homepage/, accessed December 2017).

strategies would have co-benefits of reducing per capita criteria air pollutant emissions associated with reduced per capita vehicle miles traveled (VMT).

SCAG's 2016 RTP/SCS provides specific strategies for successful implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and cultures and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles. In addition, the 2016 RTP/SCS includes new strategies to promote active transportation, supports local planning and projects that serve short trips, expand understanding and consideration of public health in the development of local plans and projects, and supports improvements in sidewalk quality, local bike networks, and neighborhood mobility areas. It also proposes increasing access to the California Coast Trail, light rail and bus stations, and promoting corridors that support biking and walking, such as through a regional greenway network and local bike networks. The 2016 RTP/SCS proposes to better align active transportation investments with land use and transportation strategies, increase competitiveness of local agencies for federal and state funding, and to expand the potential for all people to use active transportation.

South Coast Air Quality Management District

The Proposed Project site is located in the SCAB, which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Geronio Pass area in Riverside County. The SCAQMD is responsible for air quality planning in the SCAB and developing rules and regulations to bring the area into attainment of the ambient air quality standards.

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution and GHG impacts under CEQA. This includes recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigation measures for potentially significant impacts. Although districts also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues. Because of its expertise in establishing air quality analysis methodologies and comprehensive efforts to establish regional and localized significance thresholds for criteria pollutants, local public agencies have asked SCAQMD for guidance in quantifying GHG impacts and recommending GHG significance thresholds to assist them with determining whether or not GHG impacts in their CEQA documents are significant. SCAQMD has released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead

agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and formed a GHG Significance Threshold Working Group (Working Group) to further evaluate potential GHG significance thresholds and provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents (SCAQMD, 2014).¹⁰ As of the last Working Group meeting (Meeting No. 15, September 2010), the SCAQMD was proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. *Note that the last Working Group meeting was more than six years ago and a threshold has yet to be adopted.*

Local

County of Riverside Climate Action Plan

As part of the current General Plan Air Quality Element, the County of Riverside has adopted a Climate Action Plan (Riverside CAP) (Riverside County, 2015). The Riverside CAP “establishes goals and policies that incorporate environmental responsibility into its daily management of residential, commercial and industrial growth, education, energy and water use, air quality, transportation, waste, education, economic development and open space and natural habitats to further their commitment.” The CAP has identified the emissions reductions needed in Riverside County through 2020 at 6,036,971 MT CO₂e. As part of the General Plan and to reduce GHG emissions, the following policies are associated with the Proposed Program and Proposed Project:

AQ 19.3 Require new development projects subject to County discretionary approval to achieve the greenhouse gas reduction targets established in the CAP either through: (AI 147)

- a. Garnishing 100 points through the Implementation Measures found the County’s AP; or
- b. Requiring quantification of project specific GHG emissions and reduction of GHG emissions to, at minimum, the applicable GHG reduction threshold established in the CAP.

AQ 20.4 Reduce VMT and traffic through programs that increase carpooling and public transit use, decrease trips and commute times, and increase use of alternative-fuel vehicles. (AI 47, 146)

AQ 20.9 Reduce urban sprawl in order to minimize energy costs associated with infrastructure construction and transmission to distant locations, and to maximize protection of open space. (AI 26)

AQ 20.11 Increase energy efficiency of the new developments through efficient use of utilities (water, electricity, natural gas) and infrastructure design. Also, increase energy efficiency through use of energy efficient mechanical systems and equipment. (AI 147)

AQ 20.20 Reduce the amount of solid waste generation by increasing solid waste recycle, maximizing waste diversion, and composting for residential and commercial generators.

¹⁰ South Coast Air Quality Management District, *Greenhouse gases (GHG) CEQA significance thresholds*. Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/page/2>. Accessed September 12, 2016.

Reduction in decomposable organic solid waste will reduce the methane emissions at County landfills. (AI 146)

AQ 20.30 Reduce potable water use, wastewater and solid waste generation, and urban runoff at both new and existing County facilities and operations. Also, increase the amount of materials recycled from County facilities. (AI146)

As part of the General Plan and implement energy conservation, the following policies are associated with the Proposed Project:

AQ 5.1 Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

AQ 5.2 Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments. (AI 62)

AQ 5.4 Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and windbreak trees to reduce fuel consumption for heating and cooling.

3.7.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to greenhouse gas emissions. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Neither the State, SCAQMD, nor local jurisdictions have adopted numeric significance thresholds associated with GHG emissions. However, as discussed previously in the Regulatory Section, the SCAQMD has proposed numeric thresholds. With the SCAQMD's previously contemplated tiered approach, projects are compared to the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. The SCAQMD was proposing a screening threshold of 10,000 metric tons of carbon dioxide-equivalent¹¹ (MTCO₂e) per year for industrial projects and a screening threshold of 3,000 MTCO₂e per year for non-industrial projects. SCAQMD staff indicated that

¹¹ The standard unit to measure the amount of GHGs in terms of the amount of CO₂ that would cause the same amount of warming. CO₂e is based on the GWP ratios between the various GHGs relative to CO₂.

projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Tier 4 consists of three decision tree options. Under the Tier 4 first option, the project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. Under the Tier 4 second option the project would be excluded if it had early compliance with AB 32 through early implementation of CARB's Scoping Plan measures. Under the Tier 4 third option, a project would be excluded if was below an efficiency-based threshold of 4.8 MTCO₂e per service population (SP) per year.¹² Tier 5 would exclude projects that implement offsite mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

Although the Proposed Program does not fall into a specific land use category mentioned above (i.e., residential, commercial, mixed-use, industrial), it was determined that the Proposed Program's construction GHG emissions would be amortized over a 30-year period and compared to the SCAQMD recommendations of a threshold of 3,000 MT CO₂e per year for all residential and commercial projects. It should be noted that the SCAQMD does not have a construction-only significance threshold for GHGs. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years for typical projects (SCAQMD, 2008). This impact analysis, therefore, amortizes construction emissions over 30 years and then compares emissions to the SCAQMD operational threshold of 3,000 MT CO₂e per year.

CEQA Guidelines Section 21100(b)(3) requires that an EIR include a detailed statement setting forth mitigation measures proposed to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. *CEQA Guidelines* Appendix F states that, in order to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting, and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives. While Appendix F does not provide specific thresholds for energy use, it recommends consideration of the following environmental impacts, to the extent relevant and applicable:

1. Conflict with adopted energy conservation plans;
2. Violate State or federal energy standards;
3. Cause wasteful, inefficient, and unnecessary consumption of energy during construction, operation, and/or maintenance; or

¹² The project-level efficiency-based threshold of 4.8 MTCO₂e per SP per year is relative to the 2020 target date. The SCAQMD has also proposed efficiency-based thresholds relative to the 2035 target date to be consistent with the GHG reduction target date of SB 375. GHG reductions by the SB 375 target date of 2035 would be approximately 40 percent. Applying this 40 percent reduction to the 2020 targets results in an efficiency threshold for plans of 4.1 MTCO₂e per SP per year and an efficiency threshold at the project level of 3.0 MTCO₂e/year.

4. Result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

There are no set thresholds associated with energy impacts.

Impacts and Mitigation Measures

Greenhouse Gas Emissions

Impact GHG-1: Implementation of the Proposed Program and the Proposed Project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Program-Level Impacts

Because GHG emissions are cumulative in nature, the analysis of the Proposed Program is inclusive of the Proposed Project. The analysis includes emissions as determined by phase associated with the Proposed Program activities.

Construction Activities

Construction of the Proposed Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor and haul trucks, and worker vehicles. As stated above, the SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime; therefore, the total construction GHG emissions were calculated, amortized over 30 years, and then compared to the SCAQMD operational GHG significance threshold of 3,000 MT CO₂e per year.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario provided in **Appendix AQ-GHG** (Dudek, 2017; ESA, 2018). As described in Chapter 3.3, Air Quality, the first phase of the Proposed Program (i.e., the Proposed Project) is anticipated to commence in the fall of 2018, lasting a total of approximately 36 months; future phases of the Proposed Program is anticipated to commence in May 2025, starting with the second phase and with construction lasting a total of approximately 36 months; construction of a third phase of the Proposed Program is anticipated to commence in January 2030, lasting a total of approximately 36 months. The final phase of the Proposed Program is anticipated to commence in January 2040, with construction lasting a total of approximately 36 months. On-site sources of GHG emissions include off-road equipment and off-site sources include on-road vehicles (haul trucks, vendor trucks, and worker vehicles). **Table 3.7-4** presents construction GHG emissions for the Proposed Project from on-site and off-site emission sources.

As shown in **Table 3.7-4**, the estimated total GHG emissions would be approximately 3,554 MT CO₂e during Phase 1 (Project level activities), 2,265 MT CO₂e during Phase 2 (Program level activities), and 1,579 MT CO₂e during Phases 3 and 4 (Program Level activities), for a total of approximately 8,977 MT CO₂e. Estimated Proposed Program-generated construction emissions amortized over 30 years would be approximately 299 MT CO₂e per year. As with Program-generated construction air quality pollutant emissions, GHG emissions generated during

construction of the Proposed Program would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

TABLE 3.7-4
ESTIMATED ANNUAL CONSTRUCTION GHG EMISSIONS

	MT CO ₂ e
Project – Phase 1	3,554
Program – Phase 2	2,265
Program – Phase 3	1,579
Program – Phase 4	1,579
<i>Total</i>	8,977
<i>Annualized Emissions over 30 years</i>	299
<i>SCAQMD Screening Threshold</i>	3,000
<i>Exceed Threshold</i>	No

SOURCE: DUDEK, 2017; ESA, 2018.

Operational Activities

Long-term operation of the Proposed Program would consist of motor vehicles from operations and maintenance inspections trips. These visits would occur infrequently with multiple visits done annually. No other activity would occur with respect to the operation of the proposed project. As no routine daily operational activity would occur, the Proposed Program would not result in a substantial source of long-term operational GHG emissions. The periodic operational activity would result in less annual GHG emissions compared to the analyzed construction scenario that assumes multiple worker vehicle, vendor truck trips and haul trucks, and equipment operation.

Impact Determination

Because there is no separate GHG threshold for construction, the evaluation of significance is determined by comparing the amortized construction emissions to the operational threshold. As shown in **Table 3.7-4**, the amortized construction emissions do not exceed the SCAQMD significance threshold of 3,000 MT CO₂e per year. Additionally, as there would be no significant source of operational emissions, the estimated 299 MT CO₂e annual emissions would be well below the SCAQMD screening threshold and therefore impacts from GHG emissions would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

As discussed under the Program-Level Impacts, GHG emissions are cumulative in nature and therefore impacts from both the Proposed Program and Proposed Project must be considered together. As shown in **Table 3.7-4** above, impacts from construction activities would not exceed the SCAQMD's screening thresholds.

Impact Determination

Because there is no separate GHG threshold for construction, the evaluation of significance is determined by comparing the amortized construction emissions to the operational threshold. As shown in **Table 3.7-4**, the amortized construction emissions do not exceed the SCAQMD significance threshold of 3,000 MT CO₂e per year. Additionally, as there would be no significant source of operational emissions, the estimated 299 MT CO₂e annual emissions would be well below the SCAQMD screening threshold and therefore impacts from GHG emissions would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Greenhouse Gas Emissions Plans

Impact GHG-2: Implementation of the Proposed Program and the Proposed Project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Program-Level Impacts

As GHG emissions are considered cumulative by nature, the Proposed Program and Proposed Project must be considered together with respect to compliance with GHG emissions reduction goals. The Proposed Program and Proposed Project would not have a significant effect on the environment if it is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions, including the emissions reduction measures discussed within CARB's Climate Change Scoping Plan, CALGreen Code, SCAG's 2016 RTP/SCS, and Riverside CAP.

SCAG adopted the 2016–2040 RTP/SCS applicable to the region, which outlines SCAG's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development and demonstrates a reduction in per capita GHG emissions. The Proposed Program is implementing infrastructure to enhance current and future water supplies by recharging imported water into the local groundwater basin. The Proposed Program does not result in new

housing or job growth. Therefore, it would not conflict with the implementation of the RTP/SCS as the Proposed Program is temporary in nature and does not promote housing or job growth.

In compliance with the Riverside County Climate Action Plan, the construction activities would incorporate recycling and waste reduction strategies designed to limit the amount of waste going to the landfill. Additionally, new infrastructure will incorporate the most energy efficient standards available as required by regulation. The Proposed Program would result in the construction of non-occupied buildings, such as treatment/blending and disinfection facilities, extraction wells, and pump station housing, and would not conflict with the CALGreen building requirements. CALGreen code for recycling and waste management will be implemented during construction activities as summarized in **Table 3.7-5** below.

The State Climate Change Scoping Plan includes projected statewide emissions and the level of reductions necessary to achieve reduction targets. In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197; both were signed by Governor Brown. SB 32 and AB 197 amends establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. **Table** contains a list of statewide GHG emission reduction strategies and describes the Proposed Program’s consistency.

**TABLE 3.7-5
 CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION STRATEGIES**

Source	Category/Description	Consistency Analysis
AB 1493 (Pavley Regulations)	Reduces greenhouse gas emissions in new passenger vehicles from model year 2012–2016 (Phase I) and model year 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	Consistent. The Proposed Program would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards.
SB 1368	Establishes an emissions performance standard for power plants within the State of California.	Consistent. The Proposed Program would be consistent with this regulation and would not conflict with implementation of the emissions standards for power plants.
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	Consistent. The Proposed Program would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	Not Applicable. The Proposed Program does not include construction of occupied buildings that require bathrooms.
	HVAC Systems will be designed to meet ASHRAE standards.	Not Applicable. The Proposed Program does not include construction of occupied buildings that require HVAC systems
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	Not Applicable. The Proposed Program does not include construction of buildings larger than 10,000 square feet.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	Not Applicable. The Proposed Program does not include construction of occupied buildings that require HVAC systems

Source	Category/Description	Consistency Analysis
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to 8 percent of total parking spaces will be designed for such vehicles.	Not Applicable. The Proposed Program does not include an increase in trips accessing the Proposed Program sites. Only periodic maintenance trips would be required for aboveground facilities
	Long-term and short-term bike parking shall be provided for up to 5 percent of vehicle trips.	Not Applicable. The Proposed Program does not include an increase in trips accessing the Proposed Program sites. Only periodic maintenance trips would be required for aboveground facilities
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	Not Applicable. The Proposed Program does not include construction of occupied buildings resulting in indoor water usage.
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	Not Applicable. The Proposed Program is not implementing additional landscaping.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	Not Applicable. The Proposed Program does not include construction of occupied buildings that generate wastewater, or other water consumption features.
	Requires a minimum of 65 percent recycle or reuse of nonhazardous construction and demolition debris.	Consistent. The Proposed Program would meet or exceed this requirement as part of its compliance with the CALGreen Code during Construction activities.
	Requires documentation of types of waste recycled, diverted or reused.	Consistent. The Proposed Program would meet this requirement as part of its compliance with the CALGreen Code during construction activities.
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	Consistent. The Proposed Program would comply with all applicable AQMD regulations regarding coatings for new buildings.
	100 percent of vegetation, rocks, soils from land clearing shall be reused or recycled.	Consistent. The Proposed Program would meet this requirement as part of its compliance with the CALGreen Code during construction activities.
	Requires installation of electrical conduit for future uses of electric vehicle charging parking spaces up to 6% of total parking spaces.	Not Applicable. The Proposed Program does not include an increase in trips accessing the Proposed Program sites. Only periodic maintenance trips would be required for aboveground facilities.

SOURCE: ESA, 2017.

Impact Determination

As discussed above, the Proposed Program activities would be consistent with emissions reduction strategies and would not conflict with any applicable plan, policy, regulation or recommendation to reduce GHG emissions. As discussed above, the Proposed Program would be consistent with and would not hinder the ability of the State to achieve emissions reduction strategies. Therefore, this new impact under new criterion/thresholds would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

As discussed under the Proposed Program, GHG emissions are cumulative in nature and therefore impacts from both the Proposed Program and Proposed Project must be considered together. The impact analysis is detailed under the Proposed Program activities as stated above.

Impact Determination

As discussed above, the Proposed Program and Proposed Project activities would be consistent with emissions reduction strategies and would not conflict with any applicable plan, policy, regulation or recommendation to reduce GHG emissions. The Proposed Project would be consistent with and would not hinder the ability of the State to achieve emissions reduction strategies. Therefore, this new impact under new criterion/thresholds would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Energy Analysis

Impact ENERGY-1: The Proposed Program and Proposed Project could be inconsistent with applicable plans for conserving energy and State and federal energy standards, and could result in impacts on energy demand and supplies and infrastructure.

In accordance with the intent of *CEQA Guidelines* Appendix F, which requires a Draft EIR to include a discussion of the potential energy impacts of a project with an emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy, this Draft EIR includes relevant information and analyses that address the energy implications of the Proposed Program and Proposed Project. This section represents a summary of the Proposed Program and Proposed Project's anticipated energy needs, impacts, and conservation measures.

Program-Level Impacts

Consistency with Plans, Policies, or Regulations

The Proposed Program would be designed in a manner that is consistent with relevant and applicable energy conservation plans designed to encourage development that results in the efficient use of energy resources. The Proposed Program would be developed under regulations, standards, and guidelines. In compliance with the Riverside County Climate Action Plan, the

construction activities will incorporate recycling and waste reduction strategies designed to limit the amount of waste going to the landfill. Additionally, as appropriate, new infrastructure will incorporate the most energy efficient standards available.

The Proposed Program would not conflict with the CALGreen building requirements. CALGreen code for recycling and waste management will be implemented during construction activities as summarized in **Table 3.7-5**. The Proposed Program is implementing infrastructure to enhance current and future water supplies by recharging imported water into the local groundwater basin. The Proposed Program does not result in new housing or job growth. The Proposed Program would not conflict with the implementation of the RTP/SCS as it is temporary in nature and does not promote housing or job growth. Therefore, the Proposed Program would be consistent with applicable plans for conserving energy, and impacts would be less than significant.

Energy Standards

The Proposed Program would be required to demonstrate compliance with applicable CARB regulations restricting the idling of heavy-duty diesel motor vehicles and governing the accelerated retrofitting, repowering, or replacement of heavy duty diesel on- and off-road equipment. CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants. The measure prohibits diesel-fueled commercial vehicles greater than 10,000 pounds from idling for more than 5 minutes at any given time. While intended to reduce construction emissions, compliance with the above anti-idling and emissions regulations would also result in energy savings from the use of more fuel efficient engines.

CARB has also adopted emission standards for off-road diesel construction equipment of greater than 25 hp. The emissions standards are referred to as “tiers” with Tier 4 being the most stringent (i.e., less polluting). The requirements are phased in, with full implementation for large and medium fleets by 2023 and for small fleets by 2028. The Proposed Program would utilize construction contractors that demonstrate compliance with CARB’s off-road diesel equipment requirements. Mitigation Measures AQ-MM-1 and AQ-PMM-1 ensures the incorporation of Tier 4 equipment to be used at the site.

The daily operation of the Proposed Program would not generate a new demand for electricity, natural gas, and water supply, nor would it generate wastewater requiring conveyance, treatment, and disposal off site. However, the Proposed Program would comply with or exceed the applicable provisions of CALGreen Code with respect to recycling and waste reduction during Construction activities.

Therefore, construction and operation of the Proposed Program would be consistent with State and federal energy standards and would be designed to include numerous energy and waste saving features as well as waste reduction features that would potentially achieve greater energy savings than required.

Energy Demand

Construction

Construction energy consumption would result primarily from transportation fuels (e.g., diesel and gasoline) used for haul trucks, heavy-duty construction equipment, and construction workers traveling to and from the site. Construction activities can vary substantially from day to day, depending on the specific type of construction activity and the number of workers and vendors traveling to the site. This analysis considers these factors and provides the estimated maximum construction energy consumption for the purposes of evaluating the associated impacts on energy resources.

Energy use during construction is forecasted by assuming a conservative estimate of construction activities (i.e., maximum daily equipment usage levels). The energy usage required for Proposed Program construction has been estimated based on the number and type of construction equipment that would be used during construction, the extent that various equipment is utilized in terms of equipment operating hours or miles driven, and the estimated duration of construction activities. Energy for construction worker commuting trips has been estimated based on the predicted number of workers for the various phases of construction and the estimated VMT.

Electrical power would be consumed to construct the Proposed Program facilities. The demand would be supplied from existing electrical services within the Proposed Program area. Overall, construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies and infrastructure. Noise ordinance generally restricts construction noise during nighttime hours. The only nighttime construction activities are related to drilling of extraction and monitoring wells, which would require temporary nighttime lighting. Such electrical requirements would be during off-peak electrical demand periods. Therefore, impacts on electricity supply and infrastructure associated with short-term construction activities would be insignificant.

Natural gas is not expected to be consumed in any substantial quantities during construction activities. Therefore, Proposed Program impacts on energy and gas associated with construction activities would be less than significant.

Construction equipment would likely be diesel-fueled (with the exception of construction worker commute vehicles, which would primarily be gasoline-fueled). For the purposes of this assessment, it is conservatively assumed heavy-duty construction equipment and haul trucks would be diesel-fueled. This represents a worst-case scenario intended to represent the maximum potential energy use during construction. The estimated fuel usage for off-road equipment is based on the number and type of equipment that would be used during construction activities, hour usage estimates, the total duration of construction activities, and hourly equipment fuel consumption factors from the CARB off-road vehicle (OFFROAD) emissions model. On-road equipment would include trucks to haul material to and from the various sites associated with the Proposed Program, vendor trucks to deliver supplies necessary for construction, and fuel used for worker commute trips. The estimated fuel usage for on-road trucks is based on the engineering estimates that form the basis of the construction-related impact analyses and fuel consumption information from the CARB on-road vehicle emissions model, EMFAC2014. Both OFFROAD

and EMFAC are incorporated into CalEEMod, which is a state-approved emissions model used for air quality and GHG emissions assessment. The number of construction workers that would be required would vary based on the phase of construction and activity taking place. The transportation fuel required by construction workers to travel to and from the Proposed Program areas would depend on the total number of worker trips estimated for the duration of construction activity. The estimated fuel usage for construction worker commutes is based on the estimated number of workers for different phases of construction, the average distance that the workers would travel on local and regional roadways from CalEEMod, and emissions factors in the EMFAC2014 model. A summary of the annual fuel consumption during construction of the Proposed Program is provided in **Table 3.7-6**. As shown, on- and off-road vehicles would consume an estimated annual average of between 69,353 and 138,705 gallons of diesel fuel and 4,026 and 8,052 gallons of gasoline for each year of construction. As it is unknown when the Program phases would start or if they would start together, the analysis assumes a minimum construction period of 6 years (3 years for the Project and 3 years for the Program) and a maximum of 12 years (3 years for the Project and 9 years for the Program).

As discussed previously, construction of the Proposed Program facilities would utilize fuel efficient equipment consistent with State and federal regulations, and would comply with State measures to reduce the inefficient, wasteful, and unnecessary consumption of energy. While these regulations are intended to reduce construction emissions, compliance with the above anti-idling and emissions regulations would also result in energy savings from the use of more fuel-efficient engines.

**TABLE 3.7-6
 PROPOSED PROGRAM CONSTRUCTION FUEL USAGE**

Source	Diesel Fuel per Year (gallons)	Gasoline Fuel per Year (gallons)
Construction		
Phase 1 Project	336,916	15,054
Phase 2 Program	212,150	12,523
Phase 3 Program	141,582	10,368
Phase 4 Program	141,582	10,368
Total Consumption	832,231	48,313
Annual Average (6 total years)	138,705	8,052
Annual Average (12 total years)	69,353	4,026

SOURCE: ESA, 2017, refer to Appendix AQ-GHG.

Based on the available data, construction would use energy for necessary on-site activities and to transport construction materials and employees to and from the site. As discussed above, idling restrictions and the use of cleaner, energy-efficient equipment would result in less fuel combustion and energy consumption and thus minimize the Proposed Program’s construction-related energy use. Therefore, construction of the Proposed Program would not result in the wasteful, inefficient, and unnecessary consumption of energy.

Operation

Operation of the Proposed Program would require minimal energy in the form of transportation-fuels, primarily gasoline, for the non-daily intermittent vehicle trips with respect to maintenance of the facilities. As such, the Proposed Program Activities would negligibly increase demand for transportation energy. The Proposed Program would not conflict with the goals and benefits of the SCAG 2016 RTP/SCS. The Proposed Program would minimize operational transportation fuel demand consistent with State and regional goals. Therefore, operation of the Proposed Program would not result in the wasteful, inefficient, and unnecessary consumption of transportation fuel and impacts would be less than significant.

Energy Infrastructure

SCE is the electricity utility provider for the Proposed Program area. The annual electricity sale to customers for the 2016 fiscal year is provided in **Table 3.7-1**. SoCalGas is the natural gas utility provider for the region. The annual natural gas sale to customers in 2016 is provided in **Table 3.7-2**. The gasoline and diesel fuel consumption for transportation uses in California in 2016 is provided in **Table 3.7-3**. It is conservatively assumed heavy-duty construction equipment and haul trucks would be diesel-fueled. This also represents a worst-case scenario intended to represent the maximum potential energy use during construction.

As discussed previously, the Proposed Program would consume negligible amounts of electricity and natural gas during construction activities and would not consume either during operational activities. The Proposed Program's estimated fuel demand is detailed in **Table 3.7-6**. Maximum annual diesel fuel consumption of 138,705 gallons results in less than 0.001 percent of the 2016 California diesel consumption of approximately 3 billion gallons. Annual gasoline fuel consumption of 8,052 results in less than 0.0001 percent of the 2016 California gasoline consumption of approximately 15.5 billion gallons. As shown, the Proposed Program would represent a very small fraction of the state transportation fuel supplies.

While construction of Proposed Program facilities would result in a temporary fuel demand, according to the USEIA's International Energy Outlook 2017, the global supply of crude oil, other liquid hydrocarbons, and biofuels is expected to be adequate to meet the world's demand for liquid fuels through 2040 (USEIA, 2017a). As of December 31, 2015, California had approximately 2,333 million barrels (approximately 98.0 trillion gallons) of crude oil left in the state's reserves (USEIA, 2017b). Energy demands during the construction of the Proposed Program facilities would not represent a substantial fraction of the available energy supply in terms of equipment and transportation fuels and would not substantially affect existing local and regional supply and capacity for the future. Furthermore, construction of the Proposed Program facilities would use equipment that would be consistent with the energy standards applicable to construction equipment including limiting idling fuel consumption and using contractors that comply with applicable CARB regulatory standards that affect energy efficiency. Thus, construction would not conflict with energy standards applicable to heavy-duty construction equipment and associated on-road trucks and vehicles. Because construction would entail energy demands largely associated with equipment and transportation fuels, construction would not increase demands on the electric power network during peak and base period demand periods. As a result, construction energy impacts on supplies and infrastructure would be less than significant.

Given the substantial evidence presented above, the Proposed Program would minimize operational transportation fuel demand consistent with State and regional goals. Therefore, energy impacts on transportation fuel supplies and infrastructure would be less than significant.

Impact Determination

As discussed above, the daily operation of the Proposed Program would not generate a new demand for electricity, natural gas, and water supply, nor would it generate wastewater requiring conveyance, treatment, and disposal off site. Additionally, neither construction nor operation would increase demands on the electric power network during peak and base period demand periods. As a result, impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Proposed Project Consistency with Plans, Policies, or Regulations

Analysis of the Proposed Project impacts would be identical to the Proposed Program impacts.

Energy Standards

Analysis of the Proposed Project impacts would be identical to the Proposed Program impacts.

Energy Demand

Construction

Electrical power would be consumed to construct the Proposed Project facilities. The demand would be supplied from existing electrical services at the Proposed Project sites. Overall, construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies and infrastructure. Noise ordinance generally restricts construction noise during nighttime hours. The only nighttime construction activities are related to drilling of extraction and monitoring wells, which would require temporary nighttime lighting. Such electrical requirements would be during off-peak electrical demand periods. Therefore, impacts on electricity supply and infrastructure associated with short-term construction activities would be insignificant.

Natural gas is not expected to be consumed in any substantial quantities during construction activities. Therefore, Proposed Project impacts on energy and gas associated with construction activities would be less than significant.

A summary of the annual fuel consumption during construction of the Proposed Project is provided in **Table 3.7-7**. As shown, on- and off-road vehicles would consume an estimated annual average of 112,305 gallons of diesel fuel and 5,018 gallons of gasoline for each year of the 3-year construction period.

As discussed previously, construction of the Proposed Project facilities would use fuel efficient equipment consistent with State and federal regulations, and would comply with State measures to reduce the inefficient, wasteful, and unnecessary consumption of energy. While these regulations are intended to reduce construction emissions, compliance with the above anti-idling and emissions regulations would also result in energy savings from the use of more fuel-efficient engines.

**TABLE 3.7-7
 PROJECT CONSTRUCTION FUEL USAGE**

Source	Diesel Fuel per Year (gallons)	Gasoline Fuel per Year (gallons)
Construction		
Phase 1 - Project	336,916	15,054
Annual Average	112,305	5,018

SOURCE: ESA, 2018, refer to Appendix AQ-GHG.

Based on the available data, construction would utilize energy for necessary on-site activities and to transport construction materials and employees to and from the site. As discussed above, idling restrictions and the use of cleaner, energy-efficient equipment would result in less fuel combustion and energy consumption and thus minimize the Proposed Project’s construction-related energy use. Therefore, construction of the Proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy.

Operation

Operation of the Proposed Project would require minimal energy in the form of transportation-fuels, primarily gasoline, for the non-daily intermittent vehicle trips with respect to maintenance of the facilities. As such, the Proposed Project operation would negligibly increase demand for transportation energy. The Proposed Project would not conflict with the goals and benefits of the SCAG 2016 RTP/SCS. The Proposed Project would minimize operational transportation fuel demand consistent with State and regional goals. Therefore, operation of the Proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of transportation fuel and impacts would be less than significant.

Energy Infrastructure

As discussed previously, the Proposed Project activities would consume negligible amounts of electricity and natural gas during construction activities and would not consume either during operational activities. The Proposed Project’s estimated fuel demand is detailed in **Table 3.7-7**. Annual diesel fuel consumption of 112,305 results in less than 0.0001 percent of the 2016 California diesel consumption of approximately 3 billion gallons. Annual gasoline fuel consumption of 5,018 results in less than 0.00001 percent of the 2016 California gasoline consumption of approximately 15.5 billion gallons. As shown, the Proposed Project activities would represent a very small fraction of the state transportation fuel supplies.

As explained above, construction of the Proposed Project would not conflict with energy standards applicable to heavy-duty construction equipment and associated on-road trucks and vehicles. Because construction would entail energy demands largely associated with equipment and transportation fuels, construction would not increase demands on the electric power network during peak and base period demand periods. As a result, construction energy impacts on supplies and infrastructure would be less than significant.

Given the substantial evidence presented above for the Proposed Program, the Proposed Project would minimize operational transportation fuel demand consistent with State and regional goals. Therefore, energy impacts on transportation fuel supplies and infrastructure would be less than significant.

Impact Determination

As discussed above, the daily operation of the Proposed Project would not generate a new demand for electricity, natural gas, and water supply, nor would it generate wastewater requiring conveyance, treatment, and disposal off site. Additionally, neither construction nor operation would increase demands on the electric power network during peak and base period demand periods. As a result, impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

3.7.4 References

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3.8 Hazards and Hazardous Materials

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to hazards and hazardous materials. The section includes a description of the environmental setting to establish baseline conditions for hazards and hazardous materials, including proximity of Program components to sensitive receptors such as schools; a summary of the regulations related to hazards and hazardous materials; and an evaluation of the Proposed Program and Proposed Project's potential effects due to hazards and hazardous materials.

3.8.1 Environmental Setting

Regional Setting

The Proposed Program and Proposed Project are located in EMWD's service area within Riverside County, specifically the cities of San Jacinto and Hemet as well as areas of unincorporated Riverside County. Riverside County encompasses approximately 7,200 square miles of land from the Colorado River to the east, to the Santa Ana Mountains to the west.

Program Area Setting

Hazardous Materials Sites

A search of hazardous materials sites was performed using the State Water Resources Control Board's (SWRCB) GeoTracker and EnviroStor databases to identify potential contaminated sites in the Proposed Program area. The results of the database search are included in **Appendix HAZ** of this EIR.

There are a total of 75 leaking underground storage tank (LUST) cleanup sites and 7 cleanup program sites in the Proposed Program area. All of the cleanup program sites and 73 of the 75 LUST cleanup sites have a "completed" designation, indicating that site closure has been completed. Site closure is achieved when remaining contamination meets a risk or cleanup threshold determined not to pose a threat to human health or the environment (USEPA, 2017a). There are 2 LUST cleanup sites that are open (SWRCB, 2017a) in the Proposed Program area, both of which have soil contaminated by gasoline. The Betancourt Ultramar site is located at 202 N State Street and was eligible for closure as of January 2017. The Texaco Columbia site is located at 2491 E Florida Avenue and is documented as a recalcitrant site, indicating as of 1997, no cleanup work has been done (SWRCB, 2017c). These two open LUST cleanup sites are shown in **Figure 3.8-1**.

There are 39 other cleanup sites in the Proposed Program area, comprised of 33 school investigations, 3 school cleanups, 1 military evaluation and 1 voluntary cleanup (SWRCB, 2017d). Thirty-six of the 39 sites require no further action or have been withdrawn. The Lyon Avenue New Elementary and Middle School (425 North Lyon Avenue in San Jacinto) is a school cleanup site designated as inactive and needing evaluation. As of 2014, the site was put on hold due to detected metals and organochlorine pesticides in the soil (SWRCB, 2017e). The Ryan

Aircraft School is a military cleanup site that has been inactive and in need of evaluation since 2005. The site is located 1 mile southwest of Hemet, and no other details on the site contaminants are available (SWRCB, 2017f). The So Cal Gas/Hemet MGP is a voluntary cleanup site located at south Oakland Avenue by the AT&SF Railroad in Hemet. The site previously was a manufactured gas plant that contaminated the site's soil with polynuclear aromatic hydrocarbons. Action has been required onsite since 2009. Closure of the site is pending a deed restriction, which has been held up pending an agreement between Southern California Gas and the railroad (SWRCB, 2017g). These three cleanup sites still requiring action are shown in **Figure 3.8-1** as non-LUST sites.

Schools

There are 17 schools within the Proposed Program area. **Table 3.8-1** below lists these schools, their addresses, and what if any Proposed Program or Proposed Project facilities are located within 0.25 mile of the schools. **Figure 3.8-1** shows a 0.25-mile buffer surrounding the major Proposed Program facility locations.

Airports

The Hemet-Ryan Airport is a public, Riverside County-owned airport located within the Proposed Program area in the City of Hemet (FAA, 2017a). The Hemet-Ryan Airport services include ground support, on-field fuel, maintenance and aircraft storage, ground transportation, maintenance services, and hangars for most general aviation aircraft, ranging from single engine to corporate jets (RCEDA, 2017). The Hemet-Ryan Airport has a Land Use Compatibility Plan that defines compatible land uses within an established area surrounding the airport (RCALUC, 2017). The location of the airport with respect to the Proposed Program facilities is shown in **Figure 3.8-1**.

Wildfires

All of California is subject to some degree of fire hazard, but specific features make some areas more hazardous. The California Department of Forestry and Fire Protection (CAL FIRE) establishes fire hazard severity zones throughout the state that are determined based on factors that influence fire likelihood and fire behavior. Many factors are considered including fire history, existing and potential fuel (Natural vegetation), flame length, blowing embers, terrain, and typical weather (CAL FIRE, 2007a).

Wildland fire protection in California is the responsibility of either the State, local, or the federal government. State responsibility area (SRA) is a legal term defining the area where the State has financial responsibility for wildland fire protection. Local responsibility areas (LRAs) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government (CAL FIRE, 2017). The entire Proposed Program area is within an LRA that includes very high fire hazard severity zones (CAL FIRE, 2007b).

Figure 3.8-1 shows locations of high fire hazard severity zones in the Proposed Program area.

**TABLE 3.8-1
SCHOOLS WITHIN THE PROPOSED PROGRAM AREA**

No.	School	Address	Proposed Program Facilities within 0.25 Mile	Proposed Project Facilities within 0.25 Mile
1	San Jacinto Valley Academy	480 N San Jacinto Ave, San Jacinto	Groundwater extraction well area	None
2	San Jacinto Unified School	699 Young Street, San Jacinto	None	None
3	Mountain View High School	1000 Ramona Blvd, San Jacinto	Groundwater extraction well area	None
4	Jose Antonio Estudillo Elementary School	900 Las Rosas Dr S, San Jacinto	Well water collector pipeline; extraction well 202; extraction well 203; Mountain Avenue North; Mountain Avenue East; monitoring wells associated with Mountain Avenue North; monitoring well associated with Mountain Avenue East	Well water collector pipeline, extraction well 202; extraction well 203
5	Rancho Viejo Middle School	985 Cawston Ave N, Hemet	48'-inch potable water pipeline	None
6	Cawston Elementary School	4000 W Menlo Ave, Hemet	48'-inch potable water pipeline	None
7	Jacob Wiens Elementary School	935 E Campus Way, Hemet	None	None
8	Whittier Elementary School	400 W Whittier Ave, Hemet	None	None
9	McSweeney Elementary School	451 Chambers St, Hemet	None	None
10	West Valley High School	3401 Mustang Way, Hemet	None	None
11	Bautista Creek Elementary School	441 N Lake St, Hemet	Groundwater well extraction area	None
12	Fruitvale Elementary School	2800 W Fruitvale Ave, Hemet	None	None
13	Alessandro High School	831 E Devonshire Ave, Hemet	None	None
14	Hemet Adult School	135 N Inez Street, Hemet	None	None
15	Dartmouth Middle School	41535 Mayberry Ave, Hemet	None	None
16	Hemet High School	41701 Stetson Ave, Hemet	None	None
17	Hyatt Preschool	400 E Shaver St, San Jacinto	Groundwater well extraction area; 48'-inch potable water pipeline; Hewitt and Evans site treatment facilities; well water collector pipeline; alternative well water collector pipeline	48'-inch potable water pipeline; Hewitt and Evans site treatment facilities; well water collector pipeline
18	Family Tree Learning Center School	26400 Dartmouth Street, Hemet	None	None
19	Harmony Elementary School	1500 S Cawston Ave, Hemet	None	None
20	Park Hill Elementary School	1157 E Commonwealth Ave, San Jacinto	Raw water conveyance pipeline	None

Project Area Setting

No open LUST or non-LUST sites are located near Proposed Project facilities. As shown on **Figure 3.8-1**, the Jose Antonio Estudillo Elementary School is located 0.25 mile from the well water collector pipelines, and extraction Wells 202 and 203. Additionally, the Hyatt Preschool is located 0.25 mile from the 500-foot portion of the 48-inch potable water pipeline, the Hewitt and Evans site treatment facilities, and the well water collector pipelines. None of the Proposed

Project facilities are located near a very high fire hazard severity zone determined by CAL FIRE as shown on **Figure 3.8-1**.

A Phase I assessment of the Mountain Avenue West recharge site concluded that other than the property's past agricultural use that may have introduced pesticides or herbicides to the near surface soils, there is no indication of liability from a hazardous materials standpoint. Site reconnaissance and government database research concluded there were no conditions indicating the site is impacted by on or off-site sources of hazardous materials (Engen, 2014).

3.8.2 Regulatory Setting

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (42 U.S.C §6901-6987) was enacted in 1976 and gave the U.S Environmental Protection Agency (USEPA) the authority to control hazardous waste from “cradle-to grave,” which includes the generation, transportation, treatment, storage and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Federal Hazardous and Solid Waste Amendments (HSWA) were added to RCRA in 1984 and focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased USEPA enforcement authority, more stringent hazardous waste management standards, and a comprehensive underground storage tank program (USEPA, 2017b).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund Act, was developed in 1980 and created a tax on the chemical and petroleum industries, as well as provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. The law authorizes two kinds of response actions: 1) short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and 2) long-term remedial response actions, that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted only at sites listed on USEPA's National Priorities List (USEPA, 2017c). CERCLA was amended in 1986 by the Superfund Amendments and Reauthorization Act, which stressed importance of permanent remedies to clean up hazardous waste, increased State involvement, and increased focus on human health problems posed by hazardous waste sites (USEPA, 2017d).

Toxic Substance Control Act

The Toxic Substances Control Act of 1976 (TSCA) provides the USEPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs). Under TSCA, the USEPA has the ability to track the 83,000 industrial chemicals currently produced or imported in the United States and can ban the manufacture and import of those chemicals that pose an unreasonable risk (USEPA, 2016). The Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law on June 22, 2016, which amended the TSCA. The Act included mandatory requirements for USEPA to evaluate existing chemicals with clear and enforceable deadlines and increased public transparency for chemical information (USEPA, 2017d).

Hazardous Materials Transportation Act and Hazardous Materials Transportation Uniform Safety Act

The Hazardous Materials Transportation Act of 1975 (HMTA) allowed the Secretary of Transportation to designate as hazardous material any “particular quantity or form” of a material that “may pose an unreasonable risk to health and safety or property.” The HMTA is enforced by compliance orders, civil penalties and injunctive relief (OSHA, 2017a).

The Hazardous Materials Transportation Uniform Safety Act was passed in 1990 and clarified conflicting federal state and local regulations. The Act required the Secretary of Transportation to promulgate regulations for the safe transport of hazardous material in intrastate, interstate and foreign commerce. The Secretary also retains authority to designate materials as hazardous when they pose unreasonable risks to health, safety or property (OSHA, 2017a).

Occupational Safety and Health Administration Worker Safety Requirements

The federal Occupational Safety and Health Administration (OSHA) is the federal agency responsible for ensuring worker safety. The federal regulations for worker safety are contained in Title 29 of the Code of Federal Regulations (CFR), as authorized in the Occupational Safety and Health Act of 1970. These regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling (OSHA, 2017b). Specifically, CFR Section 1910.120 is titled “Hazardous waste operations and emergency response” and covers clean-up operations involving hazardous substances, operations involving hazardous substances, and emergency response operations for releases or substantial threats of releases of hazardous substances (OSHA, 2017c). Subpart H of OSHA Occupational Safety and Health Standards covers procedures relating to working with various hazardous materials including compressed gases flammable liquids. This subpart also describes protection and protective gear pertaining to hazardous waste operations and emergency response (OSHA, 2017d).

Federal Aviation Administration Construction Review

Any construction activities at or near public airports must be reported via FAA Form 7460-1 at least 30 days before proposed construction or application for building permit. The FAA will then conduct an aeronautical study and issue a determination to the proponent of the construction/alteration which is also forwarded to the airport operator if determined to be a

hazard. When evaluating proposals, the FAA will also examine the use of cranes, derricks, and other construction equipment that is used to accomplish the proposal (FAA, 2017b).

State

California Code of Regulations

The CCR is the official compilation and publication of the regulations adopted, amended or repealed by state agencies pursuant to the Administrative Procedure Act (APA). Properly adopted regulations that have been filed with the Secretary of State have the force of law.

The CCR is compiled into Titles and organized into Divisions containing the regulations of state agencies. Many of the regulations that pertain to hazardous materials are found in Title 22 (Social Security) Divisions 4 (Environmental Health) and 4.5 (Environmental Health Standards for the Management of Hazardous Waste).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In 1994, the Legislature created a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program to consolidate and coordinate the activities of six separate hazardous materials programs under one agency, a Certified Unified Program Agency (CUPA). The intent has been to simplify the hazardous materials regulatory environment and provide a single point of contact for businesses to address inspection, permitting, billing, and enforcement issues. The Riverside County Department of Environmental Health Hazardous Materials Branch is designated as the CUPA for Riverside County where the Proposed Program is located.

Department of Toxic Substance Control

Under the California Hazardous Waste Control Act, California Health and Safety Code, Division 20, Chapter 6.5, Sections 25100, et seq., the Cal/EPA, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as US EPA has determined the state program is at least as stringent as Federal RCRA requirements. California's hazardous waste program has been federally approved. Thus, in California, DTSC enforces hazardous waste regulatory requirements. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

DTSC is also the administering agency for the California Hazardous Substance Account Act, California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to State law.

DTSC maintains a Hazardous Waste and Substances Site List for site cleanup. This list is commonly referred to as the Cortese List. Government Code Section 65962.5 requires the CalEPA to update the Cortese List at least annually. DTSC is responsible for a portion of the

information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

California Accidental Release Prevention Program

California has developed an emergency response plan to coordinate emergency services provided by Federal, State, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Emergency Management Agency (EMA), which coordinates the responses of other agencies, including Cal EPA, CHP, the Department of Fish and Game, the RWQCB, and the local fire department. The Riverside County Fire Department provides first response capabilities, if needed, for hazardous materials emergencies within the project area.

EMA is also the State administering agency for the California Accidental Release Prevention Program (CalARP) and California's Hazardous Materials Release, Response and Inventory Law (California's Business Plan Law). State and Federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or to mitigate injury to human health or the environment. These laws require hazardous materials users to prepare written plans, such as Hazard Communication Plans and Hazardous Materials Management Plans. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely. Primary responsibility for enforcement of these laws has generally been delegated to local agencies.

California Health and Safety Code – Hazardous Materials Business Plans

The State of California Health and Safety Code Section 25501 requires an owner or operator of a facility to complete and submit a Hazardous Material Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than 55 gallons of liquids, 500 pounds of solids, or 200 cubic feet for a compressed gas. The intent of HMBPs is to provide basic information necessary for use by first responders in order to prevent or mitigate damage to the public health and safety and to the environment from a release or threatened release of a hazardous material, as well as satisfy federal and State Community Right-To-Know laws. A HMBP is a document containing detailed information on the inventory of hazardous materials at a facility; Emergency Response Plans (ERP) and procedures in the event of a reportable release or threatened release of a hazardous material; a Site Safety Plan with provisions for training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material; a site map that contains north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment (Cal OES, 2014).

California Code of Regulations –Hazardous Waste Regulations

Title 22, Division 4.5 of the California Code of Regulations (CCR) contains regulations pertaining to hazardous wastes (DTSC, 2017). Pertinent chapters are described below.

- **Chapter 11** identifies a hazardous waste as a waste that exhibits the characteristics that may: (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed.
- **Chapter 12** includes standards applicable to hazardous waste generators, including pre-transport requirements, recordkeeping **and** reporting, and importing/exporting of hazardous wastes.
- **Chapter 13** includes regulatory requirements for the transport of hazardous wastes. Chapter 13 requires hazardous waste transporters to be registered with DTSC. To obtain registration status, transporters must complete and submit a Hazardous Waste Hauler Application Form and proof of ability to provide adequate response in damages for DTSC review. Registered hazardous waste transporters are subject to random inspection by the Department of California Highway Patrol. Registered transporters must also report any changes in their operations to DTSC. Transporters must also receive an identification number from DTSC. This chapter also requires immediate action is taken to protect human health and the environment in the event of a hazardous waste discharge.
- **Chapter 31** covers pollution prevention and hazardous waste source reduction and management review. This requires hazardous waste generators to conduct a source reduction and evaluation review and plan for hazardous waste, as well as a hazardous waste management performance report. This plan and report format is designed to prevent hazardous waste generation and to report hazardous waste generation amounts, respectively.

California Code of Regulations – Hazard Communication

Title 8, Subchapter 7, Group 16, Article 109, Section 5194 contains regulations pertaining to hazards communication. According to this Section, employers must develop, implement, and maintain at the workplace a written hazard communication program for their employees. The program should include a list of the hazardous chemicals known to be present using a product identifier that is referenced on the appropriate safety data sheet (the list may be compiled for the workplace as a whole or for individual work areas). The program must also include the methods the employer will use to inform employees of the hazards of non-routine tasks, and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

California Code of Regulations – Fire Protection and Prevention

Title 8, Division 1, Chapter 4, Subchapter 4, Article 36 of the CCR contains regulations pertaining to Fire Protection and Prevention during construction. Some of the pertinent sections are described below:

- **Section 1921: Water Supply.** A temporary or permanent water supply required to properly operate firefighting equipment shall be made available as soon as combustible materials accumulate.

- **Section 1933: Fire Control.** Suitable fire control devices such as a small hose or portable fire extinguisher shall be available at locations where flammable or combustible liquids are stored.
- **Section 1965: Use of Flammable Liquids.** Flammable liquids shall be kept in closed containers when not actually in use and leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely. These liquids shall not be used near open flames or sources of ignition within 50 feet.
- **Section 1936: Service and Refueling Areas.** Flammable liquids shall be stored in approved closed containers or tanks. Smoking or open flames shall not be permitted in areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing flammable liquids. Conspicuous and legible signs prohibiting smoking shall be posted within site of the person being served. The motors of all equipment being fueled shall be shut off during the fueling operation except for emergency generators, pumps, etc., where continuing operation is essential.
- **Section 1938: Construction Site, General.** Internal combustion engine powered equipment shall be located so that exhausts are well away from combustible materials.

California Division of Occupational Safety and Health

The Division of Occupational Safety and Health (Cal/OSHA) protects and improves the health and safety of working men and women in California and the safety of passengers riding on elevators, amusement rides, and tramways – through the setting and enforcing standards; providing outreach, education, and assistance; and issuing permits, licenses, certifications, registrations, and approvals (CDIR, 2017).

Cal/OSHA has requirements specific to fire protection and prevention during construction. Employers must establish an effective fire prevention program and ensuring it is followed through all phases of construction work. Firefighting equipment must be freely accessible at all times, placed in a conspicuous location, and well-maintained. As soon as combustible materials accumulate, a water supply adequate to operate firefighting equipment must be made available. Workers must receive annual training in the use of fire extinguishers (Cal/OSHA, 2015).

Caltrans Division of Aeronautics

The State Aeronautics Act, Public Utilities Code (PUC) Section 21001 et. Seq., provides the foundation for the California Department of Transportation (Caltrans) aviation policies. The Division of Aeronautics issues permits for and annually inspects public-use airports throughout the State, and provides grants and loans for safety, maintenance and capital improvement projects at airports. To foster compatible land use around airports, the Division of Aeronautics administers noise regulation and land use planning laws and encourages environmental mitigation measures to lessen noise, air pollution, and other impacts caused by aviation.

The State Aeronautics Act requires local jurisdictions that operate public airports to establish Airport Land Use Commissions (ALUCs) or an equivalent designated body to protect the public health, safety, and welfare. The ALUC or equivalent is responsible for promoting the orderly expansion of airports and adoption of land use measures by local public agencies to minimize exposure to excessive noise and safety hazards near airports. Each ALUC or equivalent

designated body is responsible for preparing and maintaining an Airport Land Use Compatibility Plan (ALUCP) that identifies compatible land uses near each public use airport within its jurisdiction. The ALUCP must provide policies for reviewing certain types of development that occur near airports. State law requires consistency between airport land use compatibility plans and any associated general plans. Caltrans is responsible for the review and approval of all ALUCPs within the State of California.

Local

Hemet-Ryan Airport Land Use Compatibility Plan

The Hemet-Ryan Airport Comprehensive Airport Land Use Plan (ALUP) was prepared in 1992 and updated in 2009 based on concerns about residential encroachment toward the airport. The Airport is owned by Riverside County. Land use policies in the ALUP are structured around four distinct land use compatibility areas within and surrounding the airport. In Area I, an area of extreme risks (where flight paths converge and a high number of lower-altitude aircraft overflights occur), only agricultural and open space uses are permitted. Industrial and agricultural uses are permitted in Area II, an area of high risk (same risks as extreme area, but to a lesser severity), along with residential uses requiring a minimum lot size of 2.5 acres. In Area III, the moderate risk area, a wide range of uses are permitted with the exception of schools, structures containing hazardous materials, places of assembly, and structures over 35-feet tall, which may only be permitted following discretionary review.

Riverside County Department of Environmental Health Hazardous Materials Branch

The California Environmental Protection Agency designated the Riverside County Department of Environmental Health Hazardous Materials Branch (Branch) as the CUPA for Riverside County. The role of the CUPA is to assure consolidation, consistency and coordination of the hazardous materials programs within the County. The Branch is responsible for overseeing the six hazardous materials programs in the County. The Branch is responsible for inspecting facilities that handle hazardous materials, generate hazardous waste, treat hazardous waste, own/operate underground storage tanks, own/operate aboveground petroleum storage tanks, or handle other materials subject to the California Accidental Release Program (CalARP). In addition, the Branch maintains an emergency response team that responds to hazardous materials and other environmental health emergencies 24 hours a day, 7 days a week.

The Branch oversees implementation of CalARP in the Program area. AB 3777 was enacted in 1986 to minimize potential emergencies involving acutely hazardous materials by requiring facilities which handle these materials to submit Risk Management Prevention Plans. Risk Management Plans are one of the cornerstones of the Accidental Release Program. Similar to a Business Plan, an RMP will list the equipment and procedures that will be used to prevent, mitigate, and abate releases of CalARP materials. Additional requirements for RMPs include the listing of spill prediction worst-case scenarios, possible effects on the surrounding community, and comprehensive emergency procedures.

Riverside County Emergency Operations Plan

The Riverside County Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies within the County. The goal of the EOP is to facilitate multi-agency and multi-jurisdictional coordination, particularly between Riverside County and local governments in emergency operations. The EOP identifies roles and responsibilities for County departments; these departments must develop and maintain their own local EOPs. The Riverside County Emergency Operations Center (EOC) is the central management entity responsible for directing and coordinating various County departments in their emergency response activities (Riverside County, 2006a).

City of San Jacinto Emergency Preparedness Plan

The City's Emergency Preparedness Plan identifies resources available for emergency response and establishes action plans for specific emergency situations and disasters including earthquakes, fires, major rail and roadway accidents, flooding, hazardous materials incidents and civil disturbance (City of San Jacinto, 2006).

City of Hemet Emergency Operations Plan

The City's EOP addresses the planned response to emergencies associated with natural disasters and technological incidents. The plan establishes the emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements utilizing the Standardized Emergency Management System. The EOP sets forth the procedures associated with preparedness for, response to, recovery from, and mitigation of a variety of types of emergencies (City of Hemet, 2012).

3.8.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to hazards and hazardous materials. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. 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 it create a significant hazard to the public or the environment.

5. 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, the project would result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. 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.

Title 40 of the Code of Federal Regulations (40 CFR) and Title 22 of the California Code of Regulations define and identify hazardous materials and wastes and provide threshold levels for these substances. Regulatory agencies determine what constitutes a “substantial” hazard or an “insignificant” level of hazardous materials on a case-by-case basis, depending on the proposed uses, potential exposure, and degree and type of hazard.

Impacts and Mitigation Measures

Routine Transport, Use, or Disposal of Hazardous Materials

Impact HAZ-1: Implementation of the Proposed Program and the Proposed Project could create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction activities for the Proposed Program facilities would involve drilling, trenching, excavation, grading, and other ground-disturbing activities. These construction activities would require small amounts of routinely-used hazardous materials including but not limited to petroleum products (i.e. oil, gasoline, and diesel fuels), automotive fluids (i.e. antifreeze and hydraulic fluids), and other chemicals (i.e. adhesives, solvents, paints, thinners, and other chemicals). No acutely hazardous materials would be used onsite during construction of the Proposed Program. The materials handled would not pose a significant risk offsite to the public. In addition, EMWD and its construction contractor would be required to comply with all applicable federal, State and local regulations pertaining to hazardous material use, handling, storage, and disposal. Adherence to these regulations would reduce potential Proposed Program construction impacts related to hazardous materials to less than significant levels.

Operation of the Proposed Program would include facilities designed to recharge, monitor, extract, and convey water. Groundwater extracted from Proposed Program wells may require disinfection or treatment. As such, new chemicals may need to be routinely transported, used, and or disposed, depending on the required treatment and disinfection processes. The use of such hazardous materials would be required to comply with existing regulatory standards with respect to the storage and handling of hazardous materials including preparation of and compliance with a Hazardous Materials Business Plan (HMBP), Emergency Response Plan (ERP), and Risk

Management Plan (RMP), as managed and overseen by the Riverside County Department of Environmental Health Hazardous Materials Branch. These requirements include such safety measures as ensuring the use of appropriate storage vessels, secondary containment features, safety labeling, readily available spill absorbent materials, and training of site workers to respond to any accidental release. Adherence to these requirements would ensure that impacts to the environment and public health and safety due to routine use of hazardous materials during Program operation would be less than significant.

Impact Determination

Construction and operation activities associated with the Proposed Program would be required to comply with all relevant and applicable federal, State and local laws and regulations pertaining to the routine transport, storage, use and disposal of hazardous materials. As a result, impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction activities for the Proposed Project facilities would involve drilling, trenching, excavation, grading, and other ground-disturbing activities. These construction activities would require small amounts of routinely-used hazardous materials including but not limited to petroleum products (i.e. oil, gasoline, and diesel fuels), automotive fluids (i.e. antifreeze and hydraulic fluids), and other chemicals (i.e. adhesives, solvents, paints, thinners, and other chemicals). No acutely hazardous materials would be used onsite during construction of the Proposed Project. The materials handled would not pose a significant risk offsite to the public. In addition, EMWD and its construction contractor would be required to comply with all applicable federal, State and local regulations pertaining to hazardous material use, handling, storage, and disposal. Adherence to these regulations would reduce potential Proposed Project construction impacts related to hazardous materials to less than significant levels.

Operation of the Proposed Project facilities would consist of facilities designed to recharge, monitor, extract, and convey water. Groundwater extracted from the three Project wells may require disinfection or treatment at the proposed facility at the Hewitt and Evans site. As such, new chemicals such as chlorine or chloramine would need to be routinely transported, used, and or disposed, depending on the required treatment and disinfection processes. The use of such hazardous materials would be required to comply with existing regulatory standards with respect to the storage and handling of hazardous materials including preparation of and compliance with a HMBP, ERP, and RMP, as managed and overseen by the Riverside County Department of Environmental Health Hazardous Materials Branch. These requirements include such safety measures as ensuring the use of appropriate storage vessels, secondary containment features, safety labeling, readily available spill absorbent materials, and training of site workers to respond

to any accidental release. Adherence to these requirements would ensure that impacts to the environment and public health and safety due to routine use of hazardous materials during Project operation would be less than significant.

Impact Determination

Construction and operation activities associated with the Proposed Project would be required to comply with all relevant and applicable federal, State and local laws and regulations pertaining to the routine transport, storage, use and disposal of hazardous materials. As a result, impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Accidental Upset of Hazardous Materials

Impact HAZ-2: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As described under Impact HAZ-1, Proposed Program construction activities would require the transport, use, and disposal of small amounts of hazardous materials. No acutely hazardous materials would be used onsite during construction of the Proposed Program. If not properly handled, accidental release of these substances could degrade soils or become entrained in stormwater runoff, resulting in adverse effects on the public or the environment. However, EMWD is required to comply with all applicable federal, State and local laws and regulations that pertain to avoiding and, if necessary, mitigating the accidental release of hazardous materials during construction of proposed facilities. For example, Cal/OSHA would require EMWD or its contractors to prepare and implement a Construction Safety Plan, which would include such items as construction worker training, availability of safety equipment, an accident prevention program, and hazardous substance exposure warning protocols. CCR Section 5194 requires a hazards communication program that clearly identifies hazardous materials onsite, thereby increasing employee education and awareness of hazardous materials onsite and reducing the potential for a spill. CFR Section 1910.120 details requirements for emergency response to releases or substantial threats of releases of hazardous substances. In addition, BMPs shall be included in the Storm Water Pollution Prevention Plan (SWPPP) that would be required for the Proposed Program (see Section 3.9, *Hydrology and Water Quality*), to prevent accidental release of hazardous materials into the environment that could affect soils or contaminate groundwater. Implementation of these BMPs would further reduce potentially significant impacts associated with hazardous substance spills during construction to less than significant levels.

Operation of the Proposed Program facilities would consist of facilities designed to recharge, monitor, extract, and convey water. The transport, use and/or disposal of chemicals or other hazardous materials, including chlorine or chloramine, could be required for disinfection and potential water treatment facilities proposed as part of extraction facilities. The SWPPPs prepared for Program facilities would also include permanent BMPs to be implemented to avoid hazardous materials release into stormwater runoff during operation. In addition, should hazardous material use at any of the potential treatment/blending and disinfection facilities satisfy CFR requirements for preparation of an HMBP, information in the HMBP and ERP would be used by the Riverside County Fire Department as first responders to appropriately address an accidental hazardous material spill. EMWD would comply with all relevant and applicable federal, State and local regulations that pertain to hazardous material spills during Proposed Program operation. Compliance with these laws would minimize the potential hazard to the public or environment related to the accidental release of hazardous materials. Impacts would be less than significant.

Impact Determination

Construction and operation activities associated with the Proposed Program would be required to comply with all relevant and applicable federal, State and local laws and regulations pertaining to the accidental release of hazardous materials into the environment. Implementation of BMPs would further reduce potentially significant impacts associated with accidental hazardous substance spills during construction to less than significant levels.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As described in Impact HAZ-1, Proposed Project construction activities would require the transport, use, and disposal of small amounts of hazardous materials. No acutely hazardous materials would be used onsite during construction of the Proposed Project. If not properly handled, accidental release of these substances could degrade soils or become entrained in stormwater runoff, resulting in adverse effects on the public or the environment. However, similar to the Proposed Program, EMWD is required to comply with all applicable federal, State and local laws and regulations that pertain to avoiding and, if necessary, mitigating the accidental release of hazardous materials, including CCR Section 5194 that requires a hazards communication program identifying hazardous materials onsite and reducing the potential for a spill, and CFR Section 1910.120 that includes requirements for emergency response to releases or substantial threats of releases of hazardous substances. Further, as detailed in Section 3.9, *Hydrology and Water Quality*, the SWPPP implemented during Proposed Project facility construction would include BMPs designed to prevent stormwater contact with chemicals onsite, thereby reducing the potential for a hazardous material spill to affect stormwater. In addition, BMPs shall be included in the SWPPP that would be required for the proposed project (see Section 3.9, *Hydrology and Water Quality*), to prevent accidental release of hazardous materials into the environment that could affect soils or contaminate groundwater. Implementation of

BMPs would further reduce potentially significant impacts associated with hazardous substance spills during construction to less than significant levels.

Operation of the Proposed Project facilities would consist of facilities designed to recharge, monitor, extract, and convey water. The transport, use and/or disposal of chemicals or other hazardous materials, including chlorine or chloramine, could be required for disinfection and potential water treatment facilities proposed at the Hewitt and Evans site. The SWPPPs prepared for Proposed Project facilities would also include permanent BMPs to be implemented to avoid hazardous materials release into stormwater runoff during operation. In addition, should hazardous material use at the Hewitt Evans site satisfy CFR requirements for preparation of an HMBP, information in the HMBP and ERP would be used by the Riverside County Fire Department as first responders to appropriately address an accidental hazardous material spill. EMWD would comply with all relevant and applicable federal, State and local regulations that pertain to hazardous material spills during Proposed Project operation. Compliance with these laws would minimize the potential hazard to the public or environment related to the accidental release of hazardous materials. Impacts would be less than significant.

Impact Determination

Construction and operation activities associated with the Proposed Project would be required to comply with all relevant and applicable federal, State and local laws and regulations pertaining to the accidental release of hazardous materials into the environment. Implementation of BMPs would further reduce potentially significant impacts associated with accidental hazardous substance spills during construction to less than significant levels.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

School Hazards

Impact HAZ-3: Implementation of the Proposed Program and the Proposed Project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As shown in **Figure 3.8-1** and within **Table 3.8-1**, there are seven schools located within 0.25 mile of the Proposed Program recharge, monitoring, extraction and conveyance facilities. These schools include: San Jacinto Valley Academy, Mountain View High School, Jose Antonio Estudillo Elementary School, Rancho Viejo Middle School, Cawston Elementary School, Bautista Creek Elementary School, and Hyatt Preschool. Construction activities for all Proposed Program facilities would use limited quantities of hazardous materials such as gasoline and diesel fuel. Additionally, EMWD is required to comply with all applicable federal, State and local laws

and regulations that pertain to the release of hazardous materials during construction of proposed facilities. Compliance with all hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school. Therefore, construction impacts would be less than significant.

Operation of the Proposed Program facilities would include the recharge, monitoring, extraction, treatment and conveyance of water. Treatment/blending and disinfection facilities could require the transport, use and/or disposal of chemicals or other hazardous materials during operation. The treatment/blending and disinfection facilities would be located in the area for groundwater extraction wells shown on **Figure 3.8-1** and could therefore be located within 0.25 mile of San Jacinto Valley Academy, Jose Antonio Estudillo Elementary School, Mountain View High School, Bautista Creek Elementary School, or Hyatt Preschool. If that occurs, proposed treatment/blending and disinfection facilities could expose the school to hazardous substances required in treatment processes, including chlorine and chloramine. However, EMWD would comply with all applicable regulations pertaining to handling, storage, use, and disposal of hazardous substances, including for example regulations related to transporting hazardous materials to and from the site and requirements for the facility design to include secondary containment around hazardous materials storage areas to ensure accidental spills are contained. Therefore, impacts related to handling hazardous materials near a school would be less than significant.

Impact Determination

Construction and operation activities associated with the Proposed Program would be required to comply with all relevant and applicable federal, State and local laws and regulations pertaining to the handling of hazardous materials into near schools. As a result, impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

The Jose Antonio Estudillo Elementary School and Hyatt Preschool are the two schools located within 0.25 mile of Proposed Project facilities (see **Table 3.8-1** and **Figure 3.8-1**). The Proposed Project facility locations within 0.25 of these schools include extraction facilities (extraction Well 202, extraction Well 203, and the Hewitt and Evans site) and conveyance facilities (the 48-inch potable water pipeline and the well water collector pipelines). Construction activities for all Proposed Project facilities would use limited quantities of hazardous materials such as gasoline and diesel fuel. Additionally, EMWD is required to comply with all applicable federal, State and local laws and regulations that pertain to the release of hazardous materials during construction of proposed facilities. Compliance with all hazardous materials regulations would reduce potential impacts regarding hazardous materials emissions within 0.25 mile of a school. Therefore, construction impacts would be less than significant.

Operation of the Proposed Project facilities would include the recharge, monitoring, extraction, treatment, and conveyance of water. Disinfection and potential treatment facilities installed at the Hewitt and Evans site could require the transport, use and/or disposal of chemicals or other hazardous materials, including chlorine and chloramine, during operation. The Hewitt and Evans site would be located within 0.25 mile of Hyatt Preschool and thus could expose the school to hazardous substances. However, EMWD would comply with all applicable regulations pertaining to handling, storage, use, and disposal of hazardous substances, including for example regulations related to transporting hazardous materials to and from the site and requirements for the facility design to include secondary containment around hazardous materials storage areas to ensure accidental spills are contained. Therefore, impacts related to handling hazardous materials near a school would be less than significant.

Impact Determination

Construction and operation activities associated with the Proposed Project would be required to comply with all relevant and applicable federal, State and local laws and regulations pertaining to the handling of hazardous materials into near schools. As a result, impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Hazardous Materials Site

Impact HAZ-4: Implementation of the Proposed Program and the Proposed Project would not 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 not create a significant hazard to the public or the environment.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

There are multiple LUST cleanup sites and other hazardous materials sites within the Proposed Program area. However, the majority of these sites have been remediated or withdrawn from their respective lists, indicating contamination no longer poses a threat to human health or the environment on the site. The open LUST and non-LUST cleanup sites are shown in **Figure 3.8-1**. None of the Proposed Program facilities would be located on the two LUST or three non-LUST cleanup sites awaiting remediation. Therefore, there would be no impact to the public or environment.

Impact Determination

None of the Proposed Program components would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be no impact to the public or environment.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact.

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Although there are multiple LUST cleanup sites and other hazardous materials sites near the Proposed Project facility locations, the majority of these cleanup sites have been remediated or withdrawn from the list, indicating contamination no longer poses a threat to human health or the environment on the site. The open LUST and non-LUST cleanup sites are shown in **Figure 3.8-1**. None of the Proposed Project facilities would be located on the two LUST or the three non-LUST cleanup sites awaiting remediation. A Phase I site assessment for the Mountain Avenue West recharge facility stated no conditions were present that indicated the site is impacted by hazardous materials (SCS Engineers, 2017). Therefore, there would be no impact to the public or environment.

Impact Determination

None of the Proposed Project components would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be no impact to the public or environment.

Mitigation Measures

None required.

Significance Conclusion

No Impact.

Airport and Airstrip Hazards

Impact HAZ-5: 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 or located within the vicinity of a private airstrip, the Proposed Program and the Proposed Project could result in a safety hazard for people residing or working in the project area.

Program-Level Impacts

Recharge, Monitoring and Extraction Facilities

The Hemet-Ryan Airport is located within the Proposed Program area as shown on **Figure 3.8-1**. However, the Proposed Program's recharge, monitoring and extraction facilities would not be located within the airport's land use plan boundaries. Due to their substantial distance from the Hemet-Ryan Airport, construction of the recharge, monitoring and extraction facilities would not expose workers to airport-related hazards. These facilities would not be inhabited by residents or workers during their operation. Therefore, Proposed Program impacts would be less than significant for airport-related safety hazards.

Conveyance Facilities

A portion of the proposed 48-inch potable water pipeline alignment would be located within the Hemet-Ryan Airport land use plan area and boundary of the airport itself as shown on **Figure 3.8-1**. Therefore, construction of the segment of pipeline in the airport vicinity or within the airport could expose workers to airport-related hazards. However, FAA regulations require submittal of a Form 7460 with construction information that allows the FAA to determine whether the construction activities occurring within a public airport would be a hazard. The City of Hemet also requires review of all development for compatibility with the Hemet-Ryan Airport Land Use Compatibility Plan to ensure development is suitable for its proposed location and that operation would be compatible with airport land use restrictions related to light, glare, electrical interference, and substantial height. Since the proposed pipeline would operate belowground, it can be assumed it would be compatible with airport operations and restrictions. Therefore, construction of the segment of 48-inch pipeline located within the Hemet-Ryan Airport boundaries would not proceed without a determination from FAA and the City of Hemet that no airport-related hazards would result. Once operational, the proposed pipeline would operate belowground to convey potable water, and would thus not affect airport operations or increase the persons in the area, exposing them to airport related hazards. As a result, Proposed Program construction and operation-related impacts would be less than significant.

Impact Determination

Construction of the proposed potable water pipeline facilities within the Hemet-Ryan Airport Land Use Compatibility Plan area would be required to submit FAA Form 7460 to ensure construction activities would not generate light or glare or introduce equipment of substantial height that would interfere with airport operations. Once constructed, pipelines would be underground and would not result in safety hazards for people living or working in and around Hemet-Ryan Airport. As a result, impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

None of the Proposed Project's recharge, monitoring, extraction and conveyance facilities would be located within an airport land use plan boundary. The closest public use airport is the Hemet-Ryan Airport, which is located approximately 4.5 miles southwest from any of the Proposed Project facilities. Due to their substantial distance from the Hemet-Ryan Airport, construction of the recharge, monitoring, extraction and conveyance facilities would not expose workers to airport-related hazards. These facilities would not be inhabited by residents or workers during their operation. Therefore, no impact would occur to airport-related safety hazards.

Impact Determination

None of the Proposed Project's facilities would be located within an airport land use plan boundary. As a result, there would be no safety hazards for people living in and around an airport.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Adopted Emergency Response Plan

Impact HAZ-6: Implementation of the Proposed Program and the Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction of the Proposed Program conveyance facilities would occur within roadway rights-of-way (ROW), and construction of the Proposed Program recharge, monitoring and extraction facilities would occur adjacent to roadways. Therefore, construction of the Proposed Program facilities could potentially result in temporary lane or roadway closures or block access to roadways and driveways for emergency vehicles. As explained in Section 3.13, *Traffic and Transportation*, Mitigation Measure TRAF-PMM-1 would require construction contractors to notify emergency responders including local fire departments, police departments and ambulances of planned road closures and/or roadway and driveway blockages. Conveyance facilities within ROWs would be installed belowground and, similar to monitoring and extraction facilities, would not interfere with roadways during operation, such that no impact would occur. Therefore, Proposed Program facility construction would not substantially impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan requiring the use of these roadways with implementation of Mitigation Measure TRAF-PMM-1.

Impact Determination

Construction of the Proposed Program could impair implementation of or physically interfere with an adopted emergency response plan. With implementation of Mitigation Measure TRAF-PMM-1, potential impacts to emergency response would be reduced to a less than significant level.

Program Mitigation Measures

Implement Mitigation Measure TRAF-PMM-1.

No impact would occur during operation of Program facilities.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction of the Proposed Project conveyance facilities would occur within roadway ROW. Construction of the Proposed Project recharge, monitoring and extraction facilities would occur adjacent to roadways. Therefore, construction of the Proposed Project facilities could potentially result in temporary lane or roadway closures or block access to roadways and driveways for emergency vehicles. Mitigation Measure TRAF-MM-1 would require construction contractors to notify emergency responders including local fire departments, police departments and ambulances of planned road closures and/or roadway and driveway blockages. Conveyance facilities within ROWs would be installed belowground and, similar to monitoring and extraction facilities, would not interfere with roadways during operation such that no impact would occur. Therefore, Proposed Project facility construction would not substantially impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan requiring the use of these roadways with implementation of Mitigation Measure TRAF-PMM-1.

Impact Determination

Construction of the Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan. With implementation of Mitigation Measure TRAF-PMM-1, potential impacts to emergency response would be reduced to a less than significant level.

Mitigation Measures

Implement Mitigation Measure TRAF-MM-1.

No impact would occur during operation of the Proposed Project.

Significance Conclusion

Less than Significant with Mitigation

Wildland Fires

Impact HAZ-7: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

A portion of the area for groundwater extraction wells and the proposed 48-inch potable pipeline would be located within a “very high fire hazard zone” as shown on **Figure 3.8-1** and designated

by CAL FIRE. Although other Proposed Program facilities are not located within “very high fire hazard zones,” they are not exempt from potential fire hazards given their relative proximity to wildlands and zones of very high fire risk. Therefore, construction of the Proposed Program facilities could expose workers and/or neighboring residential areas to wildland fires. During construction, the use of spark-producing construction machinery within these fire risk areas could create hazardous fire conditions. The implementation of **Mitigation Measure HAZ-PMM-1** would ensure fire hazard reduction measures are conducted during construction in areas designated as very high fire hazard severity zones to reduce the potential for wildfire impacts on people or structures to less than significant levels. In addition, all construction must comply with fire protection and prevention requirements specified by CCR and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use.

During operation, the Proposed Program facilities would not substantially add to the fire risk in the Proposed Program area. Conveyance facilities would operate belowground and would thus not catch fire during wildland fires. Aboveground structures associated with other facilities would not be constructed of highly flammable materials and would hold water during much of their operation, thereby reducing flammability. Therefore, Proposed Program impacts related to wildland fires during operation would be less than significant.

Impact Determination

Several Proposed Program facilities, including the area for groundwater extraction wells and 48-inch potable water pipeline, would be located in a “very high fire hazard zone.” Implementation of the fire hazard reduction measures in Mitigation Measure HAZ-PMM-1 during construction would ensure the Proposed Program does not expose people or structures to a significant risk of loss, injury or death involving wildland fires. Impacts would be less than significant with mitigation.

Program Mitigation Measures

HAZ-PMM-1: Implement Fire Hazard Reduction Measures. During construction of facilities located in areas designated as moderate, high, or very high fire hazard severity zone by CAL FIRE, EMWD shall require that all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the Proposed Program facilities, contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

Significance Conclusion

Less than Significant with Mitigation.

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

None of the Proposed Project facilities would be located within “very high fire hazard zones” identified by CALFIRE. However, these facilities are not completely exempt from potential fire risks given their relative proximity to wildlands and zones of very high fire risk. Therefore, construction of the Proposed Project facilities could expose workers and/or neighboring residential areas to wildland fires. During construction, the use of spark-producing construction machinery within these fire risk areas could create hazardous fire conditions. The implementation of **Mitigation Measure HAZ-MM-1** would ensure fire hazard reduction measures are conducted during construction in areas designated as very high fire hazard severity zones to reduce the potential for wildfire impacts on people or structures to less than significant levels. In addition, all construction must comply with fire protection and prevention requirements specified by CCR and Cal/OSHA. This includes various measures such as easy accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use.

During operation, the Proposed Project facilities would not substantially add to the area’s fire risk. Conveyance facilities would operate belowground and would thus not catch fire during wildland fires. Aboveground structures associated with other facilities would not be constructed of highly flammable materials and would hold water during much of their operation, thereby reducing their flammability. Therefore, Proposed Project impacts related to wildland fires during operation would be less than significant.

Impact Determination

The Proposed Project facilities would be located in close proximity to “very high fire hazard zone.” Implementation of the fire hazard reduction measures in Mitigation Measure HAZ-MM-1 during construction would ensure the Proposed Project does not expose people or structures to a significant risk of loss, injury or death involving wildland fires. Impacts would be less than significant with mitigation.

Mitigation Measures

HAZ-MM-1: Implement Fire Hazard Reduction Measures. During construction of facilities located in areas designated as moderate, high, or very high fire hazard severity zone by CAL FIRE, EMWD shall require that all staging areas, welding areas, or areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that includes a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the Proposed Project facilities, contractors shall require all vehicles and crews to have access to functional fire extinguishers at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

Significance Conclusion

Less than Significant with Mitigation

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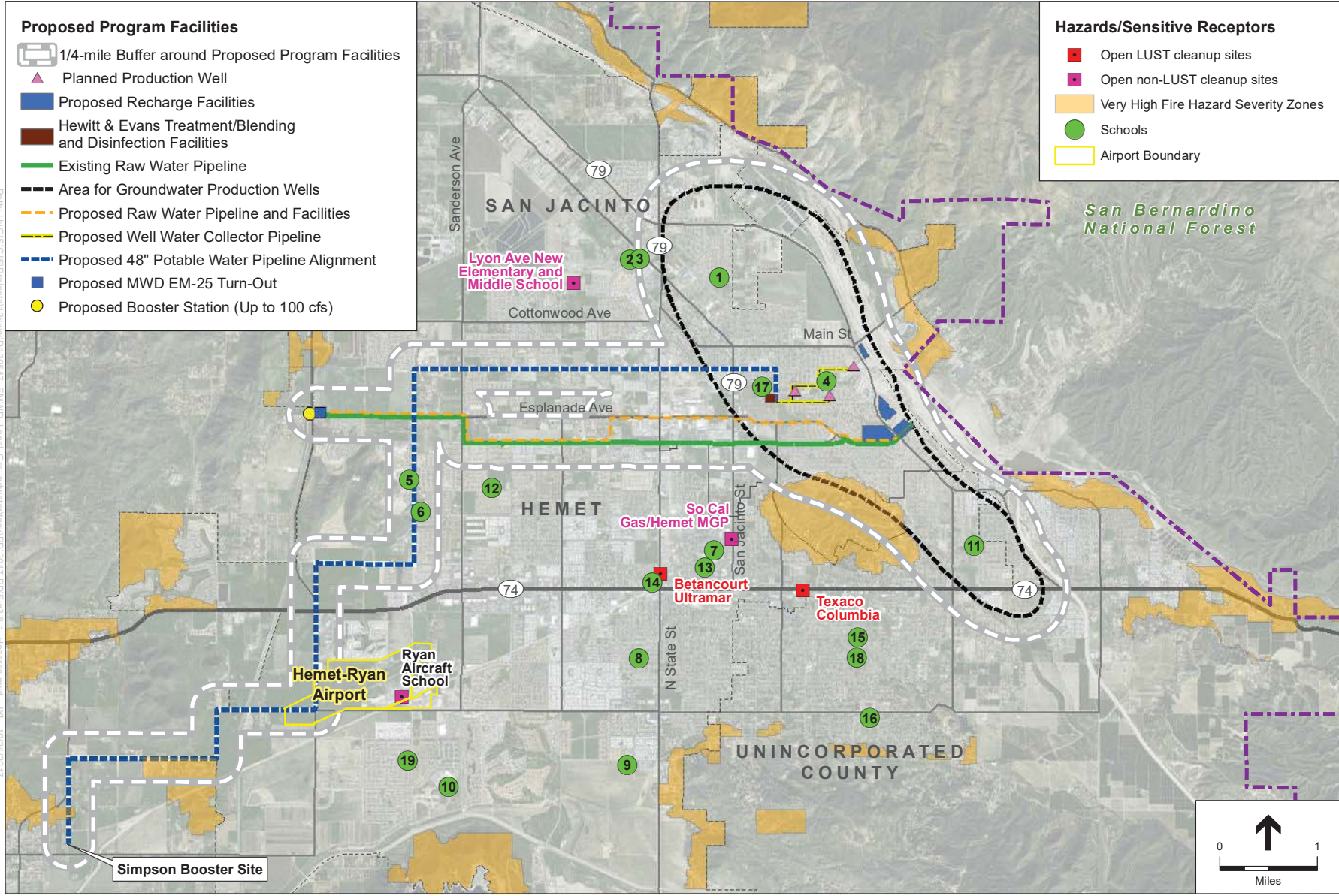
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SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.8-1
Hazards in the Proposed Program Area

3.9 Hydrology and Water Quality

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to hydrology and water quality. The section includes a description of the environmental setting to establish baseline conditions for surface water and groundwater hydrology and water quality; a summary of the regulations related to hydrology and water quality; and an evaluation of the Proposed Program and Proposed Project's potential effects on hydrology and water quality.

3.9.1 Environmental Setting

Regional Hydrology Setting

The Proposed Program is located in the San Jacinto River Watershed which is a tributary to the Santa Ana River and encompasses approximately 780 square miles on the western flanks of the San Jacinto Mountains. The watershed includes lakes and reservoirs (Lake Elsinore, Canyon Lake, Lake Perris, Lake Hemet and Mystic Lake). Major tributaries include Bautista Creek, Poppet Creek, Potrero Creek, Perris Valley Drain and Salt Creek. The San Jacinto River is formed at the west base of the San Jacinto Mountains by the confluence of its North and South forks. The South Fork flows from near Santa Rosa Summit, through Pine Meadow and Garner Valley to Lake Hemet, which holds 14,000 acre feet (17,000,000 m³) of water. Hemet Dam was built in 1895 to supply water to the city of Hemet. Downstream of the dam, the South Fork joins the North Fork east of the town of Valle Vista near Highway 74, and the main stem of the San Jacinto River continues northwest until it discharges into Mystic Lake, a couple of miles east of Lake Perris. Overflow from the river then flows southwest, passing under Ramona Expressway and Interstate 215, and through Railroad Canyon to Railroad Canyon Reservoir, also called Canyon Lake, which has a capacity of 11,900 acre feet. Downstream of Railroad Canyon Dam, the river continues flowing roughly west southwest through the canyon through the Temescal Mountains for about 3 miles (4.8 km) until it drains into Lake Elsinore. The lake usually has no outflow other than evaporation, but in years of heavy rainfall it overflows into Temescal Creek, which flows northwest to the Santa Ana River in Corona, California.

Regional Groundwater Setting

The Proposed Program is located within the San Jacinto Groundwater Basin. The San Jacinto Groundwater Basin consists primarily of alluvial and fluvial sedimentary deposits containing coarse-grained sand and gravel deposits as well as finer-grained silt and clay layers. The alluvial aquifer valleys are bounded by lower permeability, primarily crystalline and sedimentary rocks of the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Mountains on the north, the Santa Rosa Hills and Bell Mountains on the south, and unnamed hills west of Mead Valley and Perris. The basin is essentially closed, without significant groundwater inflow or outflow to or from other groundwater basins. Several bedrock hills and ranges are present within the basin, separating the alluvial aquifer into different "compartments" or subareas. There are eight Groundwater Management Zones covering these subareas within the larger San

Jacinto Groundwater Basin (**Figure 3.9-1**). The Proposed Program and Proposed Project area is located within the Upper Pressure Area Management Zone, in the eastern portion of the basin.

Climate

The Proposed Program is located in San Jacinto Valley within the Peninsular Ranges. This region of Southern California is characterized by a climate considered to be semi-arid, characterized by relatively low annual precipitation averages of approximately 12 inches per year. More than half of the annual rainfall occurs between December and February with scattered shower activity during the other nine months. Summers are generally dry with low humidity and very warm with most days between June and September above 90 degrees Fahrenheit.

Regional Surface Water Quality

As part of the requirements of the Clean Water Act, beneficial uses for surface waters must be identified in the Santa Ana RWQCB Water Quality Control Plan (Basin Plan). The project site is located within the San Jacinto River Basin where a number of beneficial uses have been identified including municipal supply, agricultural supply, groundwater supply, contact and non-contact recreation, warm freshwater habitat, and wildlife habitat (RWQCB, 2016). Water quality management for the watershed is based on these identified uses.

The Basin Plan sets water quality objectives that are qualitative and quantitative in order to protect the identified beneficial uses. The water quality parameters for which numerical limits were selected from the sources listed above are: total dissolved solids, hardness, sodium, chloride, total inorganic nitrogen, sulfate and chemical oxygen demand. However, in some cases the natural background level of a particular constituent is higher than the beneficial use protective numerical limit. In such instances, the natural background level is considered to comply with the water quality objective (RWQCB, 2017).

According to the requirements of the Clean Water Act, the Santa Ana RWQCB has listed impairments for Canyon Lake (Railroad Canyon Reservoir), Lake Elsinore, and Lake Fulmor due to elevated levels of contaminants that include nutrients and pathogens (Canyon Lake and Lake Fulmor only) from non-point sources, organic enrichment (Lake Elsinore), PCBs (Lake Elsinore), and unknown toxicity (Lake Elsinore) (RWQCB, 2017).

Flood Zones

According to regional Flood Insurance Rate Maps (FIRMs) prepared by the Federal Emergency Management Agency (FEMA) for the Program area, none of the Proposed Program or Proposed Project elements are located within a 100-year flood hazard zone (FEMA, 2017). However, the proposed recharge facilities are all located adjacent to the flood zone of the San Jacinto River.

Program Area Setting

Surface Water

Elements of the Proposed Program, specifically the proposed recharge basins and wells are located on the western side of the San Jacinto River which is the main surface water drainage of

the area. In the vicinity of the Program area, the river is flowing in a northwest direction until it discharges into Mystic Lake, a couple miles east of Lake Perris. Both Lake Hemet and Mystic Lake provide regulation of flow in the river.

Hydrogeology

Groundwater occurrence and flow in the San Jacinto Groundwater Basin is influenced by the thickness of alluvium and presence of faults, as well as groundwater recharge and pumping. In general, the shallow (upper 500 feet) of alluvium contains the coarsest sediments with the deeper sediments varying in sediment size. According to measurements taken from 2014, groundwater depths in the Program area have ranged from approximately 400 feet to more than 500 feet bgs across most of the southern portion of the Program area (Dudek, 2017). In the northern portion of the Program area, depth to water was shallower, on the order of 200 to 400 feet bgs, with the shallowest depths found near the boundary between the Upper and Lower Pressure management zones. Adjacent to the existing EMWD IRRP ponds in the San Jacinto River, depth in shallow monitoring wells was as high as 235 feet bgs, possibly reflecting groundwater mounding due to recharge operations from the ponds during 2013. Over the past two decades, groundwater level trends in the Program area have varied with wells near the river in the easternmost portion of the project area relatively stable while other wells further west have declined over time. The cause of the water level declines is likely related to groundwater production exceeding recharge rates (Todd Groundwater, 2017). Several recent significantly-below average rainfall years have reduced natural and stormwater infiltration recharge, and the lack of available imported water has further reduced managed recharge operations resulting in the water level declines. The Proposed Program is anticipated to significantly increase water levels and associated groundwater storage in future years.

Groundwater Quality

The Basin Plan also sets water quality objectives for groundwater that are qualitative and quantitative in order to protect beneficial uses. The water quality constituents that have numerical limits for groundwater include: arsenic, bacteria, barium, boron, chloride, cyanide, total dissolved solids, fluoride, metals, Methylene Blue-Activated Substances, pH, radioactivity, sodium, and sulfate (RWQCB, 2017).

Groundwater quality in the shallow groundwater zone known as the Upper Pressure Zone was evaluated as part of the Preliminary Design Report for the Proposed Program to identify the distribution of key water quality parameters including TDS, nitrate, manganese, iron, chloride, sulfate, and to evaluate general mineral water types, potential water sources affecting groundwater quality, and potential water quality changes resulting from recharge of imported water (Dudek, 2017).

Except for a few area wells with elevated nitrate, and a few selected wells with elevated iron or manganese, all of the wells in the Program Area exhibit relatively low concentrations of the key water quality parameters. According to this evaluation of groundwater quality of the Upper Pressure Zone, water quality data from 44 wells were tabulated, plotted and compared to current California and U.S. EPA regulatory requirements including maximum contaminant levels (MCLs) for drinking water (Todd Groundwater as included in Appendix E of Dudek, 2017). In

addition, representative water quality data for the SWP were evaluated for potential outcomes that would occur with mixing the SWP imported water with existing groundwater quality. In all cases, SWP water is similar to native shallow groundwater with respect to water types and concentrations of general water quality parameters, suggesting that recharging with SWP water will not degrade groundwater quality from mixing alone (Todd Groundwater as cited in Dudek, 2017).

Most of the wells near the proposed recharge facilities exhibit relatively low nitrate concentrations of less than 5 mg/L (Dudek, 2017). However, one well near the Mountain Avenue East site had a concentration of 5-15 mg/L, and several other wells south of the Mountain Avenue sites had concentrations between 5 and 45 mg/L. Only one well (depth unknown) south of the Alessandro Storage Ponds in San Jacinto shows a nitrate concentration exceeding the MCL of 45 mg/L.

The majority of the wells near and south of the Mountain Avenue recharge facilities exhibit relatively low manganese concentrations of less than 0.01 mg/L. North of the Mountain Avenue recharge sites manganese concentrations are higher, in many wells greater than the secondary MCL of 0.05 mg/L.

The sporadic elevated iron and manganese occurrences is considered to be primarily due to the presence of fine-grained iron- and manganese-containing silt and clay layers that are localized and not reflective of water quality of the productive sand and gravel aquifer zones. Wells with intake screens adjacent to iron or manganese containing silt and clay deposits typically have higher dissolved iron and manganese concentrations. Iron and manganese are not regulated drinking water parameters (although they have secondary MCLs), but are considered aesthetic or nuisance parameters. Elevated iron also can cause bacterial clogging of well screens.

According to the evaluation of the water quality data, the geochemistry of SWP water would have overall compatibility with ambient groundwater (Todd Groundwater as cited in Dudek, 2017).

Deep depth water wells (greater than 1,500 feet bgs) according to the sampling data, have not yet been impacted by surface activities of the area such as agricultural fertilizer use but could be affected by deeper geothermal waters.

Groundwater Supply

The municipal water supply in the Program Area is primarily the responsibility of four entities: EMWD, LHMWD, the City of Hemet, and the City of San Jacinto. In addition, private groundwater producers and the Soboba Band of Luiseño Indians extract groundwater for their respective uses.

While groundwater, imported water (treated and raw), surface water, and recycled are all sources of water supply in the area, groundwater has historically been the primary source of water supply. The San Jacinto River runs from southeast to northwest along the eastern side of the Program area and is a primary source of natural recharge. Natural recharge is augmented by recharge at EMWD's IRRP and recharge of stormwater and wastewater via the local infiltration ponds.

The City of San Jacinto extracts groundwater from the Upper Pressure Management Zone, and the City of Hemet extracts groundwater from both the San Jacinto Upper Pressure and Hemet South groundwater management zones. EMWD and LHMWD both extract groundwater from the Canyon, San Jacinto Upper Pressure, and Hemet South groundwater management zones. None of the municipal producers currently extract groundwater from the Hemet North portion of the Lakeview/Hemet North groundwater management zone. Private producers extract groundwater from all four groundwater management zones and the Soboba Tribe extracts from the Canyon and San Jacinto Upper Pressure groundwater management zones. The Upper Pressure, Canyon, and Hemet North and South Management Zones are collectively referred to as the Hemet/San Jacinto Groundwater Management Area (EMWD, 2016). The existing groundwater production and monitoring wells in the Program area are shown in **Figure 3.9-2**.

Groundwater production is limited to the Sub Basin (see **Figure 2-1**), which has been adjudicated and is managed by the Watermaster. A Stipulated Judgment (Eastern Municipal Water District v. City of Hemet, City of San Jacinto, Lake Hemet Municipal Water District, et al. filed: Riverside County Superior Court Case No. RIC 1207274 dated: April 18, 2013) formed the Watermaster and describes the limitations on groundwater production by EMWD and others. The Watermaster is implementing a Water Management Plan (WMP), in accordance with the Stipulated Judgment, to address overdraft within the adjudicated area. EMWD is a party to the Watermaster and is a signatory to the WMP. The Watermaster also performs annual monitoring and reporting on the Sub Basin to track water levels, extractions, and water quality. During 2015, total groundwater extraction in the entire Hemet/San Jacinto Groundwater Management Area totaled 38,950 AF, of which 24,741 AF (64 percent) was by municipalities, 12,587 AF (32 percent) was by private producers, and 1,622 AF (4 percent) was by the Soboba Band of Luiseño Indians (EMWD 2016, cited in Todd Groundwater, 2017). Most of the 2015 groundwater extraction, 26,628 AF, occurred in the Upper Pressure Management Zone.

As part of preliminary feasibility studies for the Proposed Program, hydrogeologic evaluations were conducted to determine the local conditions and suitability for a groundwater recharge and recovery program. The evaluations included conducting pilot percolations tests to estimate the anticipated rates of recharge. According to the pilot testing of the four proposed recharge basins, percolation rates of 25 to 45 feet per day were calculated with an average of approximately 30 feet per day (Dudek, 2017). Groundwater depths at the Proposed Program recharge sites ranged from approximately 400 to 500 feet bgs.

According to groundwater modeling conducted for the Proposed Program, the recharge of 24,000 AFY during dry years and 54,000 AFY during wet years for an average of 38,000 AFY would result in 1,140,000 acre-feet of storage after 30 years (Dudek, 2017).

Eastern Municipal Water District

EMWD currently produces groundwater from the San Jacinto Groundwater Basin for potable uses. Most of EMWD's groundwater production occurs within the San Jacinto Upper Pressure groundwater management zone of the basin. Numerous EMWD and other owner supply wells are operated in this zone, and limited recharge activities using stormwater and imported water have been performed in the Program area. In accordance with the 2013 Stipulated Judgment, EMWD's

groundwater production is limited to its adjusted base production right (7,303 AFY), plus any supplemental recharge provided by EMWD.

EMWD currently produces groundwater from 21 active wells in the Program area, including those shown in **Figure 3.9-2**. Additional pumping occurs within the Program area from other municipal water agencies and private wells. Total annual groundwater production by EMWD in the Upper Pressure management zone during 2014 was 7,248 AF. Ten of the 21 EMWD active production wells were pumped in 2014 (Todd Groundwater, 2017).

EMWD completed the IRRP in 2012 allowing for the recharge of raw imported water from the SWP via the IRRP Ponds. IRRP recharge operations began in June 2012 (approximately 5,700 AF recharged in 2012), and continued in 2013 (approximately 8,500 AF recharged), but the recent drought has affected the supplies available for recharge, and no water was recharged during 2014 or 2015.

As described above, the Watermaster performs annual monitoring and reporting on the Sub Basin to track water levels, extractions, and water quality.

Project Area Setting

The Mountain Avenue West site is characterized by near-surface silty sands underlain by a discontinuous silty layer at approximately 60 feet bgs. The silty sand layer varied between fine- to coarse-grained sand deposits. Below the predominantly silty layer at 60 feet bgs, were silt and clay lenses that were also found to be discontinuous. Two percolation tests were conducted at the Mountain Avenue West site by using temporary test basins and monitoring water levels over a 10-day period. Percolation rates were estimated at rates of between 25 and 45 feet per day (Dudek, 2017). The maximum recharge volume for the Mountain Avenue West proposed basin was calculated at 37,043 AFY.

3.9.2 Regulatory Setting

Federal

Clean Water Act

Regulatory authorities exist on both the state and federal levels for the control of water quality in California. The EPA is the federal agency, governed by the CWA, responsible for water quality management.

The purpose of the CWA is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies. Section 303 of the CWA requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all Waters of the United States. Under Section 303(d) of the CWA, states, territories and authorized tribes are required to develop lists of impaired waters. Impaired waters are the waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water on the lists and develop action plans to improve water quality. This process includes

development of Total Maximum Daily Loads (TMDL) that set discharge limits for non-point source pollutants. The recently passed Ducheny Bill (AB 1740) requires the SWRCB and its nine Regional Water Quality Control Boards to post this list and to provide an estimated completion date for each TMDL. The list is administered by the Regional Boards, which for this project, is the Santa Ana Regional Water Quality Control Board.

Total Maximum Daily Load

California has identified waters that are polluted and need further attention to support their beneficial uses. These water bodies are listed under the CWA Section 303(d) list, which requires States to identify these polluted waters. Specifically, Section 303(d) requires that each state identify water bodies or segments of water bodies that are “impaired” (i.e., not meeting one or more of the water quality standards established by the state). Approximately 500 water bodies or segments have been listed in California. Once the water body or segment is listed, the state is required to establish “Total Maximum Daily Load” or TMDL for the pollutant causing the conditions of impairment. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating water quality standards. The EPA estimates that within the next 15 years, 40,000 TMDLs must be developed. Listing of a water body as impaired does not necessarily suggest that the pollutants are at levels considered hazardous to humans or aquatic life or that the water body segment cannot support the beneficial uses. The intent of the 303(d) list is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for continued water quality degradation. For the San Jacinto Watershed, the Regional Board approved TMDLs in 2005 for nutrients in Lake Elsinore and Canyon Lake. There are no TMDLs for San Jacinto River. A Comprehensive Nutrient Reduction Plan was developed in 2013 to act as the long term plan designed to achieve compliance with the TMDLs.

National Pollutant Discharge Elimination System

Part of the CWA provides for the NPDES, in which discharges into navigable waters are prohibited except in compliance with specified requirements and authorizations. Under this system, municipal and industrial facilities are required to obtain a NPDES permit that specifies allowable limits, based on available wastewater treatment technologies, for pollutant levels in their effluent. In California, the EPA has delegated the implementation of this program to the State Board and to the Regional Boards.

Storm water discharges are regulated somewhat differently. Storm water runoff from construction areas of one acre or more require either an individual permit or coverage under the statewide General Construction Storm Water Permit. In addition, specific industries, including waste water treatment plants that have direct storm water discharges to navigable waters are required to obtain either an individual permit issued by the Regional Board, or obtain coverage under the statewide General Industrial Storm Water Permit for storm water discharges.

A non-point source is a diffused source, such as land runoff, precipitation, deposit from the atmosphere, or percolation. Major non-point sources of water pollution are agriculture, mining, oil and gas extraction, pastureland and feedlots, land disposal, and urban runoff. For non-point sources, the Basin Plan outlines the approach that the Regional Board has taken to control non-point source pollution in its Urban Runoff Management scheme. Part of the strategy involves the

permitting of storm water discharges from all facilities associated with industrial activities and from all construction activities that result in the disturbance of land totaling one acre or more.

Federal Emergency Management Agency

Under Executive Order 11988, FEMA is responsible for the management and mapping of areas subject to flooding during a 100-year flood event (i.e., one percent chance of occurring in a given year). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year flood plain, as depicted on FEMA maps.

State

State Water Resources Control Board

SWRCB, located in Sacramento, is the agency with jurisdiction over water quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the California Water Code), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Proposed Program is located within the Santa Ana Region.

Regional Water Quality Control Board, Central Valley Region

The Santa Ana RWQCB is responsible for the protection of beneficial uses of water resources within the Santa Ana Region. The RWQCB uses planning, permitting, and enforcement authorities to meet this responsibility, and adopted the Water Quality Control Plan for the Santa Ana Region Basin Plan in February 2004 with minor editorial corrections made to Chapter 4 in 2011 and updated again in 2016. The Santa Ana Region Basin Plan comprehensive program requirements are designed to be consistent with federal regulations (40 CFR Parts 122-124) and are implemented through issuance of NPDES permits to point source and non-point sources of pollutant discharges including construction activities. The Santa Ana Region Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters and groundwater in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses.

Construction Activity Permitting

The California Construction Stormwater Permit (Construction General Permit) (*General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, National Pollutant Discharge Elimination System No. CAS000002), adopted by the SWRCB, regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of storm water to surface waters from construction activities. It prohibits the discharge of materials other than storm water and authorized non-storm water discharges and all discharges that contain a hazardous substance in excess of reportable quantities established at 40 CFR 117.3 or 40 CFR 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

The Construction General Permit requires that all developers of land where construction activities will occur over more than one acre do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels established in the General Permit;
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the Nation;
- Develop and implement a SWPPP, which specifies BMP that will reduce pollution in storm water discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

In order to obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all Permit Registration Documents with the SWRCB prior to the start of construction. Permit Registration Documents must include:

- Notice of Intent;
- Risk Assessment;
- Site Map;
- SWPPP;
- Annual Fee; and
- Signed Certification Statement.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.

Urban Water Management Act

Water Code Section 10620(a) of the Urban Water Management Planning Act requires urban water suppliers to prepare and adopt an Urban Water Management Plan (UWMP) and sets forth parameters for doing so. Each UWMP is to assess current and projected water supplies; evaluate demand and customer type; evaluate reliability of water supplies; describe conservation measures implemented by the water supplier; provide a response plan for times of water shortage; and compare supply and demand projections. UWMPs must be updated every five years and the most recent update occurred in 2010.

The Water Conservation Act of 2009, SB 7x-7 set a requirement for water agencies to reduce their per capita water use by the year 2020. The overall goal is to reach a statewide reduction of per capita urban water use of 20 percent by December 31, 2020, with an intermediate goal of 10 percent reduction by December 31, 2015. In the 2010 UWMPs, urban suppliers were required to set targets and supply a plan to reduce per capita water consumption. Demand reduction can be achieved through both conservation and the use of recycled water as a potable demand offset.

Agencies within the Management Area are involved in implementation of the Plan and on imported water from the MWD to recharge the basin. As a result of the successful efforts to improve water efficiency, to recharge the basin as part of the Management Plan, and to increase the use of recycled water, water supplies will be available to meet demand for over 20 years into the future.

State Health and Safety Code

As part of the California Health and Safety Code in Title 22 of the CCR, public water systems must meet drinking water standards known as MCLs. MCLs are adopted as regulations and include Primary MCLs that address health concerns and Secondary MCLs which related more to esthetics such as taste and odor. They are health protective drinking water standards to be met by public water systems. MCLs take into account not only chemicals' health risks but also factors such as their detectability and treatability, as well as costs of treatment. Health & Safety Code §116365(a) requires a contaminant's MCL to be established at a level as close to its PHG as is technologically and economically feasible, placing primary emphasis on the protection of public health.

California Code of Regulations Title 17

As part of the California Health and Safety Code in Title 17 of the CCR, public water suppliers must protect the public water supply from contamination by implementation of a cross-connection control program. Water suppliers are required to ensure that the cross-control program includes provisions of backflow protection by, establishment of a system to test backflow preventers, provide trained staff in the cross-control program, and other implement surveys and maintenance of the system to ensure adequacy. While the water supplier is required to evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises, they are not responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the water supplier should evaluate as part of the cross-connection control program the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) is a three-bill package that collectively establishes a new structure for managing California's groundwater. A central feature of the SGMA is the recognition that groundwater management in California is best accomplished locally. The SGMA was signed by Governor Edmund G. Brown Jr. on September 16, 2014, and includes the provisions of SB 1168, AB 1739, and SB 1319. The SGMA builds upon the existing groundwater management provisions established by AB 3030 (1992), SB 1938 (2002), and AB 359 (2011), as well as SBX7 6 (2009) which established the California Statewide Groundwater Elevation Monitoring (CASGEM) Program.

The SGMA defines sustainable groundwater management as “*the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.*” Undesirable results include, but are not limited to,

chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, and land subsidence that interferes with surface land uses.

The San Jacinto Basin Groundwater Basin is adjudicated and therefore exempt from SGMA.

Local

Riverside County MS4 Permit

In large metropolitan areas with interconnected municipal storm sewer systems, Municipal Separate Storm Sewer (MS4) permits are often issued to multiple Permittees that work cooperatively to meet NPDES requirements. Riverside County is a permittee of the MS4 NPDES Permit within the Santa Ana Region of Riverside County. The Riverside County Flood Control and Water Conservation District (RCFC&WCD) is the Principal Permittee and the County of Riverside and the Cities of Beaumont, Calimesa, Canyon Lake, Corona, Eastvale, Hemet, Jurupa Valley, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Norco, Perris, Riverside, San Jacinto, and Wildomar are the Co-Permittees.

The first MS4 permit was issued by the Regional Board to the MS4 Permittees in 1990. The 1990 MS4 permit was followed by MS4 permits issued in 1996, 2002 and 2010. The Regional Board adopted a new MS4 permit for the Santa Ana Region of Riverside County on January 29, 2010 (Order No. 2010-0033, NPDES No. CAS618033). The Order regulates the discharge of pollutants in urban runoff from non-agricultural sources. All permittees must implement a Water Quality Management Plan that include post-construction BMP requirements. This permit also includes requirements directly addressing the waste load allocations (WLAs) for Lake Elsinore and Canyon Lake. Specifically, this permit explicitly requires implementation of tasks contained within the TMDLs and compliance with the WLAs. The permit also requires preparation of a Comprehensive Nutrient Reduction Plan (CNRP); which describes the specific actions that have been taken or will be taken to achieve compliance with the TMDL's WLA by December 31, 2020.

Riverside County Well Permit

Riverside County Ordinance No. 682.3 regulates the construction, reconstruction, abandonment, and destruction of community water supply wells, individual domestic wells, and agricultural wells. Under the auspices of the Department of Environmental Health, the County is responsible for issuing well drilling permits. A valid permit along with the payment of all applicable fees is required before anyone digs, drills, bores, drives, or reconstructs a well that is, or was, a water well, a cathodic protection well, or a monitoring well. Standards for the construction or reconstruction of wells are the standards recommended in the California Department of Water Resources Bulletin No. 74-81, Chapter II, and Bulletin No. 74-90, as amended by the State.

3.9.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as

related to hydrology and water quality. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Violate any water quality standards or waste discharge requirements.
2. 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).
3. 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.
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course 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.
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
6. Otherwise substantially degrade water quality.
7. 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.
8. 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.
9. Inundation by seiche, tsunami, or mudflow.

Impacts and Mitigation Measures

Water Quality Standards

Impact HYD-1: Implementation of the Proposed Program and the Proposed Project could violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality.

Program-Level Impacts

Construction

Construction of the Proposed Program would require earthwork activities including excavation, trenching, grading, well drilling and recontouring of soils. During these activities, soils could become exposed to high winds or heavy precipitation causing a substantial increase in sedimentation in storm water run-off. In addition, construction activities would require the use of hazardous materials including but not limited to petroleum products (i.e. oil, gasoline, and diesel fuels) and automotive fluids (i.e. antifreeze and hydraulic fluids). Inadvertent spills or leaks of such pollutants could affect the quality of runoff water from the construction sites. However, because the project would disturb more than one acre, construction would be subject to the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). As part of this process, EMWD would file a Notice of Intent with SWRCB, in compliance with the statewide NPDES General Construction Permit. EMWD would be required to prepare and submit a SWPPP that would identify pollutant sources

that may affect the quality of storm water discharge and identify BMPs, such as erosion control and pollution prevention measures, to be used during the course of construction. In addition, all well drilling activities would be required to adhere to well drilling permit requirements which require wells to be constructed in a manner that is protective of water quality of the underlying groundwater.

Operation

Recharge water for the Proposed Program could be secured and acquired from various sources, from the Metropolitan Water District of Southern California as well as other California water agencies or private suppliers. Water supply for the region primarily comes from the SWP which brings water from the San Joaquin and Sacramento Rivers south, as well as the Colorado River Project. The Program would allow this acquired water to infiltrate at the proposed recharge basins into the underlying groundwater aquifer for later extraction. Existing groundwater quality was reviewed as part of the preliminary design report for the Proposed Program. Water quality data from existing production wells for EMWD, LHMWD, City of San Jacinto, City of Hemet, and private wells as well as EMWD monitoring wells were reviewed from a period of 1991 to 2015. The water quality parameters reviewed included total dissolved solids (TDS), nitrate, iron, manganese, chloride, and sulfate.

Recent TDS concentrations were relatively low at less than the secondary MCL of 500 milligrams per liter (mg/L) with 3 of the 38 wells above 500 but below the primary MCL of 1,000 mg/L (Todd Groundwater as included in Dudek, 2017). The TDS concentrations in SWP water averaged 388 mg/L over 2012 to 2015.

Nitrate concentrations from 2014-2015 were relatively low for most wells at concentrations of less than 5 mg/L with a few wells between 5 and 45 mg/L and one well that exceeded the MCL of 45 mg/L. Nitrate concentrations in the SWP are low (0.01 mg/L) and therefore would not increase the nitrate concentration in the underlying groundwater (Todd Groundwater in Dudek, 2017).

Both iron and manganese constituents in groundwater are derived primarily from geologic sources. Iron and manganese concentrations vary across the Program Area but most wells near the recharge facilities have relatively low concentrations of less than 0.1 mg/L (iron) and 0.01 mg/L (manganese). For the period of 2012 to 2015, SWP water did not have any measurable concentrations of iron or manganese (Todd Groundwater in Dudek, 2017).

Chloride concentrations in the Program area are relatively low and below the secondary MCL of 250 mg/L although there is one well that exceeds that level. Chloride concentrations of SWP are similar to the existing levels in the Program Area and averaged 82.78 mg/L between 2012-2015 (Todd Groundwater in Dudek, 2017).

Sulfate concentrations were found to be low to moderate across the Program area. Many of the wells near the Mountain Avenue recharge sites had sulfate levels between 50 and 150 mg/L and only one well exceeded the secondary MCL of 250 mg/L. SWP water averaged 110.4 mg/L from 2012 to 2015 (Todd Groundwater in Dudek, 2017).

In addition, other water quality parameters were reviewed including the geochemical compatibility of the SWP water with the existing groundwater quality of the Program area. No chemical incompatibilities were found.

Recharge Facilities

Based on these comparisons, the underlying groundwater quality is consistent with drinking water standards with the exception of a few wells with elevated nitrate and a few selected wells with elevated iron or manganese. SWP water would be the source water for recharge at the Program recharge basins. SWP water is generally high quality and relatively similar to the existing groundwater quality for the shallow and medium depth wells (Todd Groundwater in Dudek, 2017). As such, mixing of SWP water with groundwater would not adversely affect groundwater quality or prevent the basin from meeting Basin Plan water quality objectives (Dudek, 2017). In addition, prior to distribution, any extracted water from the basin would receive treatment as necessary in order to meet water quality requirements consistent with Title 22 of the California Code of Regulations. Variances in the water quality between the different extraction wells would be used strategically for blending purposes in order to minimize the amount of water requiring treatment.

Monitoring Facilities

The monitoring facilities would be constructed in accordance with the County's well permit requirements. The monitoring facilities would be used primarily to monitor groundwater levels and groundwater quality. As such, operation of the monitoring facilities would not have any impacts to groundwater quality.

Extraction Facilities

Construction of the extraction facilities would be conducted in accordance with the required well permit requirements. The extraction wells would pump the stored water to the treatment facilities and would not have any adverse effects related to groundwater quality other than those described above.

Conveyance Facilities

The conveyance facilities would consist of materials that meet drinking water-related statutes and regulations found in Titles 17 and 22 of the CCR for potable water conveyance, and there would be no adverse effects related to water quality.

Impact Determination

Based on the water quality of the imported SWP water that would be used for groundwater banking and the proposed treatment facilities that would be implemented prior to distribution in accordance with water quality regulations, operation of the Proposed Program would have a less than significant impact related to water quality requirements.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge Facilities

Similar to impacts associated with the Proposed Program, under the Proposed Project, the Mountain Avenue West recharge basin would be constructed in accordance with the NPDES General Construction Permit, including implementation of required BMPs that would reduce potential water quality impacts to less than significant levels. Operation of the recharge basin would also be similar to the Proposed Program where high quality SWP water would be the recharge source water and would not adversely affect the underlying groundwater; potential water quality impacts resulting from operation would be less than significant.

Monitoring Facilities

Similar to impacts associated with the Proposed Program, the Proposed Project would include 8 shallow wells and 3 multi-depth wells. These wells would require a drilling permit that would ensure that they are constructed in accordance with well permit requirements that protect water quality of the underlying groundwater. Implementation of these permit requirements would ensure that water quality impacts are less than significant. The monitoring facilities would be used primarily to monitor groundwater levels and groundwater quality. As such, operation of the monitoring facilities would not have any impacts to groundwater quality.

Extraction Facilities

Similar to impacts associated with the Proposed Program, under the Proposed Project, the three extraction wells and treatment facilities would be constructed in accordance with well permit requirements and NPDES Construction General Permit requirements including implementation of required BMPs. Adherence to these permit requirements would ensure that water quality impacts are less than significant. The extraction wells would pump the stored water to the treatment facilities and would not have any adverse effects related to groundwater quality.

Impact Determination

Based on the water quality of the imported SWP water that would be used for groundwater banking and the proposed treatment facilities that would be implemented prior to distribution in accordance with water quality regulations, operation of the Proposed Program would have a less than significant impact related to water quality requirements.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant.

Groundwater Supplies

Impact HYD-2: Implementation of the Proposed Program and the Proposed Project could 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).

Program-Level Impacts

Implementation of the Proposed Program would enable EMWD to recharge a combined total of up to 90,000 AF of imported water. The estimated storage capacity of the of the sub-basin is in excess of 3,000,000 AF (DWR, 2006). During the dry season, the program would extract up to 30,000 AFY depending on demand, but never in excess of what has been previously recharged to the basin. The Proposed Program monitoring wells would be used to monitoring groundwater elevations and movement and would be used primarily to enact operational adjustments if groundwater mounding causes groundwater levels to rise above a level of 70 feet bgs. The Proposed Program monitoring wells could also be used to ensure that groundwater levels are not lowered below existing levels; however, as a groundwater banking program the Proposed Program requires recharge prior to extraction such that there would be no element of the Program to lower the existing groundwater level.

The Proposed Program monitoring activities provide the protocols to adjust operational activities to ensure that groundwater mounding does not adversely affect any land uses in the vicinity of the recharge basins. Action levels would occur when groundwater levels rise to within 70 feet of ground surface with additional measures taken at 50 feet bgs. However, considering that current depths to groundwater are approximately 400 to 500 feet bgs, there is substantial available aquifer storage capacity below 70 feet bgs. According to the groundwater modeling conducted for the Proposed Program, 30 years of recharge at a rate of 38,000 AFY would result in groundwater levels rising but not exceeding 70 to 80 feet bgs (Todd Groundwater in Dudek, 2017).

Recharge Facilities

The recharge facilities would be constructed to allow for infiltration of imported water. By design, they would promote rather than interfere with recharge and would not otherwise deplete underlying groundwater supplies. As stated above, the Proposed Program includes monitoring wells and a monitoring program that would be employed during operation to ensure that groundwater mounding does not adversely affect any land uses in the vicinity of the basins.

Monitoring Facilities

The monitoring facilities would be used to ensure that the Proposed Program would not adversely affect groundwater supplies. The wells would be completed across varying depths to provide data on the groundwater banking program including groundwater levels, movement, and water quality. The monitoring facilities would be used as part of the monitoring program to allow for operational adjustments to ensure that groundwater levels are not adversely affected. There would be no interference to groundwater recharge from the monitoring wells.

Extraction Facilities

The Proposed Program would include construction of groundwater extraction wells that would pump previously-banked groundwater. As required by the Stipulated Judgment, EMWD would enter into a groundwater storage agreement with the Watermaster to allow EMWD to recharge, store and extract additional water in the Sub Basin using the Proposed Program facilities. Groundwater recharge and production by EMWD would be performed using the Proposed Program's recharge facilities and extraction wells and other wells owned and operated by EMWD and would be in conformance with the Watermaster's annual production budget established for EMWD and the storage agreement.

As shown in **Figure 3.9-2**, there are existing extraction wells operated by EMWD and other entities such as the City of San Jacinto, LHMWD, and the City of Hemet within the area designated for future extraction wells under the Proposed Program. Each proposed groundwater extraction well would be located at least 1,000 feet from existing active extraction wells to minimize potential well interference, such as lowering groundwater levels at neighboring wells and affecting their ability to operate. According to the groundwater modeling conducted for the Proposed Program, water levels at most existing extraction wells are predicted to rise up to several hundred feet during operation of the Proposed Program (Todd Groundwater, 2017). The hypothetical modeling simulations of recharge and extraction indicates recharged water will be recovered at some of the existing and potential new extraction wells, while other wells may not receive recharged water but yields will be maintained or increased by the broad aquifer pressure response across the Program area (Todd Groundwater, 2017). Recovery effectiveness will be dependent on the actual locations and amounts of recharge at the recharge basin sites, and on actual groundwater flow pathways from the recharge sites to downgradient extraction wells. The groundwater modeling suggests that sites closest and due west of the Mountain Avenue East and West recharge facilities will receive the greatest benefit of elevated groundwater levels (Todd Groundwater, 2017). Conformance with the Watermaster's annual production budget established for EMWD and the distance of proposed extraction wells from neighboring wells indicates that significant well interference would not occur. Additionally, the Watermaster performs annual monitoring and reporting on the Sub Basin to track water levels, extractions, and water quality. Annual monitoring would identify any potential well interference effects and allow EMWD to manage any detrimental effects.

In addition, the extraction wells would be used to ensure that groundwater mounding from groundwater banking does not rise above the targeted levels. Recharge of imported water would be suspended if groundwater levels reach 70 feet bgs, and if the groundwater levels reach 50 feet bgs, the extraction wells would be activated to reduce water levels in the area.

Conveyance Facilities

The construction and operation of new water pipelines to move water to recharge facilities, from extraction wells to treatment facilities, and from treatment facilities to end users would not involve the extraction of any groundwater and would not substantively interfere with groundwater recharge.

Impact Determination

The Proposed Program would include extraction of groundwater however not before imported surface water has been recharge to the aquifer. The Watermaster's monitoring program would ensure that there are no adverse effects related to changes in groundwater levels due to the Program. Therefore, there would be no depletion of groundwater supplies or substantial interference with groundwater recharge, and impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, and Extraction Facilities

As part of the Proposed Program, the Proposed Project would recharge approximately 7,000 to 30,000 AF of imported water at Mountain Avenue West and extract up to 7,000 AFY depending on demand at the three extraction well sites. Similar to the Proposed Program, the Proposed Project would facilitate groundwater recharge rather than interfere with groundwater recharge. Groundwater recharge would result in raising the water table below and around the recharge basin. Groundwater levels in the Project area are currently in the range of 400 to 500 feet bgs leaving substantial capacity to accommodate the proposed recharge volumes. The 8 shallow and 3 multi-depth monitoring wells would be used as part of the monitoring program to ensure that operational adjustments are enacted to avoid any adverse effects that could result if groundwater levels rise close to the ground surface.

The monitoring wells for the Mountain Avenue West recharge basin would operate as described above for the Proposed Program, where operational adjustments would be made should groundwater levels reach any of the trigger levels. Reduction or cessation of recharge operations would occur if water levels reach 70 feet bgs at the monitoring wells around Mountain Avenue West, and pumping would begin at EMWD extraction wells if water levels reach 50 feet bgs in order to lower groundwater levels below 60 feet bgs. These operational controls would ensure that recharge operations do not result in groundwater mounding effects that could adversely affect structures and underground infrastructure in the vicinity of the recharge basin. Implementation of groundwater monitoring for the Proposed Project would ensure that changes to groundwater levels associated with operation of the Mountain Avenue West recharge facility would be less than significant.

The Proposed Project would include construction of three groundwater extraction wells that would pump and deliver previously-banked groundwater. As required by the Stipulated Judgment, EMWD would enter into a groundwater storage agreement with the Watermaster to allow EMWD to recharge, store and extract additional water in the Sub Basin using the Proposed Project facilities. Groundwater recharge and production by EMWD would be performed using the Proposed Project's recharge facilities and extraction wells and other wells owned and operated by EMWD and would be in conformance with the Watermaster's annual production budget

established for EMWD and the storage agreement. As shown in **Figure 3.9-2**, there are existing extraction wells located in the vicinity of Proposed Project wells. Each proposed groundwater extraction well would be located at least 1,000 feet from existing active extraction wells to minimize potential well interference, such as lowering groundwater levels at neighboring wells and affecting their ability to operate. Conformance with the Watermaster's annual production budget established for EMWD and the distance of proposed extraction wells from neighboring wells indicates that significant well interference would not occur. Additionally, the Watermaster performs annual monitoring and reporting on the Sub Basin to track water levels, extractions, and water quality. Annual monitoring would identify any potential well interference effects and allow EMWD to manage any detrimental effects.

Conveyance Facilities

The construction and operation of new water pipelines to move water to Mountain Avenue West; from the extraction wells to the Hewitt and Evans treatment/blending and disinfection facilities; and from the treatment facilities to EMWD's existing potable distribution system would not involve the extraction of any groundwater and would not substantively interfere with groundwater recharge.

Impact Determination

The Proposed Project elements would allow for EMWD to import surface water for recharge, storage, and later extraction from the underlying aquifer. The amount of water extracted would not exceed the amount that is recharged to the basin; therefore, there would be no lowering of the local groundwater table. The monitoring program would ensure that the recharge and extraction facilities can be operated such that there are no adverse effects to surface structures or infrastructure due to groundwater mounding around the recharge basins. Impacts to groundwater supplies would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Erosion

Impact HYD-3: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Construction of Recharge, Monitoring, Extraction, and Conveyance Facilities

Construction activities for the recharge basins, monitoring, extraction, and conveyance facilities would require earthwork activities that would temporarily alter drainage patterns and expose soils

to potential erosion or siltation. As noted above, all construction activities would be required to adhere to the NPDES Construction General Permit. As a result, the contractor(s) would be required to implement BMPs in accordance with a SWPPP which would include erosion control measures.

Operation

Recharge Facilities

Once graded and constructed, the recharge facilities would be designed to receive imported surface water for onsite infiltration. The recharge basins would be enclosed by a perimeter berm and there would be no substantive runoff from the basin site. The berms would be 3 to 8 feet above grade level and so would have minimal runoff exposure to the outside banks of the berm which would be designed to resist erosion. Therefore, there would be a less than significant related to erosion or siltation from a change in drainage patterns.

Monitoring and Extraction Facilities

The monitoring and extraction facilities would have minimal associated surface exposure and therefore would have no substantive change on drainage patterns.

Conveyance Facilities

Once constructed, the conveyance facilities would receive matching cover to existing conditions such that there would be negligible changes to drainage patterns. Any introduction of new impervious surfaces, if applicable, would be required to adhere to the NPDES MS4 permit requirements. Therefore, the potential for erosion would be less than significant.

Impact Determination

The Proposed Program would require implementation of BMPs during construction to minimize any potential erosion or siltation. Once constructed, the proposed facilities would not substantively alter drainage patterns with the exception of the recharge basins and any new impervious surfaces would be required to adhere to NPDES MS4 requirements. However, the basins would retain the majority of stormwater runoff onsite such that the potential for erosion or siltation would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge Facilities

As part of the Proposed Program, construction of the Mountain Avenue West recharge basin would be required to adhere to the NPDES Construction General Permit and would be required to implement erosion control BMPs in accordance with the required SWPPP that would be included as part of construction specifications. Once constructed, the basin would be surrounded by a

perimeter berm that would contain the majority of stormwater onsite. The berm also would be designed to minimize the potential for erosion or siltation.

Monitoring and Extraction Facilities

The 8 shallow and 3 multi-level monitoring wells as well as the 3 extraction wells would have minimal surface footprints and there would be negligible potential for erosion or siltation to occur. The treatment facility at Hewitt and Evans would introduce new impervious surfaces at the primarily vacant lot but would be required to adhere to the drainage control requirements of the NPDES MS4 permit making the potential for erosion less than significant.

Conveyance Facilities

The conveyance facilities, once constructed, would be covered by matching surfaces resulting in negligible change in drainage patterns or erosion potential. Any new impervious surfaces would require adherence to NPDES MS4 requirements as applicable.

Impact Determination

Based on the regulatory requirements for construction and the characteristics of the proposed project elements, which would make minor changes to drainage patterns at each site by adding impervious surfaces, the potential for erosion or siltation would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Alter Drainage to Cause Flooding

Impact HYD-4: Implementation of the Proposed Program and the Proposed Project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course 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.

Program-Level Impacts

Recharge Facilities

The proposed recharge basins would be located on currently vacant and pervious land and would remain largely pervious following completion. Other than the outside edges of the perimeter berms, all runoff would be contained within the basin. The surface water levels within the recharge basins would be maintained at a safe level with use of an overflow outlet at the base of each basin to prevent any potential over-topping during a peak storm event. An overflow outlet would be constructed at the base of each sub-basin, allowing water to flow into other nearby recharge facilities or flood control structures if water surface elevation exceeds the design elevation within these facilities. In addition, all related improvements to the recharge facilities

would be required to adhere to any applicable NPDES MS4 drainage control requirements which include measures that limit any offsite discharges of peak stormwater flows.

As described previously under Impact HYD-2, if not managed appropriately, the recharge program could cause localized mounding of the groundwater table in the area of the recharge basins, which could adversely affect neighboring land uses if shallow groundwater levels come close to ground surface. Shallow groundwater can affect underground utilities and building foundations, resulting in flooding of basements and substructures. However, the Proposed Program, as noted above, would include a monitoring program which would be used to ensure that groundwater levels do not rise to levels that could result in adverse effects. The monitoring program would include operational protocols enacted when groundwater levels reach 70 feet bgs. If levels rise further, at 50 feet bgs, then additional operational changes including activation of the extraction wells to pump out groundwater and lower the local water levels. Implementation of this monitoring program would ensure that groundwater levels do not rise to levels that could cause any flooding or other adverse effects.

Monitoring and Extraction Facilities

The monitoring and extraction facilities including the treatment facilities would not create any substantive amount of impervious surfaces and so there would be negligible runoff created. There would be very little increase in the rate of surface runoff from these facilities which are spread out across the Program area, however, where applicable, NPDES MS4 drainage control requirements would be included in the final design.

Conveyance Facilities

The conveyance facilities would be completed belowground with much of it located in existing rights-of-way of paved streets, such that there would be no substantive increase in stormwater runoff as a result because areas of disturbance would be restored to pre-construction conditions.

Impact Determination

The Proposed Program would not create substantive quantities of increased stormwater runoff and where applicable would be required to adhere to the NPDES MS4 permit requirements for peak flow management. Therefore, the potential impact to increase stormwater runoff from Program sites and create additional on- or off-site flooding is less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impact

Recharge Facilities

As above for the Proposed Program, the Mountain Avenue West recharge basin would be constructed on vacant land and would alter drainage such that the majority of runoff would be contained onsite. Therefore, there would be a very low potential to cause flooding on- or off-site.

Monitoring and Extraction Facilities

As above for the Proposed Program, the monitoring and extraction facilities would have a relatively small footprint at the surface, creating small amounts of new impervious surfaces, and there would be no substantive runoff attributed to them. As applicable, any new impervious surfaces would be required to adhere to NPDES MS4 permit requirements. Therefore, there would be a very low potential to cause flooding on- or off-site.

Conveyance Facilities

As above for the Proposed Program, the conveyance facilities would be completed belowground with much of it located within existing rights-of-way of paved streets. There would be no substantive increase in stormwater runoff because the areas disturbed for installation of the pipelines currently are primarily impervious paved areas that would be restored to pre-construction conditions. No increase in impervious surfaces would occur, and no change to drainage patterns would occur. Therefore, no flooding would occur on- or off-site.

Impact Determination

The Proposed Project would not introduce any substantive quantities of impervious surfaces and where applicable would be required to adhere to the NPDES MS4 permit. In addition, the Mountain Avenue West recharge basin would contain the majority of stormwater runoff onsite. Therefore, there would be a less than significant impact related to runoff causing on- or off-site flooding.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Exceed Capacity of Drainage System

Impact HYD-5: Implementation of the Proposed Program and the Proposed Project could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Program-Level Impacts

Recharge Facilities

As discussed previously under Impact HYD-4, the recharge basins would not create a substantive amount of new impervious surfaces. Where applicable, the proposed improvements would be required to adhere to stormwater management requirements of the NPDES MS4 permit. For new impervious surfaces, the MS4 permit requirements would require that drainage management features are incorporated into the project design that would minimize increases in stormwater runoff and provide treatment measures to control potential sources of stormwater pollution, if applicable.

Monitoring and Extraction Facilities

The monitoring and extraction facilities would be spread out across the Program area and would not create any substantive quantities of stormwater flows. In addition, as applicable any new impervious surfaces would be required to adhere to NPDES MS4 drainage control requirements.

Conveyance Facilities

The conveyance facilities would be largely completed in existing rights-of-way and would not create any additional stormwater runoff. In addition, as applicable any new impervious surfaces would be required to adhere to NPDES MS4 drainage control requirements.

Impact Determination

The proposed improvements that would occur from the Proposed Program would not create substantive quantities of new impervious surfaces. Where applicable, drainage control requirements consistent with the NPDES MS4 permit would ensure that any additional stormwater flows from the Program do not exceed existing or planned capacities of stormwater infrastructure and would require BMPs to provide treatment, as necessary, to minimize any potential polluted runoff from being discharged offsite.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge Facilities

Similar to impacts for the Proposed Program, for the Proposed Project the recharge basins at Mountain Avenue West would largely contain stormwater flow onsite. As applicable, any new impervious surfaces would be required to adhere to NPDES MS4 permit requirements. Incorporation of the MS4 permit requirements into the project design would minimize any potential adverse effects related to additional runoff or sources of stormwater pollution.

Monitoring and Extraction Facilities

The monitoring and extraction facilities would be spread out across the Project area and would not create any substantive quantities of stormwater flows. The Hewitt and Evans treatment facility would be located on a vacant lot and create new impervious surfaces. Any new impervious surfaces would be required to adhere to NPDES MS4 drainage control requirements. As a result, with adherence to existing drainage control requirements, the proposed monitoring, extraction, and treatment facilities would not create any adverse effects related to additional runoff or sources of stormwater pollution.

Conveyance Facilities

The conveyance facilities would be largely completed in existing rights-of-way and would not create any additional stormwater runoff. In general, the conveyance facilities would be covered

by cover that matches existing conditions thus representing no substantive change to existing drainage patterns.

Impact Determination

The proposed improvements that would occur from the Proposed Project would not create any substantive quantities of new impervious surfaces. Where applicable, drainage control requirements consistent with the NPDES MS4 permit would ensure that any additional stormwater flows from the Project facilities do not exceed existing or planned capacities of stormwater infrastructure and would require BMPs to provide treatment, as necessary, to minimize any potential polluted runoff from being discharged offsite.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Housing in a Flood Hazard Area

Impact HYD-6: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring, Extraction, and Conveyance Facilities (All Facilities)

The Proposed Program does not include any residential element, and therefore there would be no impact related to housing being placed in a 100-year flood zone.

Impact Determination

The Proposed Program does not include housing and would not place housing within a flood hazard area.

Mitigation Measures

None required

Significance Conclusion

No impact.

Project-Level Impacts

Recharge, Monitoring, Extraction, and Conveyance Facilities (All Facilities)

The Proposed Project does not include any residential element, and therefore there would be no impact related to housing being placed in a 100-year flood zone.

Impact Determination

The Proposed Project does not include housing and would not place housing within a flood hazard area.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Failure of a Levee or Dam

Impact HYD-7: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge Facilities

The recharge facilities would be constructed outside of any FEMA flood zone but not far from the San Jacinto River floodplain. However, the proposed locations of all four recharge basins are located outside of the dam inundation area for any of the regional dams of the area including Lake Hemet (City of Hemet, 2012).

Monitoring, Extraction, and Conveyance Facilities

These facilities would all have relatively minor above ground surface profiles and would mostly be unoccupied other than sporadic maintenance and monitoring activities. In addition, the proposed facilities are outside of any dam inundation area for any of the regional dams. As a result, the potential for any significant risk of loss, injury or death from flooding due to a failure of a levee or dam would be very low.

Impact Determination

Due to the location and characteristics of the Program elements which are outside of any flood zone or dam inundation area, the potential for significant risk of loss, injury or death occurring due to flooding associated with a failure of a levee or dam would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction, and Conveyance Facilities (All Facilities)

Similar to the Proposed Program, the proposed recharge, monitoring, extraction, and conveyance facilities of the Proposed Project would be constructed outside of any FEMA floodzone and outside of the dam inundation area for any of the regional dams in the area including Lake Hemet (City of Hemet, 2012).

Impact Determination

Due to the location and characteristics of the Program elements, the potential for significant risk of loss, injury or death occurring due to flooding associated with a failure of a levee or dam would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Seiche, Tsunami, or Mudflow

Impact HYD-8: Implementation of the Proposed Program and the Proposed Project would not result in inundation by seiche, tsunami, or mudflow.

Program-Level Impacts

Recharge Facilities

The Proposed Program is located approximately 46 miles inland from the Pacific Ocean and would not be subject to tsunamis. The recharge facilities are not adjacent to an enclosed or semi-enclosed body of water that would be susceptible to seiche waves. However, the recharge basins themselves, when in operation and full of water, could be susceptible to seiche waves triggered by a seismic event from one of the region's active faults. The recharge basins would be protected by a perimeter berm of compacted earthen materials that would be designed to withstand wave action. The proposed design of the basins would limit any potential damage from wave action, and the likelihood of substantive quantities of water overtopping the basins is considered low.

Mudflows are associated with debris flows that contain a high water content. The proposed facilities are located within the valley such that potential for mudflows would be very low.

Monitoring, Extraction and Conveyance Facilities

Due to the proposed location and characteristics of these elements, none of these facilities would be susceptible to inundation by seiche, tsunami or mudflow.

Impact Determination

Based on the location and proposed designs, the potential impact of inundation by seiche, tsunami, or mudflow would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

All Facilities

As above for the Proposed Program, the Proposed Project elements are located in areas that would not be susceptible to tsunamis or mudflows. The Mountain Avenue West recharge basin could experience seiche waves if during operation a substantive earthquake would occur. However, the recharge basins would be protected by a perimeter berm of compacted earthen materials that would be designed to withstand wave action. The proposed design of the basins would limit any potential damage from wave action, and the likelihood of substantive quantities of water overtopping the basins is considered low.

Impact Determination

The likelihood of a substantive earthquake occurring simultaneously with the recharge basin at full capacity has a low probability of occurrence. Combined with the proposed design that would include the perimeter berm, the potential for significant damage due to inundation by seiche waves would be less than significant. Otherwise, there would be no potential for tsunami or mudflows.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

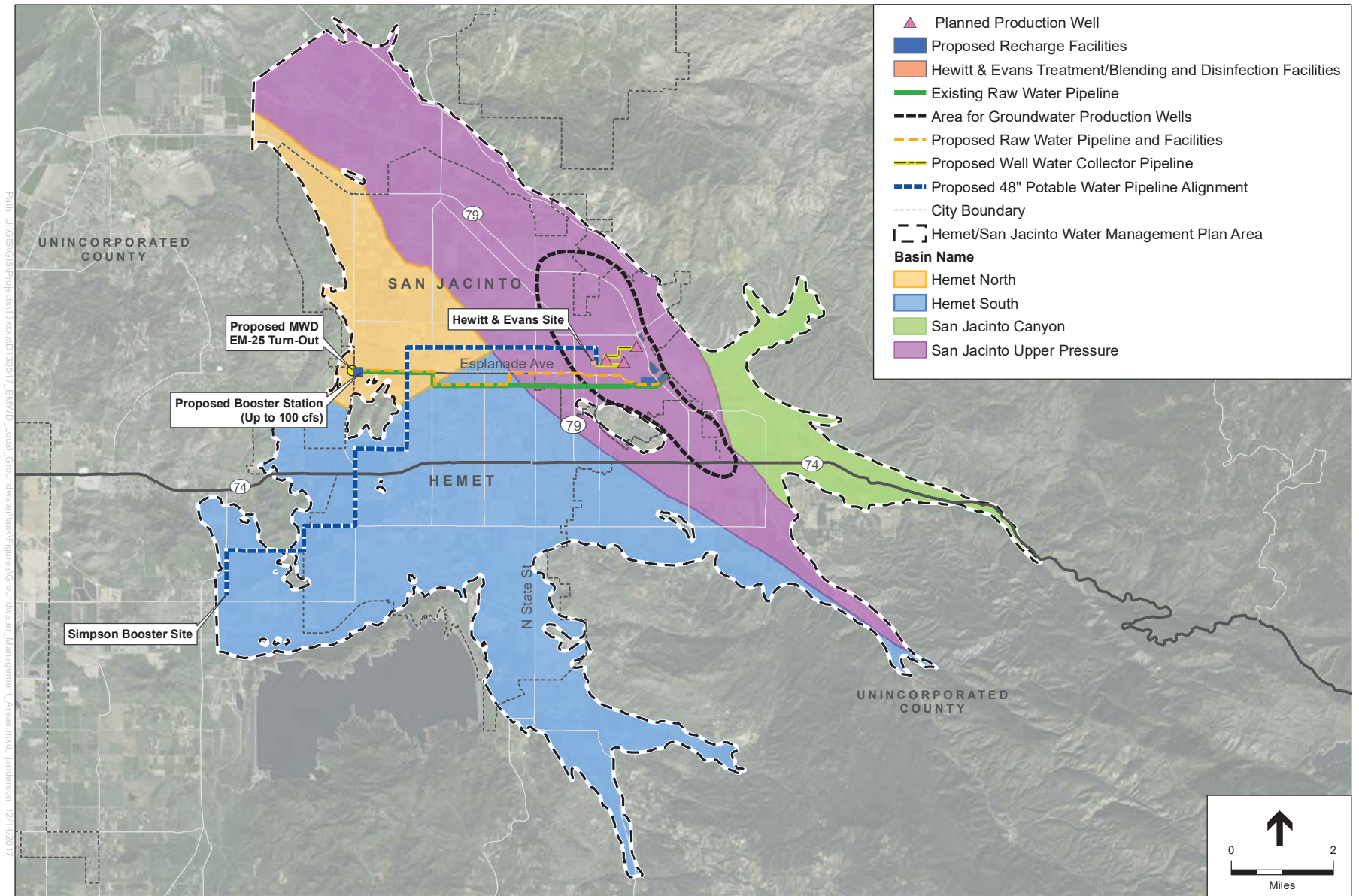
3.9.4 References

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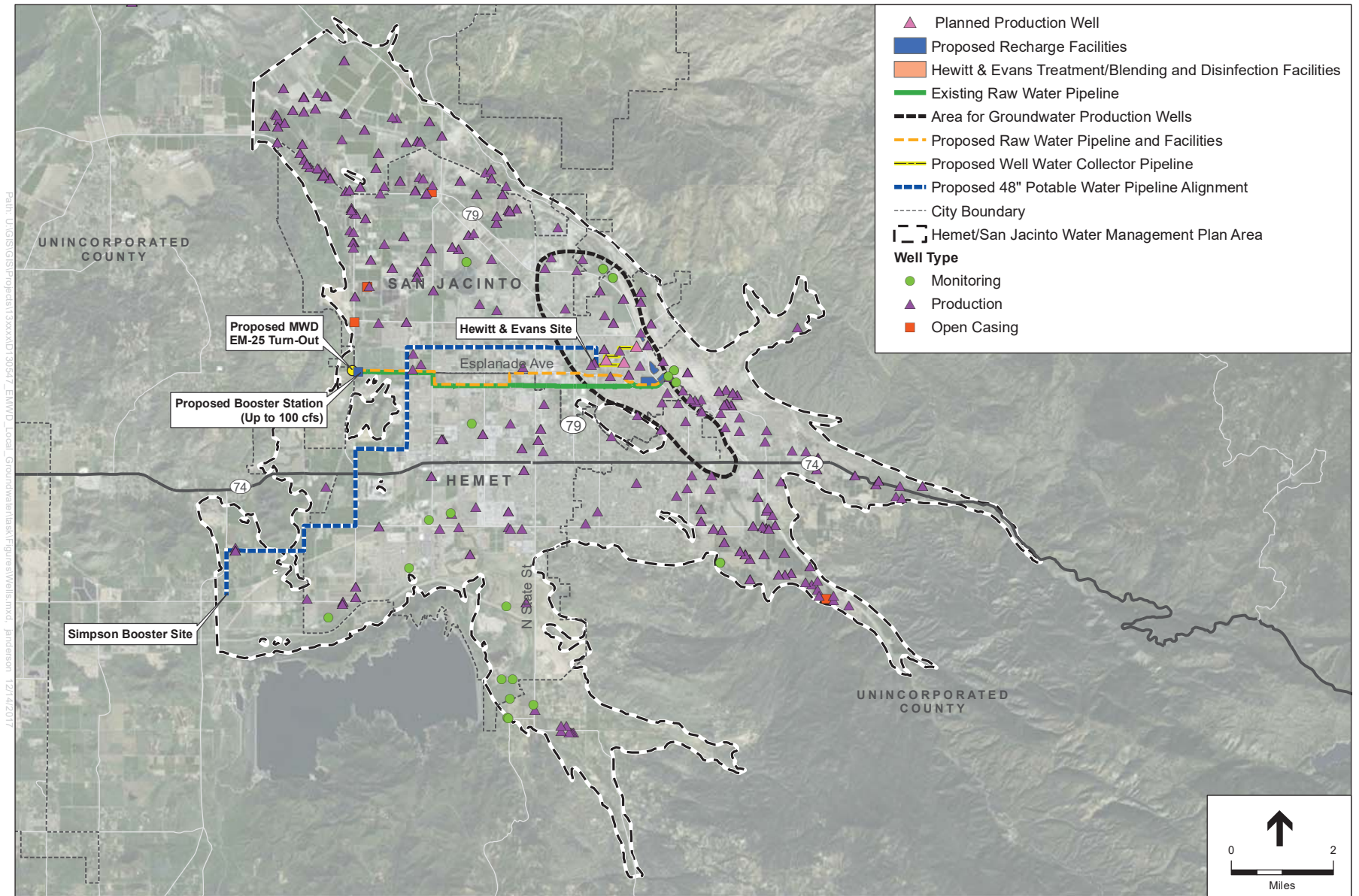
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SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.9-1
Groundwater Basin/Management Zones In The Program Area



SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.9-2
Program Well Locations

3.10 Land Use and Planning

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to land use and planning. The section includes a description of the environmental setting to establish baseline conditions for land use and planning; a summary of the regulations related to land use and planning; and an evaluation of the Proposed Program and Project's potential effects on land use and planning.

3.10.1 Environmental Setting

Regional Setting

The Proposed Program and Proposed Project are located in EMWD's service area within Riverside County, specifically the cities of San Jacinto and Hemet as well as areas of unincorporated Riverside County. Riverside County encompasses approximately 7,200 square miles of land from the Colorado River to the east, to the Santa Ana Mountains to the west. At its westernmost point, Riverside County is less than 10 miles from the Pacific Ocean. The western half of the County is separated from the eastern half by the San Jacinto and Santa Rosa Mountains. Several man-made lakes are located in the western portion of the County, including Lake Matthews, Lake Perris, Lake Skinner, Vail Lake, and Diamond Valley Lake. The lakes provide both water storage and recreational opportunities. In recent years the County has experienced substantial urbanization that has altered the regional character from a rural, inland desert area to one of the major population centers of Southern California. Key areas of development include the Cities of Riverside, Moreno Valley, Perris, Lake Elsinore, Hemet, and Temecula, as well as the March Air Reserve Base.

Program Area Setting

The Proposed Program is located in EMWD's service area, which encompasses the City of San Jacinto, the City of Hemet, and the surrounding unincorporated areas of Riverside County. EMWD currently owns properties within its service area for the construction and maintenance of the Proposed Program facilities; however, additional property may need to be acquired in the future if necessary to support the Proposed Program. **Figure 2-2** shows the facilities' locations within the Program area across the cities of Hemet and San Jacinto and unincorporated areas of Riverside County. The land uses described below for the unincorporated portions of Riverside County are shown in **Figure 3.10-1** and for the cities of Hemet and San Jacinto in **Appendix LU**.

Existing Land Use Designations

Unincorporated Riverside County

The Proposed Program area encompasses portions of unincorporated Riverside County, where the County's General Plan provides countywide land use guidance in addition to area plans which provide detailed land use guidance for specific geographical areas within the county. The eastern unincorporated portions of the Proposed Program area are within the County's General Plan – SJVAP and the eastern unincorporated portions of the Program area are within the County's

General Plan – HVWAP. The SJVAP and HVWAP include Land Use Maps which illustrate the designated land uses within each planning area. Based on the Land Use Maps of the SJVAP and HVWAP, a wide range of land uses are designated within and the planning areas, which include residential, commercial, mixed-use, rural community and residential, agriculture, and open space uses along with delineating Tribal lands (Riverside County, 2016a; 2016b).

Existing land use designations within the eastern unincorporated portion of the Program area include low, medium, and high density residential, rural residential, and rural mountain uses (Riverside County, 2016a). Existing land use designations within the western unincorporated portion of the Program area include rural community – very low density residential, low and medium density residential, commercial retail, mixed-use, agricultural, and rural mountain uses (Riverside County, 2016b).

City of Hemet

Existing land use designations within the city are established by the City of Hemet’s General Plan, specifically through the Land Use Element and Land Use Map (City of Hemet, 2012). According to the Land Use Map, existing land use designations within the portions of the Proposed Program area in the City of Hemet include low, low-medium, medium, and high density residential, rural-residential, mixed-use, industrial, neighborhood and regional commercial, agricultural, and open space uses (City of Hemet, 2012). Additionally, a portion of the Proposed Program area is within the Airport Influence Area for the Hemet-Ryan Airport (City of Hemet, 2012).

City of San Jacinto

The Land Use Element of the City of San Jacinto, including the Land Use Map, identifies the type and location of future land uses within the city. According to the Land Use Map, existing land use designations within the portions of the Proposed Program area in the City of San Jacinto include low, medium, medium-high, and very-high density residential, industrial, community and downtown commercial, public institutional, and park uses (City of San Jacinto, 2012a). Specifically, the Mountain Avenue West site is designated with low density residential and community commercial land uses; the Mountain Avenue South site is designated as community commercial land use; the Mountain Avenue East site is designated with low density residential uses; and the Mountain Avenue North site is designated as community commercial land use (refer to **Appendix LU**).

Existing Zoning Designations

Unincorporated Riverside County

The zoning classification for the portions of the Proposed Program within the boundaries of the County of Riverside is Rural Residential Areas (R-R). According to Riverside County’s Zoning Ordinance, Article V, Section (B), the R-R zoning designation permits public utility uses, including structures and installations necessary to the conservation and development of water such as dams, pipelines, water conduits, tanks, canals, reservoirs, wells and the necessary pumping and water production facilities” (Riverside County, 2017).

City of Hemet

The zoning designations within the Proposed Program area in the City of Hemet include Light and Heavy Agricultural (A-1 through A-10), General Commercial (C-2), Downtown (D-1 and D-2), Single Family Residential (R-1), Planned Community Development (PCD), Planned Unit Development Overlay (PUD), Specific Plan (SP), Limited and Heavy Manufacturing (M-1 and M-2), and Commercial Manufacturing (C-M).

According to the City of Hemet's Zoning Ordinance, Chapter 90, Article 17, the provisions of the Zoning Ordinance do not apply to public utilities provided that such utilities be installed or constructed with the best management practices to ensure compatibility with the surrounding area and the environment immediately adjacent (City of Hemet, 2017).

City of San Jacinto

The zoning designations within the Proposed Program area in the City of San Jacinto include Commercial Neighborhood (CN), Commercial General (CG), Residential – Low Density (RL), Residential – Medium Density (MD), Public Institutional (PI), and Open Space Recreation (OSR) (City of San Jacinto, 2012).

According to the City of San Jacinto Zoning Ordinance, Article 2, Section 17.205.040, the planning permit requirements of the Development Code do not apply to the alteration, construction, erection, or maintenance by a public utility or agency of utility infrastructure, subject to the provisions of Government Code Section 53090 et seq., and any local utility is allowed in any zoning designation (City of San Jacinto, 2012b).

Project Area Setting

The Proposed Project area is located within the City of San Jacinto and is roughly bounded by Main Street to the north, Mountain Avenue to the east, Esplanade Avenue to the south, and South Hewitt Street to the west. The land uses described below for the Proposed Project area are shown in Appendix LU.

Existing Land Use Designations

As stated above, the City of San Jacinto's General Plan designates land uses throughout the city through the Land Use Element and Land Use Plan. According to the Land Use Plan, existing land use designations within the Proposed Project area include low, medium, and high density residential, public institutional, community commercial, and park uses (City of San Jacinto, 2012a). Specifically, the Mountain Avenue West site is designated with low density residential and community commercial land uses and the Hewitt and Evans site is designated with medium density residential land use. The locations of the proposed wells are designated as low density residential land uses.

Existing Zoning Designations

The zoning designations within the Proposed Project area include Commercial Neighborhood (CN), Residential – Low Density (RL), Residential – Medium Density (RM), Public Institutional (PI), and OSR (Open Space Recreation) (City of San Jacinto, 2012). Specifically, the Mountain

Avenue West site is zoned as RL and CN while the Hewitt and Evans site is zoned as RM. The locations of the wells are zoned as RL. Pursuant to Article 2, Section 17.205.040 of the City of San Jacinto Zoning Ordinance, public utility projects are exempt from the provisions of the Development Code in the Zoning Ordinance. Further, public utility projects are allowed to occur within any zoning designation (City of San Jacinto, 2012).

3.10.2 Regulatory Setting

Regional

Riverside County General Plan

The County of Riverside General Plan recognizes 19 geographic planning areas within the County. The Proposed Program and Proposed Project are located within the SJVAP and HVWAP as well as the City of San Jacinto and City of Hemet.

The Land Use Element and the SJVAP and HVWAP govern the land use and agricultural resources of the County and the Proposed Program and Proposed Project area. The Land Use Element presents goals and policies that guide future development patterns in the County. The SJVAP and HVWAP contain specific policies that guide the physical development of this particular part of Riverside County to be used in conjunction with the County of Riverside General Plan.

General Plan Land Use Element

Infrastructure, Public Facilities & Service Provisions

Policy LU 5.4. Ensure that development and conservation land uses do not infringe upon existing public utility corridors, including fee owned rights-of-way and permanent easements, whose true land use is that of “public facilities.” This policy will ensure that the “public facilities” designation governs over what otherwise may be inferred by the large scale general plan maps.

Residential Area Plan Land Use Designations

Policy LU 22.3. Require that adequate and available circulation facilities, water resources, and sewer facilities meet the demands of the proposed residential land use.

Public Facilities

Policy LU 25.1. Accommodate the development of public facilities in areas appropriately designated by the General Plan and area plan land use maps.

San Jacinto Valley Area Plan (SJVAP)

Policy SJVAP 15.1. Protect sensitive biological resources in the SJVAP through adherence to policies found in the General Plan Multipurpose Open Space Element.

Harvest Valley/Winchester Area Plan (HVWAP)

Policy HVWAP 19.10. Protect sensitive biological resources in the HVWAP through adherence to policies found in the Multiple Species Habitat Conservation Plans, Environmentally Sensitive Lands, Wetlands, and Floodplain and Riparian Area Management sections of the General Plan Multipurpose Open Space Element.

Local

City of Hemet General Plan

The City of Hemet’s General Plan establishes the allowable land uses and locations within the city through the Land Use Element. The Community Services and Infrastructure Element addresses the support systems and resources that provide both the utility infrastructure and the public services that are available within the City. The following goals and policies of the City of Hemet’s General Plan are applicable to the Proposed Program:

Land Use Element

Policy LU-2.1: Adequate Infrastructure. Ensure that growth in developing areas of Hemet proceeds with the appropriate addition of infrastructure, public services and facilities to serve the new land uses and population. Ensure that infrastructure improvements are in place prior to, or concurrently with, new development

Policy LU-9.11: Sustainable Infrastructure and Development. Require new infrastructure systems and site development to incorporate sustainable design and best practices including the use of recycled water, alternative and energy conserving techniques, and naturalized “conjunctive use” drainage basins to accommodate drainage, recharge the aquifer, promote water quality, and add aesthetic value as a neighborhood amenity.

Community Services and Infrastructure Element

Goal 2: Maintain a water delivery system that is capable of meeting the daily and peak demands of Hemet residents and businesses in an efficient and environmentally sound manner.

Policy CSI-2.7: Ground Water Recharge. Ensure that adequate aquifer water recharge areas are preserved and protected through a comprehensive water management strategy.

City of San Jacinto General Plan

The City of San Jacinto’s General Plan establishes the allowable land uses and locations within the city through the Land Use Element. The Community Services and Facilities Element addresses the services and infrastructure needed to serve the city and ensures that sufficient levels of levels of community services and facilities are provided as San Jacinto develops. The following goals and policies of the City of San Jacinto’s General Plan are applicable to the Proposed Program and Proposed Project:

Land Use Element

Policy LU-1.4: Provide public/institutional land use designations and development standards that encourage the location and operation of adequate public facilities to serve the community.

Policy LU-2.4: Ensure that adequate infrastructure and public services are provided in concert with development so that no negative fiscal or service impact occurs as a result of new development.

Community Services and Facilities Element

Goal 4: Work with local, regional, and State water agencies to provide sufficient levels of water service.

Policy CSF-4.2: Work closely with the Eastern Municipal Water District and the Lake Hemet Municipal Water District to maintain an adequate level of water service in the planning area.

Policy CSF-4.4: Maintain and improve existing levels of water service by protecting and improving infrastructure and the efficiency of water transmission facilities.

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional HCP focused on the conservation of species and their associated habitats in western Riverside County. The primary goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region. The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The MSHCP was developed to serve as a HCP pursuant to the NCCP Act and Section 10(a)(1)(B) of the FESA. The MSHCP encompasses 1.26 million acres and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line as well as jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. The overarching purpose of the plan is to balance development and economic interests with species and lands conservation goals. The MSHCP permits development of lands and take of species “in exchange for the assembly and management of a coordinated MSHCP Conservation Area” (Western Riverside County Regional Conservation Authority, 2003a).

The City of Hemet and the City of San Jacinto have adopted ordinances to implement the MSHCP, which addresses habitat protection issues throughout the County and Cities and establishes “criteria areas,” which require high levels of habitat protection. All development projects within criteria areas are first required to undergo an extensive habitat assessment and if necessary, undergo an acquisition process from the Western Riverside County RCA. However, EMWD is not a Participating Entity in the MSCHP.

3.10.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to land use and planning. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Physically divide an established community.
2. 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 an environment effect.

3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

Impacts and Mitigation Measures

Divide an Established Community

Impact LU-1: Implementation of the Proposed Program and the Proposed Project would not physically divide an established community.

Program-Level Impacts

Recharge Facilities

The Proposed Program includes four recharge facilities that include recharge ponds and appurtenant facilities. All four facilities would be constructed within the City of San Jacinto within the area roughly bounded by Main Street to the north, the San Jacinto River to the east, Esplanade Avenue to the south, and South Hewitt Street to the west, as shown on **Figure 2-3**. Surrounding land uses include residential, commercial, public institutional, and open space, as shown in Appendix LU. The proposed recharge facilities would be constructed on land currently vacant and undeveloped and would not create a barrier or physically divide an established community. Further, the recharge facilities would be integrated into the existing urban character of the surrounding community with landscaping features to ensure compatibility with the visual character of the surrounding land uses. Therefore, construction of the proposed recharge facilities under the Proposed Program would not physically divide an established community. No impact would occur.

Monitoring Facilities

The Proposed Program includes the construction and operation of a total of 16 shallow and 7 multi-depth monitoring wells around the perimeter of the four recharge sites. All of the proposed monitoring wells would be located approximately 2-3 feet aboveground and would not have any features that would create a barrier or physically divide an established community. Thus, no impact would occur.

Extraction Facilities

The Proposed Program includes up to 11 extraction wells which would be housed in block wall pump buildings and associated treatment/blending and disinfection facilities. The 11 extraction wells and treatment/blending and disinfection facilities would be located within the larger area identified on **Figure 2-2**, which encompasses the cities of San Jacinto and Hemet and portions of unincorporated areas of Riverside County. The proposed extraction facilities would occupy an area of up to one acre, where the wells would be located underground and the block wall pump buildings would be constructed similar to the surrounding development as required in Mitigation Measure AES-PMM-1. Similarly, Mitigation Measure AES-PMM-1 would require treatment/blending and disinfection facilities to be designed to be integrated into the existing urban character of the surrounding community. Therefore, the extraction facilities would not have

any features that would create a barrier or physically divide an established community. No impact would occur.

Conveyance Facilities

The Proposed Program would include construction of conveyance system pipelines and ancillary facilities within the cities of San Jacinto and Hemet and unincorporated areas of Riverside County, as shown on **Figure 2-2**. The conveyance pipelines and ancillary facilities would be constructed within public rights-of-way, where possible. Once linear pipelines are constructed belowground, some ancillary facilities would be located aboveground within close proximity to the public rights-of-ways, such as the proposed booster pump station and MWD EM-25 Turn-Out. None of these features would create a barrier or physically divide an established community. Therefore, no impact would occur.

Impact Determination

Implementation of the Proposed Program would result in the installation of linear underground pipelines. All aboveground facilities would be integrated into the character of the surrounding community as required by Mitigation Measure AES-PMM-1, and would not be large enough to create barriers that would physically divide an established community. As a result, no impact would occur.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge Facilities

The Proposed Project includes the construction of Mountain Avenue West recharge facilities, which include recharge ponds and appurtenant facilities. The proposed recharge facilities would be constructed within the City of San Jacinto on the Mountain Avenue West site, which is roughly bounded by Esplanade Avenue to the south, Mountain Avenue to the east, and residential uses to the north and west, as shown on **Figure 2-3**. Surrounding land uses include residential, commercial, public institutional, and open space as shown on **Figure 3.10-1**. The proposed recharge facility would be constructed on currently vacant and undeveloped land and would not create a barrier or physically divide an established community. Generally, to the west of Mountain Avenue West site there is residential development, and to the east is the San Jacinto River. Further, the Mountain Avenue West recharge facilities would be integrated into the existing urban character of the surrounding community with landscaping features as shown on **Figure 2-8** to ensure compatibility with the visual character of the surrounding land uses. Therefore, construction of the proposed recharge facilities at Mountain Avenue West would not physically divide an established community. No impact would occur.

Monitoring Facilities

The Proposed Project would construct and operate 8 shallow and 3 multi-depth monitoring wells. All of the proposed monitoring wells would be located 2-3 feet aboveground around the perimeter

of Mountain Avenue West and would not have any features that would create a barrier or physically divide an established community. Thus, no impact would occur.

Extraction Facilities

The Proposed Project would construct 3 extraction wells with block wall pump buildings and the Hewitt and Evans treatment/blending and disinfection facility. The three extraction wells would be constructed within the Proposed Project area within the City of San Jacinto, as shown on **Figure 2-9**. The three extraction facilities would occupy an area of up to one acre and would include wells housed within single-story block wall pump buildings that would be constructed similar to surrounding development. Further, the Hewitt and Evans treatment/blending and disinfection facility would be constructed on a currently vacant site. The aboveground facilities would be integrated into the existing urban character of the surrounding community as required by Mitigation Measure AES-MM-1. Therefore, the extraction facilities included in the Proposed Project would not have any features that would create a barrier or physically divide an established community. No impact would occur.

Conveyance Facilities

The Proposed Project includes the construction of well water collector pipelines along 7th Street, Shaver Street, and Evans Street within the City of San Jacinto, as shown on **Figure 2-9**. The well water collector pipelines would be constructed underground within public rights-of-ways, or within property or easements currently owned by EMWD or acquired by EMWD. Once the pipelines are constructed they would be located entirely underground and would not create a barrier or physically divide an established community. Therefore, no impact would occur.

Impact Determination

Implementation of the Proposed Project would result in the installation of linear underground pipelines. All aboveground facilities would be integrated into the character of the surrounding community and would not be large enough to create barriers that would physically divide an established community. As a result, no impact would occur.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Land Use Plan, Policy, and Regulation

Impact LU-2: Implementation of the Proposed Program and the Proposed Project could 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 an environment effect.

Program-Level Impacts

Recharge and Monitoring Facilities

The Proposed Program includes four recharge facilities, consisting of Mountain Avenue East, West, North, and South, which include recharge ponds and appurtenant facilities. All four facilities would be constructed on currently vacant, undeveloped land within the City of San Jacinto, as shown on **Figure 2-3**. Specifically, the Mountain Avenue West site is designated with low density residential and community commercial land uses; the Mountain Avenue South and North sites are designated as community commercial land uses; and the Mountain Avenue East site is designated with low density residential land uses (refer to Appendix LU). Additionally, the Proposed Program includes the construction and operation of a total of 16 shallow and 7 multi-depth monitoring wells on the four Mountain Avenue recharge sites. All of the proposed monitoring wells would be located underground with an aboveground portion consisting of a vertical pipe standing about 2 to 3 feet above the ground surface protected by traffic bollards. Surrounding land uses include residential, commercial, public institutional, and open space, as shown in Appendix LU. The San Jacinto River borders the Proposed Project area to the east.

While the Proposed Program recharge and monitoring facilities would not be consistent with the existing land use and zoning designations for the four recharge sites, the proposed facilities included under the Proposed Program are considered public utilities, which are exempt from the provisions of the City's Development Code and Zoning Ordinance. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, implementation of the recharge and monitoring facilities would not conflict with existing land uses and zoning designations.

In addition, the proposed recharge and monitoring facilities included under the Proposed Program would be designed to be incorporated and provide benefits to the surrounding land uses. For instance, the recharge and monitoring facilities at the four Mountain Avenue sites would be designed to be consistent with the general building style of the surrounding area to ensure that the facilities blend into the existing character of the area, as required by mitigation measure AES-PMM-1. Active portions of the proposed recharge facilities (basin clusters) would be surrounded by approximately three-foot to eight-foot tall berms relative to the surrounding grade, which would shield views of the recharge ponds from surrounding uses and maintain a similar visual character for the four sites as in existing conditions. In addition, operation of the recharge and monitoring facilities would not produce significant levels of noise, which could disturb nearby residents or businesses, and would require all new light sources to be shielded and oriented downwards to minimize light spillover on adjacent uses, as required by mitigation measure AES-PMM-2. The Mountain Avenue West site would include public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage as shown on **Figure 2-7**. The public amenities would serve the surrounding residential uses with new recreational uses and landscaping and would be compatible with the trails and pedestrian facilities currently in the surrounding area. Further, recharge facilities currently exist in the Proposed Program area, where the addition of the proposed recharge and monitoring facilities included under the Proposed Program would be consistent with these uses. For example, the Indirect Reuse Replenishment Project recharge

basins are located in the San Jacinto River, which is an adjacent use to the four recharge sites, specifically the Mountain Avenue North site. For these reasons listed above, the recharge and monitoring facilities would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

Extraction Facilities

The Proposed Program includes up to 11 extraction wells with block wall pump buildings and associated treatment/blending and disinfection facilities. The exact locations of the 11 extraction wells are to be determined but would occur within the larger area identified on **Figure 2-2**, which encompasses the cities of San Jacinto, Hemet and unincorporated areas of Riverside County. This area includes a mix of land uses, including residential, commercial, public institutional, and open spaces uses. The proposed extraction wells would be located on land up to one acre in size surrounded by block wall pump buildings as depicted on **Figure 2-4**. The extraction facilities would be designed and constructed in similar building styles as surrounding development, as required by mitigation measure AES-PMM-1, and would require all new light sources to be shielded and oriented downwards to minimize light spillover on adjacent uses, as required by mitigation measure AES-PMM-2. In addition, the extraction facilities would be relatively unobtrusive structures within the surrounding development and would not generate nuisances, such as loud noise or increased traffic trips, within the surrounding area. Further, all of the proposed extraction facilities are considered public utilities, which are exempt from the provisions of the Cities of San Jacinto and Hemet's Zoning Ordinances and the Riverside County Zoning Ordinance. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, the extraction facilities would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

Conveyance Facilities

The Proposed Program would include construction of conveyance system pipelines and ancillary facilities within the cities of San Jacinto and Hemet and unincorporated areas of Riverside County, as shown on **Figure 2-2**. The conveyance pipelines and ancillary facilities would be constructed within public rights-of-way, or within property or easements currently owned by EMWD, or acquired by EMWD. The proposed conveyance pipelines would be located underground and would not result in land use inconsistencies. All of the proposed conveyance facilities are considered public utilities, which are exempt from the provisions of the Cities of San Jacinto and Hemet's Zoning Ordinances and the Riverside County Zoning Ordinance. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, the conveyance facilities would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

Impact Determination

Implementation of the Proposed Program would not conflict with applicable land use plans, policies, or regulations. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge and Monitoring Facilities

The Proposed Project includes the construction the Mountain Avenue West recharge facilities, which include recharge ponds and appurtenant facilities. The proposed recharge facility would be constructed on vacant, undeveloped land within the City of San Jacinto as shown on **Figure 2-3**. Specifically, the Mountain Avenue West site is designated with low density residential and community commercial land use, as shown in Appendix LU. Additionally, the Proposed Project would construct and operate 8 shallow and 3 multi-depth monitoring wells. All of the proposed monitoring wells would be located around the perimeter of the recharge basins at the Mountain Avenue West site. The wells would be constructed underground with portions of the pipelines extending 2 to 3 feet above the ground surface, Surrounding land uses include residential, commercial, public institutional, and open space.

While the Proposed Project recharge and monitoring facilities would not be consistent with the existing land use and zoning designations for the Mountain Avenue West site, the Mountain Avenue West recharge facilities are considered public utilities, which are exempt from the provisions of the City of San Jacinto's Development Code and Zoning Ordinance. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, implementation of the recharge and monitoring facilities would not conflict with existing land uses and zoning designations.

In addition, the proposed recharge and monitoring facilities included under the Proposed Project would be designed to be incorporated and provide benefits to the surrounding land uses. For example, the Mountain Avenue West site would include public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage as shown on **Figure 2-7**. The public amenities would provide new recreational uses and landscaping to the surrounding community, which would be compatible with existing pedestrian facilities in the surrounding area. In addition, the Mountain Avenue West recharge and monitoring facilities would be designed to be consistent with the general building style of the surrounding area to ensure that the facilities blend into the existing character of the area, as required by mitigation measure AES-MM-1. Active portions of the proposed recharge facilities (basin clusters) would be surrounded by approximately three-foot to eight-foot tall berms relative to the surrounding grade, which would shield views of the recharge ponds from surrounding uses and maintain a similar visual character for the four sites as in existing conditions. Operation of the recharge and monitoring facilities would require all new light sources to be shielded and oriented downwards to minimize light spillover on adjacent uses, as required by mitigation measure AES-MM-2. As such, the Mountain Avenue West recharge

facilities would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

Extraction Facilities

The Proposed Project would construct 3 extraction wells within block wall pump buildings and the Hewitt & Evans treatment/blending and disinfection facility. The three extraction wells would be constructed within the City of San Jacinto on land owned by EMWD, as shown on **Figure 2-9**. The Hewitt and Evans site is designated with medium density residential land use. The proposed extraction wells would be located on land designated as low density residential land uses. The extraction facilities would be designed and constructed in similar building styles as surrounding development, as required by mitigation measure AES-MM-1, and would require all new light sources to be shielded and oriented downwards to minimize light spillover on adjacent uses, as required by mitigation measure AES-MM-2. In addition, the extraction facilities would be relatively unobtrusive structures within the surrounding development and would not generate nuisances, such as loud noise or increased traffic trips, within the surrounding area. Further, all of the proposed extraction facilities are considered public utilities, which are exempt from the provisions of the City of San Jacinto Zoning Ordinance. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, the extraction facilities included under the Proposed Project would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

Conveyance Facilities

The Proposed Project includes the construction of well water collector pipelines along 7th Street, Shaver Street, and Evans Street within the City of San Jacinto, as shown on **Figure 2-9**. The well water collector pipelines would be constructed within public rights-of-way, or within property or easements currently owned by EMWD, or acquired by EMWD. The proposed conveyance pipelines would be located underground and would not result in land use inconsistencies. All of the proposed conveyance facilities are considered public utilities, which are exempt from the provisions of the City of San Jacinto Zoning Ordinance. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, the extraction facilities would not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

Impact Determination

Implementation of the Proposed Project would not conflict with applicable land use plans, policies, or regulations. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Habitat Conservation Plan

Impact LU-3: Implementation of the Proposed Program and the Proposed Project could conflict with any applicable HCP or NCCP.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program is located within the boundaries of the MSHCP and partially within the SKRHCP. Although the Proposed Program occurs within the boundaries of the MSHCP, EMWD is a special water district and is not a signatory to the MSCHP. Therefore, the Proposed Program is not required to demonstrate consistency with the goals and provisions of the MSHCP, as they pertain to biological resources. Additionally, no other regional HCP's such as the SKRHCP would apply to the Proposed Program.

Impact Determination

Construction, or operation and maintenance, of the Proposed Program will not conflict with the provisions of any regional or local HCPs or NCCPs

Program Mitigation Measures

None Required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project is located within the boundaries of the MSHCP. Although the Proposed Project occurs within the boundaries of the MSHCP, EMWD is a special water district and is not a signatory to the MSCHP. Therefore, the Proposed Project is not required to demonstrate consistency with the goals and provisions of the MSHCP, as they pertain to biological resources. Additionally, no other regional HCP's would apply to the Proposed Project.

Impact Determination

Construction, or operation and maintenance, of the Proposed Project will not conflict with the provisions of any regional or local HCPs or NCCPs

Mitigation Measures

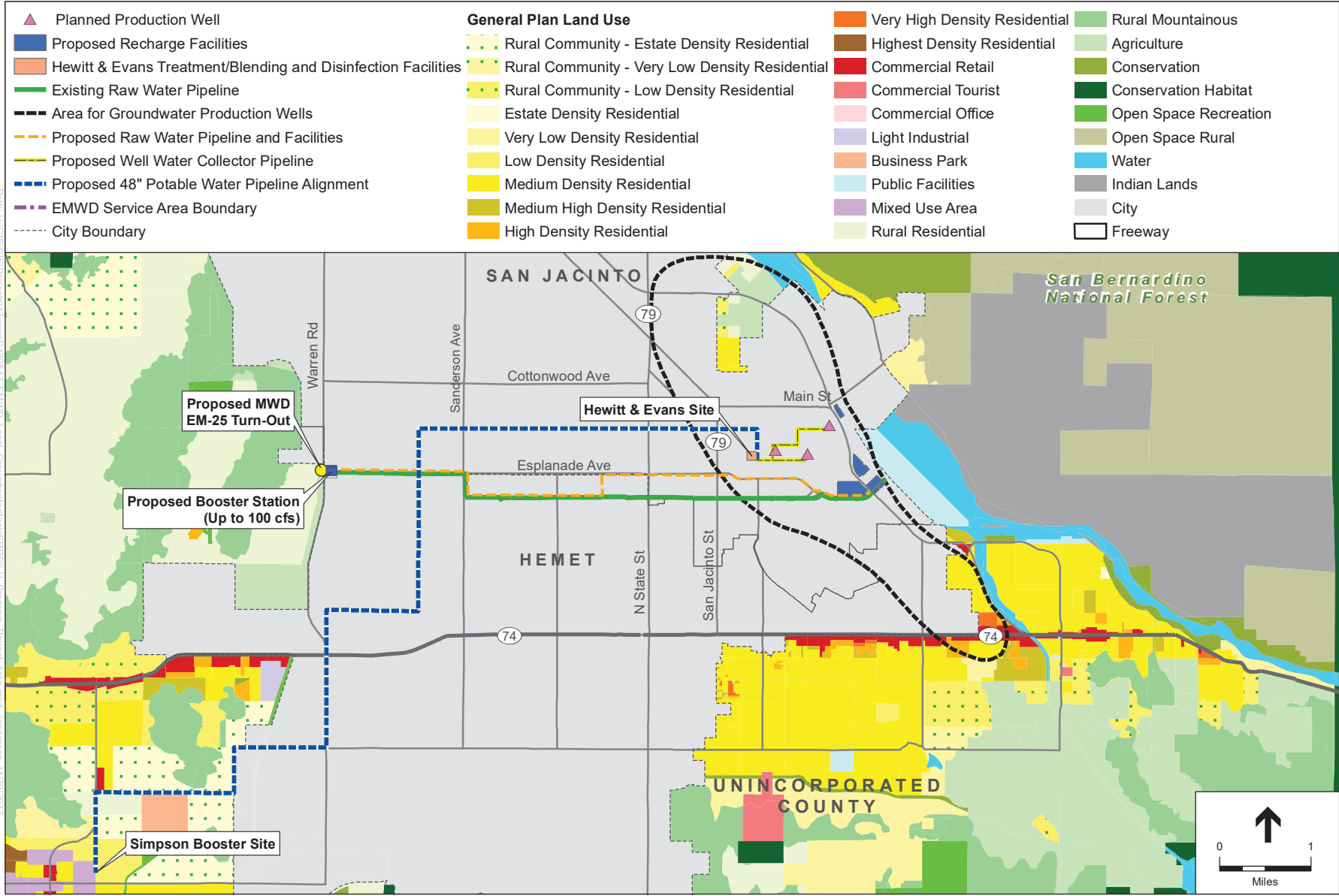
None Required.

Significance Conclusion

No Impact

3.10.4 References

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SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.10-1
Land Use Designations within Program and Project Area

3.11 Noise

Introduction

This section addresses the potential noise impacts of the Proposed Program and the Proposed Project. This section includes a description of the environmental setting to establish baseline noise conditions, a summary of the applicable noise regulations, and an evaluation of the Proposed Program's and Proposed Project's potential noise effects during construction and operation.

3.11.1 Environmental Setting

Noise Fundamentals

Decibel Levels

Noise is generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.11-1**. All noise levels presented below are A-weighted unless otherwise stated.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels representative of measured noise at a given instant in time; however, they rarely persist consistently over a long period of time. Rather,

community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The noise descriptors used in this analysis are summarized below:

L_{eq} : The equivalent sound level used to describe noise over a specified period of time in terms of a single numerical value. L_{eq} may also be referred to as the average sound level.

L_{max} : The maximum, instantaneous noise level experienced during a given period of time.

L_{dn} : The average A-weighted noise level over a 24-hour period including an addition of 10 dBA to each of the hourly average noise levels for the hours of 10:00 p.m. to 7:00 a.m. to account nighttime noise sensitivity.

CNEL: Community Noise Equivalent Level, the average A-weighted noise level over a 24-hour period including an addition of 5 dBA to each of the hourly average noise levels for the hours of 7:00 p.m. through 10:00 p.m., and 10 dBA to each of hourly average noise levels for the hours of 10:00 p.m. through 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance);
- Interference effects (e.g., communication, sleep, and learning interference);
- Physiological effects (e.g., startle response); and
- Physical effects (e.g., hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, as well as interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep. With regard to the subjective effects, the

responses of individuals to similar noise events are diverse and are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered to be a barely perceivable difference;
- A change in level of at least 5 dBA is considered to be a readily perceivable difference; and
- A change in noise levels of 10 dBA is subjectively heard as doubling of perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a nonlinear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.

Noise Sensitive Receptors

Some land uses are more sensitive to noise levels than others due to the types of activities typically associated with the uses. Noise-sensitive land uses generally include, but are not necessarily limited to, schools, hospitals, rest homes, long-term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas. These

sensitive land uses, when compared to non-sensitive uses such as commercial and industrial land uses, depend on a low-level noise environment to promote the well-being of their occupants and visitors.

Fundamentals of Vibration

As described in the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* (FTA, 2006), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and the operation of heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA, 2006). Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, students, the elderly, and the sick), and vibration-sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile driving during construction. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 inches per second (in/sec) PPV (FTA, 2006).

Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA, 2006).

Regional Setting

The regional setting is a moderately urbanized setting in the cities of San Jacinto and Hemet and unincorporated areas of Riverside County. The surrounding land uses generally consist of residential and commercial development, farmland, and undeveloped foothills to the east and west. The primary noise source is transportation-related, i.e., vehicle traffic on area roadways. Additional noise sources that are not directly related to transportation include construction, manufacturing or business operations, agriculture operations, and property maintenance activities.

Program Area Setting

The Proposed Program is generally located within a moderately urbanized setting associated with residential and commercial development, farmland, and roadways. The proposed recharge basins would be developed on agricultural and disturbed land. The proposed treatment/blending and disinfection facilities would be developed on disturbed, undeveloped land. The proposed conveyance pipelines would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD.

Land uses surrounding the Proposed Program generally consist of residential and commercial development, farmland, and undeveloped foothills to the east and west. The primary existing noise source is transportation-related, i.e., vehicle traffic on area roadways. Additional noise sources that are not directly related to transportation include construction, manufacturing or business operations, agriculture operations, and property maintenance activities.

Project Area Setting

As shown on **Figure 2-6**, the proposed recharge basin at Mountain Avenue West is currently graded and is surrounded by residential developments on the north, west, and south sides. The residences to the north are located adjacent to the proposed recharge facility property line, approximately 300 feet from the nearest recharge basin. As shown on **Figure 2-9**, the three proposed extraction well locations all occur within EMWD parcels surrounded by undeveloped parcels and existing residences. The proposed well water collector pipelines are located within the ROWs of local roadways passing through undeveloped parcels and existing residences. The proposed Hewitt and Evans treatment/blending and disinfection facility is located adjacent to undeveloped parcels and existing residences.

The surrounding land uses of the Project Area generally consists of urban and residential development with scattered areas of undeveloped land and active agriculture. The primary existing noise source of the Project Area is transportation-related, i.e., vehicle traffic on area roadways. Additional noise sources that are not directly related to transportation include construction, manufacturing or business operations, agriculture operations, and property maintenance activities.

Existing Noise Conditions

According to the San Jacinto General Plan EIR, the primary noise source in the City of San Jacinto is transportation-related (City of San Jacinto, 2006). Ambient noise measurements around major roadways were previously evaluated (2006) based on traffic volumes in support of the San

Jacinto General Plan EIR. Traffic noise levels at approximately 50 feet from the centerline of the near lane of the roadways ranged from approximately 62 to 69 CNEL based on increasing traffic volumes. Therefore, land uses adjacent to certain segments of Esplanade Avenue, Ramona Expressway, Sanderson Avenue, 7th Street, and Warren Road are located within a 65 dB or higher noise contour, which means under baseline conditions persons living or attending school in these areas were subject to noise levels exceeding the City's standards. Additional noise sources that are not directly related to transportation include construction, manufacturing or business operations, agriculture operations, and property maintenance activities

According to the Hemet General Plan EIR, vehicular traffic on the local arterial system is the primary source of noise (City of Hemet, 2012). Other sources of noise include industrial facilities, retail centers, schools, and parks. Periodic sources of noise include aircraft overflights from Hemet-Ryan Airport, and high activity and high-turn-over commercial land uses.

Existing Noise Sensitive Receptors

There are sensitive receptors in the vicinity of the Proposed Program within the City of Hemet, City of San Jacinto, and portions of unincorporated Riverside County, including several residential neighborhoods and a school. The residences closest to the Proposed Program are located as close as approximately 50 feet from the proposed recharge facilities, raw water distribution pipeline, and potable conveyance pipeline. The residences closest to an extraction well (Well 203) are located as close as approximately 100 feet, as shown on **Figure 2-9**. The closest school to the Proposed Program is the Park Hill Elementary School along Esplanade Avenue at Commonwealth Avenue, approximately 50 feet from the proposed raw water conveyance pipeline along Esplanade Avenue shown on **Figure 2-3**. Schools close to the Proposed Project include Edward Hyatt Elementary School directly adjacent to the Hewitt and Evans site.

Existing Groundborne Vibration Conditions

Aside from periodic construction work that may occur throughout Riverside County, the City of San Jacinto, and the City of Hemet, other sources of groundborne vibration in the project site vicinity include heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road (FTA, 2006). A heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 in/sec PPV.

3.11.2 Regulatory Setting

Federal

Noise Standards

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the Proposed Program or Proposed Project. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise. Federal regulations also establish

noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR, Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

Vibration Standards

The FTA has adopted vibration standards that can be used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 3.11-1**.

**TABLE 3.11-1
CONSTRUCTION VIBRATION DAMAGE CRITERIA**

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, 2006.

In addition, the FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories: (1) Vibration Category 1 – High Sensitivity, (2) Vibration Category 2 – Residential, and (3) Vibration Category 3 – Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but still have the potential for activity interference.

Under conditions where there are an infrequent number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings.¹ Under conditions where there are an occasional number of events per day, the FTA has established thresholds of 65 VdB for Category 1 buildings, 75 VdB for Category 2 buildings, and 78 VdB for Category 3 buildings.² No thresholds have been adopted or recommended for commercial and office uses.

¹ “Infrequent events” is defined by the FTA as being fewer than 30 vibration events of the same kind per day.

² “Occasional events” is defined by the FTA as between 30 and 70 vibration events of the same source per day.

State

Noise Standards

The California Department of Health Services (DHS) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in **Table 3.11-2**. In addition, Section 65302(f) of the California Government Code requires each county and city in the State to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(g) requiring a noise chapter to be included in the general plan. The noise chapter must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

**TABLE 3.11-2
 COMMUNITY NOISE EXPOSURE (CNEL)**

Land Use	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d
Single-family, Duplex, Mobile Homes	50–60	55–70	70–75	above 75
Multi-Family Homes	50–65	60–70	70–75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Transient Lodging – Motels, Hotels	50–65	60–70	70–80	above 80
Auditoriums, Concert Halls, Amphitheaters	---	50–70	---	above 65
Sports Arena, Outdoor Spectator Sports	---	50–75	---	above 70
Playgrounds, Neighborhood Parks	50–70	---	67 - 75	above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	---	70–80	above 80
Office Buildings, Business and Professional Commercial	50–70	67–78	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	above 75	---

^a **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

^b **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

^c **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

^d **Clearly Unacceptable:** New construction or development should generally not be undertaken.

SOURCE: OPR, 2003 (in coordination with the California DHS).

The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dBA. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA L_{dn} in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA L_{dn} . Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Vibration Standards

There are no State vibration standards applicable to the proposed project. Moreover, according to the California Department of Transportation's (Caltrans') *Transportation- and Construction-Induced Vibration Guidance Manual* (2013), there are no official Caltrans standards for vibration. However, this manual provides guidelines for assessing vibration damage potential to various types of buildings, ranging from 0.08 to 0.12 in/sec PPV for extremely fragile historic buildings, ruins, and ancient monuments to 0.50 to 2.0 in/sec PPV for modern industrial/commercial buildings.

Local

Noise Standards

Local noise issues are addressed through implementation of general plan policies, including noise and land use compatibility guidelines, and through enforcement of noise ordinance standards. A city or county's noise ordinance will typically include regulations that restrict the amount and duration of noise from various noise sources occurring within its jurisdiction as well as prescribe noise limits for different land use types. For the Proposed Program and Proposed Project, noise regulations and standards of the County of Riverside, the City of San Jacinto, and the City of Hemet are considered with respect to evaluating the proposed project's noise impacts on the surrounding environment. As a public agency, EMWD is not subject to other local jurisdictional agencies' noise ordinances, nor is EMWD required to obtain variances from local agencies. However, for purposes of evaluation, local agency noise ordinances are utilized as thresholds to analyze noise levels from construction and operation of proposed EMWD facilities and potential impacts to sensitive receptors. They are also used as a guideline to develop mitigation measures that would typically be used to minimize impacts to sensitive receptors. A review of other surrounding local jurisdictional agencies' noise guidelines and/or ordinances are listed below, for reference.

County of Riverside General Plan Noise Element

The California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The Noise Element of the County of Riverside General Plan is intended to provide a systematic approach to identifying and appraising noise problems in the community; quantifying existing and projected noise levels; addressing excessive noise exposure; and community planning for the regulation of noise.

The County’s primary goal with regard to community noise is to ensure that noise-producing land uses would be compatible with adjacent land uses. To this end, the Noise Element establishes noise/land use compatibility guidelines based on cumulative noise criteria for outdoor noise. These guidelines are based, in part, on the community noise compatibility guidelines established by the DHS for use in assessing the compatibility of various land use types with a range of noise levels. The County’s noise/land use compatibility guidelines are shown in **Table 3.11-3**. The County’s stationary source land use noise standards are shown in **Table 3.11-4**.

**TABLE 3.11-3
 COUNTY OF RIVERSIDE LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE LEVEL
 (L_{DN} OR CNEL, DBA)**

Land Use	Normally Acceptable ^a	Conditionally Acceptable ^b	Normally Unacceptable ^c	Clearly Unacceptable ^d
Single-family, Duplex, Mobile Homes	50–60	55–70	70–75	above 75
Multi-Family Homes	50–65	60–70	70–75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Transient Lodging – Motels, Hotels	50–65	60–70	70–80	above 80
Auditoriums, Concert Halls, Amphitheatres	---	50–70	above 65	---
Sports Arena, Outdoor Spectator Sports	---	50–75	above 70	---
Playgrounds, Neighborhood Parks	50–70	---	68–75	above 74
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	---	70–80	above 80
Office Buildings, Business, Commercial, and Professional	50–70	68–77	---	above 75
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	---	above 75

- ^a **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
- ^b **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.
- ^c **Normally Unacceptable:** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
- ^d **Clearly Unacceptable:** New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

SOURCE: County of Riverside, 2003.

**TABLE 3.11-4
 COUNTY OF RIVERSIDE STATIONARY SOURCE LAND USE NOISE STANDARDS**

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 p.m. to 7:00 a.m.	40 Leq	45 Leq
7:00 a.m. to 10:00 p.m.	55 Leq	65 Leq

NOTES: These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health.

SOURCE: County of Riverside, 2003

The Noise Element of the Riverside County's General Plan contains various policies to address countywide noise issues. The following are relevant to the Proposed Program and Proposed Project:

Policy N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.

Policy N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

Policy N 12.1 Minimize the impacts of construction noise on adjacent uses within acceptable practices.

Policy N 12.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

Policy N 12.4 Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

County of Riverside Municipal Code

With respect to residential and recreational open space uses, Section 9.52.040 (General Sound Level Standards) of the County of Riverside Municipal Code identifies the following general sound level standards as shown in **Table 3.11-5**. These sound level standards apply to sound emanating from all noise sources.

**TABLE 3.11-5
COUNTY OF RIVERSIDE SOUND LEVEL STANDARDS**

Land Use	Maximum Decibel Level (dB Lmax)
Community Development Residential	
10:00 p.m. to 7:00 a.m.	45
7:00 a.m. to 10:00 p.m.	55
Open Space Recreation	
10:00 p.m. to 7:00 a.m.	45
7:00 a.m. to 10:00 p.m.	45
SOURCE: County of Riverside Ordinance 847 § 4, 2006	

For construction noise levels, Section 9.52.020 (Exemptions) of the County of Riverside Municipal Code states that private construction projects located within one-quarter of a mile from an inhabited dwelling is exempt from the County's noise standards if: 1) Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 2) Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

In addition, Section 9.52.060 (Special Sound Sources Standards) of the County of Riverside Municipal Code also prohibits the operation of any power tools or equipment between the hours

of 10:00 p.m. and 8:00 a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. Furthermore, the operation of any power tools or equipment is prohibited at any other time such that the power tools or equipment are audible to the human ear at a distance greater than 100 feet from the power tools or equipment. However, exceptions to the standards set forth in Section 9.52.040 and 9.52.060 of the County of Riverside Municipal Code may be requested for construction-related events, which would be considered by the County’s Director of Building and Safety.

County of Riverside Groundborne Vibration Regulation

The County of Riverside has not adopted any criteria or regulations for groundborne vibration impacts. While the Noise Element of the Riverside County General Plan contains policies that stipulates restricting the placement of sensitive land uses in proximity to vibration-producing lands and prohibiting exposure of residential dwellings to perceptible ground vibration from passing trains, these policies are not applicable to the Proposed Program or Proposed Project.

City of San Jacinto General Plan Noise Element

The Noise Element of the City of San Jacinto General Plan provides a description of the existing noise conditions in the City, discusses future noise conditions from mobile and stationary noise sources, and sets forth the steps to be taken by the City to ensure that land use decisions include the consideration of noise impacts. To ensure that noise sources do not adversely affect sensitive receptors, the City uses land use compatibility standards when planning. **Table 3.11-6** summarizes the City of San Jacinto noise standards for various types of land uses. The Noise Element of the City of San Jacinto General Plan currently does not contain any goals, policies, and implementation measures related to temporary construction noise impacts.

**TABLE 3.11-6
 CITY OF SAN JACINTO INTERIOR AND EXTERIOR NOISE STANDARDS**

Land Use	Noise Standards ¹	
	Exterior	Interior
Residential - Single-Family, multi-family, duplex, and mobile home	65 dBA	45 dBA
Residential – transient lodging, hotels, motels, nursing homes, hospitals, assisted care facilities	65 dBA	45 dBA
Private offices, churches, libraries, theaters, concert halls, meeting halls, schools	65 dBA	45 dBA
General commercial, office, retail, reception, restaurant	65 dBA	45 dBA
Light industrial ²	-	-
Parks and playgrounds	65 dBA	50 dBA
Golf courses, outdoor spectator sports	70 dBA	-

¹ In Community Noise Level Equivalent (CNEL)
² Noise standards do not apply to Light industrial areas
³ Outdoor environment limited to playground areas, picnic areas and other areas of frequent human use

SOURCE: City of San Jacinto, 2006

City of San Jacinto Municipal Code

According to Section 8.40.070 of the City of San Jacinto Municipal Code, it is unlawful for any loud excessive or offensive noises or sounds to be created that would unreasonably disturb the peace and quiet of any residential neighborhood or be physically annoying to persons of ordinary sensitivity. The City established the exterior noise standards shown in **Table 3.11-7**. In addition, a noise violation would occur when a maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time. In the event that the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

**TABLE 3.11-7
CITY OF SAN JACINTO EXTERIOR NOISE LEVEL STANDARDS**

Type of Land Use	Time Period	Maximum Noise Level (dBA Lmax)
Single-Family Residential	7:00 a.m.–10:00 p.m.	65
	10:00 p.m. –7:00 a.m.	45
Multi-family Residential	7:00 a.m.–10:00 p.m.	65
	10:00 p.m. –7:00 a.m.	50
Commercial	7:00 a.m.–10:00 p.m.	65
	10:00 p.m. –7:00 a.m.	60
Residential Portion of Mixed Use	7:00 a.m.–10:00 p.m.	70
	10:00 p.m. –7:00 a.m.	70
Manufacturing and Industrial	7:00 a.m.–10:00 p.m.	70
	10:00 p.m. –7:00 a.m.	70

SOURCE: City of San Jacinto Municipal Code Section 8.10.040

For construction noise in the City of San Jacinto, Section 8.40.090 stipulates that no person, while engaged in construction, remodeling, digging, grading, demolition or any other related building activity, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a peace officer, on any weekday except between the hours of 7:00 a.m. and 7:00 p.m.

City of Hemet General Plan Public Safety Element, Noise

The Public Safety Element of the City of Hemet General Plan provides a description of the existing noise conditions in the City, discusses future noise conditions from mobile and stationary noise sources, and sets forth the steps to be taken by the City to ensure that land use decisions include the consideration of noise impacts. The Element established noise land use compatibility standards (CNEL) to apply to land uses exposed to noise levels generated by transportation-related sources, as shown in **Table 3.11-8**, and land use compatibility standards for exterior and interior noise, as shown in **Table 3.11-9**. The City of Hemet hourly (Leq) and maximum (Lmax) noise levels for stationary noise sources (e.g. HVAC units, industrial operations), as shown in **Table 3.11-10**, to protect noise-sensitive land uses adjacent to stationary sources.

The Public Safety Element contains various policies to address noise issues in the City. The following are relevant to the Proposed Program and the Proposed Project:

Goal PS-11: Manage noise levels through land use planning and development review.

Policy PS-11.1 Noise Standards. Enforce noise standards to maintain acceptable noise limits and protect existing areas with acceptable noise environments.

Policy PS-11.3 Evaluate Noise. Evaluate potential noise conflicts for individual sites and projects, and require mitigation of all significant noise impacts (including construction and short-term noise impacts) as a condition of project approval.

Policy PS-11.4 Protect Noise-Sensitive Uses. Protect noise-sensitive uses from new noise sources.

**TABLE 3.11-8
 CITY OF HEMET LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS**

Land Use	Normally Acceptable^a	Conditionally Acceptable^b	Normally Unacceptable^c	Clearly Unacceptable^d
Residential	50–60	55–70	70–75	above 75
Transient Lodging: hotels, motels	50–65	60–70	70–80	above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Auditoriums, Concert Halls, Amphitheaters	--	50–70	above 65	---
Sports Arena, Outdoor Spectator Sports	---	50–75	above 70	---
Playgrounds, Neighborhood Parks	50–70	---	68–75	above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	---	70–80	above 80
Office Buildings, Business, Commercial, and Professional	50–70	68–77	above 75	---
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	above 75	---

^a **Normally Acceptable:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

^b **Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

^c **Normally Unacceptable:** New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

^d **Clearly Unacceptable:** New construction or development clearly should not be undertaken.

SOURCE: City of Hemet, 2012.

**TABLE 3.11-9
CITY OF HEMET LAND USE COMPATIBILITY STANDARDS FOR EXTERIOR AND INTERIOR NOISE**

Land Use	Maximum Allowable Noise (CNEL)	
	Exterior (dBA)	Interior (dBA)
Residential and mixed use with residential component	65	45
School classrooms	65	45
School playgrounds	70	-
Libraries	-	50
Hospitals, convalescent homes – sleeping areas	-	40
Hospitals, convalescence homes – living areas	-	50
Passive recreation areas	65	-
Active recreation areas	70	-
Commercial and industrial areas	70	-
Office areas	-	50

NOTES: CNEL = community noise equivalent level, dBA = A-weighted decibel, - = not applicable/not available. The acceptable interior noise level for other uses depends upon the specific nature of the indoor activity.

SOURCE: City of Hemet, 2012

**TABLE 3.11-10
CITY OF HEMET NOISE LEVEL PERFORMANCE FOR NON-TRANSPORTATION NOISE SOURCES**

Noise Level Descriptor	Daytime (7 a.m.-10 p.m.)	Nighttime (10 p.m.-7 a.m.)
Hourly average level (Leq)	60	45
Maximum equivalent levels (Lmax)	75	65

NOTES: Each of the noise levels specified shall be lowered by 5 decibels for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings). The noise standard is to be applied at the property lines of the affected land use.

SOURCE: City of Hemet, 2012

City of Hemet Municipal Code

The City's Municipal Code exempts construction noise that occurs between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May. The Code permits Saturday construction between the hours of 7:00 a.m. and 6:00 p.m. and prohibits Sunday construction. This regulatory exemption reflects the City's acknowledgement that construction noise is a necessary part of new development and does not create an unacceptable public nuisance when conducted within the least noise sensitive hours of the day.

Vibration Standards

The City of Hemet and the City of San Jacinto has not adopted any criteria or regulation for groundborne vibration impacts.

Hemet-Ryan Airport Land Use Compatibility Plan (ALUCP)

The Hemet-Ryan Airport Land Use Compatibility Plan (ALUCP) (2007) provides existing and future runways noise contours, land use compatibility zones, safety zones, and airport influence area (AIA). The ALUCP provides for land use compatibility of proposed development (i.e., residential) within the AIA.

3.11.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the noise impacts of the Proposed Program and the Proposed Project. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5. 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 expose people residing or working in the project area to excessive noise levels.
6. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

There are no private airstrips within the vicinity of the proposed project-level and program-level components. Therefore, the proposed project would have no impact on exposing people to excessive noise levels due to private airstrip use.

Impacts and Mitigation Measures

Noise Level Standards

Impact NOI-1: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Construction

The Proposed Program components would generate short-term temporary noise associated with general construction activities. Construction noise levels at and near the facility locations would fluctuate depending on the particular type, number, and use duration of construction equipment for each activity. Construction-related material haul trips would temporarily slightly increase ambient noise levels along haul routes, depending on the number of haul trips and types of

vehicles used. **Table 3.11-11** shows typical maximum noise levels associated with various types of equipment.

TABLE 3.11-11
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Typical Maximum Noise Levels (dBA) at 50 feet
Air compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88

SOURCE: FTA, 2006

As shown in **Table 3.11-11**, heavy equipment used during construction of Proposed Program components would include backhoes/excavators (80 dBA Lmax), cranes (83 dBA Lmax), graders (85 dBA Lmax), heavy trucks (88 dBA Lmax), and rock drills (98 dBA Lmax). These estimated maximum noise levels would not be continuous, nor would they be typical of construction noise levels averaged over time throughout the construction period. In addition, noise levels attenuate with distance at a rate of 6 dBA per doubling of distance. For example, 84 dBA Leq at a reference

distance of 50 feet would attenuate by 6 dBA to 78 dBA Leq at 100 feet, and by another 6 dBA at 200 feet to 72 dBA Leq.

While construction activities associated with the Proposed Program facilities would be short-term, activities would be evaluated against, but not subject to, the noise regulations of the City of San Jacinto, City of Hemet, and County of Riverside, which limit the allowable period of construction hours, but do not establish a construction noise level limit:

- The City of San Jacinto Municipal Code limits construction to any weekday except between the hours of 7:00 a.m. and 7:00 p.m.;
- The City of Hemet Municipal Code permits construction activities between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May; and
- The County of Riverside Municipal Code exempt private construction projects located within one-quarter of a mile from an inhabited dwelling from the County's noise standards if: 1) Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and 2) Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May.

Recharge Facilities

Recharge basin construction would include excavation of approximately 80 percent of the recharge sites to a depth of up to 10 -15 feet, requiring the use of trucks, backhoes/excavators, shoring, and other support equipment. The recharge basins would be constructed within the recharge sites.

Monitoring and Extraction Facilities

Proposed Program multi-depth monitoring well and extraction well installation would include drilling requiring a drilling rig, compressor, and generator. Multi-depth monitoring wells and extraction wells would require continuous 24/7 operation of the drill rig for 1 to 2 weeks with additional nighttime activities occurring over approximately 12 weeks. Sound walls and 24/7 operation would be needed only during drilling and testing of the wells, as described in Chapter 2, Project Description. Remaining site work would be restricted to standard working hours and the sound walls will be removed when the construction changes from potential 24/7 operations to standard working hours. The locations of the Proposed Program multi-depth monitoring wells and extraction wells have not yet been determined, although some wells may be constructed near sensitive receptors within the area shown on **Figure 2-2**.

To be conservative, this analysis also assumes that well installation could also be constructed 50 feet away from residences. Noise levels due to well drilling equipment, which would use the loudest piece of equipment, would be 98 dBA at 50 feet. A sound wall would be constructed around well drilling prior to construction activities to minimize neighborhood disturbance, specifically during nighttime construction, depending on well locations. According to the FTA, noise barriers reduce project noise by at least 5 dBA and up to 15 dBA, lowering the drilling equipment noise levels from 98 dBA to 93-83 dBA at 50 feet (FTA, 2006). Construction would occur outside of the City of San Jacinto's allowable construction hours of 7 a.m. to 7 p.m. due to 24/7 drilling activities. As a public agency, EMWD is not subject to other local jurisdictional

agencies' noise ordinances and is therefore not required to obtain variances from local agencies. EMWD, as part of their design features, may implement noise reduction measures including but not limited to sound blankets, noise walls, etc. to attenuate sound as much as possible during 24/7 construction periods.

Proposed Program shallow monitoring well installation would include drilling requiring a drilling rig, compressor, and generator. Shallow monitoring wells would take up to four days each to drill, install and equip. Shallow monitoring well construction would occur during daylight hours and follow local work hour restrictions. Since work hours would be limited to normal construction hours, sound walls would not be required during the installation of shallow monitoring wells. The locations of the Proposed Program shallow monitoring wells have not yet been determined.

Treatment Facilities

Proposed Program centralized treatment facilities (forebay and/or sand beds) construction, if needed, would include site clearing/preparation, grading and excavation, facility installation, start up, and testing, requiring the use of trucks, backhoes/excavators, cranes, welding materials, shoring, and other support equipment. Centralized treatment facilities would be constructed within the facilities site. Construction of the recharge facilities would occur with the allowable construction hours of the City of San Jacinto Municipal Code.

Conveyance Facilities

Conveyance facilities construction would include open trench methods along roadways, requiring the use of trucks, backhoes/excavators, cranes, welding materials, shoring, and other support equipment. Conveyance facilities would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD, where single-family housing is located adjacent to the roadways, approximately 50 feet from the construction boundary. However, conveyance facilities (i.e., pipeline) installation would move along the roadways at a typical rate of approximately 40 to 120 linear feet per day. Therefore, construction noise adjacent to any one given residences would be temporary (i.e., several days), which would dissipate at that residence as the installation progresses along the that roadway. Construction of the recharge facilities would occur with the allowable construction hours of the cities of San Jacinto and Hemet and County of Riverside.

Operation

Operational activities associated with the Proposed Program would include maintenance activities at recharge basins, pump stations, turn-outs and treatment facilities, which would generate minor traffic noise associated with minimal vehicular trips. Maintenance and monitoring activities, such as clearing out of sediment at the recharge basins, would occur infrequently and are not anticipated to generate excessive noise that may impact sensitive receptors. Direct potential noise sources during operation of new facilities may occur at the pump station, treatment/blending and disinfection facility, and extraction wells. The pump station and extraction wells would be enclosed in concrete-block walled buildings, which would attenuate operational noise. The treatment/blending and disinfection facility would be enclosed by the building itself to include disinfection, filtering, blending, storage, and pumping of water. Implementation of **Mitigation**

Measure NOI-PMM-1 would ensure that new facilities would be designed in accordance with applicable local noise standards as measured at the property boundary.

Impact Determination

Construction of Proposed Program components would occur within the allowable construction hours based on the municipal codes of the cities of San Jacinto and Hemet and Riverside County, except during extraction and multi-depth monitoring well drilling, which would require continuous 24/7 operation of the drill rig for 1 to 2 weeks with additional nighttime activities occurring over approximately 12 weeks, outside of the City of San Jacinto's allowable construction hours. Although implementation of a sound wall and other noise attenuating measures would reduce construction noise levels associated with construction of the Proposed Program to the maximum extent feasible, under circumstances where proposed facilities are located immediately adjacent to existing sensitive land uses, particularly for proposed wells and pipeline segments, the noise impacts related to exposure of sensitive receptors to noise levels in excess of established standards could be significant. Therefore, this temporary impact associated with construction of Proposed Program facilities is considered potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less than significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built.

Operation of Proposed Program facilities would likely not generate substantial noise levels from maintenance activities. Operation of mechanical equipment such as pumps for the future Proposed Program extraction wells and treatment facility processes would be enclosed to reduce noise levels at the source. Implementation of Mitigation Measure NOI-PMM-1 would ensure Proposed Program facilities are designed such that sensitive receptors would not be exposed to noise levels in excess of established standards, and the impact would be less than significant.

Program Mitigation Measures

NOI-PMM-1: Operation Noise Standards. For all future projects implemented under the Proposed Program, EMWD shall ensure that new aboveground facilities are designed such that operational noise complies with applicable noise standards at the property boundary.

Significance Conclusion (Construction)

Potentially Significant with Mitigation

Significance Conclusion (Operation)

Less than Significant with Mitigation

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Similar to the Proposed Program components, the facilities to be implemented under the Proposed Project would generate short-term temporary noise associated with general construction or recharge basins, extraction and monitoring wells, the Hewitt and Evans treatment/blending and

disinfection facility, and pipelines. Noise impacts from construction activities would be a function of the noise generated by construction equipment, the equipment location, and the timing and duration of the noise-generating activities.

Construction activity noise levels at and near the Proposed Project sites would fluctuate depending on the particular type, number, and duration of uses of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips and types of vehicles used. **Table 3.11-11** shows typical maximum noise levels associated with various types of construction equipment.

Proposed Project components would be located within the City of San Jacinto. Construction activities associated with Proposed Project facilities would be short-term. The majority of construction activity associated with the Proposed Project, including Mountain Avenue West recharge facilities, monitoring and extraction wells, pipelines, and the Hewitt and Evans treatment/blending and disinfection facility would occur between 7:00 a.m. and 6:00 p.m. Monday through Friday, which would not violate the construction hours established in the City of San Jacinto Municipal Code.

For the shallow monitoring wells, construction would be accomplished by use of a HSA drill rig and support vehicles. The construction area would be approximately 80 feet long by 20 feet wide with each well requiring about 4 days to construct. During construction of the wells the exhaust from the drill rigs would be oriented away from residences and work areas would be defined to mitigate noise and access would be restricted to only authorized individuals to minimize construction hazards. Construction of multi-depth monitoring wells and extraction wells would occur intermittently 24/7; construction of multi-depth monitoring wells could last 1 to 2 weeks each while extraction wells would require up to 12 weeks of intermittent 24 hours per day construction during various stages of construction. The remainder of construction time would occur between 7:00 am and 6:00 pm Monday through Saturday. The City of San Jacinto limits construction to any weekday between the hours of 7:00 a.m. and 7:00 p.m. (i.e., no construction allowed on Saturdays and Sundays). Therefore, construction would occur outside of the City's allowable construction hours for the proposed extraction wells. EMWD is not subject to other local jurisdictional agencies' noise ordinances and is therefore not required to obtain variances from local agencies.

Similar to the Proposed Program, operation of Proposed Project facilities would not generate substantial noise levels from limited vehicular trips for maintenance and monitoring activities. Recharge basin maintenance would involve activities such as drying, cleaning, and filling the recharge basins, which would require transportation of minimal heavy equipment to the project site and a small maintenance crew. Maintenance and monitoring activities would occur infrequently and are not anticipated to generate excessive noise that may impact sensitive receptors. The Mountain Avenue West recharge basin would include walking paths around the perimeter of the basin. Passive recreational activities such as walking around the basin would generally not support activities that would generate noise levels higher than normal conversation. Operation of pumps for the extraction wells and the treatment facility would be enclosed to reduce noise levels at the source. Implementation of **Mitigation Measure NOI-MM-1** would ensure that

new facilities would be designed in accordance with applicable local noise standards as measured at the property boundary. Therefore, operational activities would not generate noise levels that exceed noise standards, and impacts would be less than significant.

Impact Determination

Proposed Project construction activities would occur within the allowable hours of the City of San Jacinto Municipal Code, except for extraction and multi-depth monitoring well installation activities that would require continuous 24/7 operation of the drill rig for 1 to 2 weeks with additional nighttime activities occurring over approximately 12 weeks, and would be outside of the City's allowable construction hours. Therefore, construction impacts associated with the Proposed Project would expose sensitive receptors to noise levels in excess of established standards, and the impact would be significant. As a public agency, EMWD is not subject to other local jurisdictional agencies' noise ordinances and is therefore not required to obtain variances from local agencies. However, EMWD as part of its design features, will implement noise reduction measures including but not limited to sound blankets, noise walls, etc. to attenuate sound as much as possible during 24/7 construction activity periods. Even with these measures, noise levels may still exceed ordinance limits at the nearest sensitive receptor. Temporary, short-term construction impacts would be considered significant and unavoidable.

Operation of Proposed Project facilities would not generate substantial noise from maintenance activities. Operation of mechanical equipment such as pumps for extraction wells and treatment facility processes would be enclosed to reduce noise levels at the source. Implementation of Mitigation Measure NOI-MM-1 would ensure facilities are designed such that sensitive receptors would not be exposed to noise levels in excess of established standards, and the impact would be less than significant.

Project Mitigation Measures

NOI-MM-1: Operation Noise Standards. EMWD shall ensure that new aboveground Project facilities are designed such that operational noise complies with applicable noise standards at the property boundary.

Significance Conclusion (Construction)

Significant and Unavoidable with Mitigation

Significance Conclusion (Operation)

Less than Significant with Mitigation

Groundborne Vibration

Impact NOI-2: Implementation of the Proposed Program and the Proposed Project could expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction of the Proposed Program would generate temporary localized vibration associated with general construction activities, as shown in **Table 3.11-12**.

**TABLE 3.11-12
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT**

Equipment	PPV at 25 feet (inches/second) ¹	Approximate VdB at 25 feet²
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

NOTES: ¹Fragile buildings can be exposed to ground-borne vibration levels of 0.5 PPV without experiencing structural damage.

²The human annoyance response level is 80 VdB

SOURCE: FTA, 2006

As shown in **Table 3.11-12**, use of heavy construction equipment (e.g., a large bulldozer) generates vibration levels as high as 0.089 in/sec PPV or 87 VdB at a reference distance of 25 feet. However, ground-borne vibration attenuates rapidly with distance. FTA has identified the potential building damage as 0.5 in/sec PPV, and the human annoyance response to vibration levels as 80 VdB. As shown in **Table 3.11-12**, vibration levels of 0.089 in/sec PPV at 25 feet would be less than the 0.5 in/sec PPV threshold for structural damage, but 87 VdB at 25 feet would exceed the 80 VdB vibration threshold for human annoyance response.

As discussed above in Impact NOI-1, the final locations of the proposed extraction facilities have not yet been determined, although it is likely wells would be constructed near sensitive receptors within the area shown on **Figure 2-2**. Comparatively, the nearest sensitive receptor to proposed conveyance facilities are residences located approximately 50 feet away. At a distance of 50 feet, construction vibration levels of 0.089 in/sec PPV from heavy equipment at a reference distance of 25 feet would be reduced to 0.031 in/sec PPV, which would be below the 0.5 in/sec PPV threshold for structural damage, and impacts would be less than significant. For human annoyance, construction vibration levels from heavy equipment, such as a large bulldozer, would be reduced to 78 VdB at the distance of 50 feet, which would not exceed the 80 VdB vibration threshold for human annoyance response. Therefore, construction activity that would occur 50 feet from existing sensitive receptors would not exceed vibration impact criteria, and a less than significant impact would occur.

Operation of the proposed program-level components would not have any components that would generate substantial vibration. Thus, impacts associated with operational vibration would be less than significant.

Impact Determination

Construction activities associated with the Proposed Program would generate temporary localized vibration associated with general construction activities, which would attenuate rapidly with distance. At a distance of 50 feet, construction vibration levels would be reduced to below the FTA thresholds for structural damage and human annoyance response. Therefore, construction activity that would occur 50 feet from existing sensitive receptors would not exceed vibration impact criteria, and a less than significant impact would occur. Operation of the Proposed Program components would not generate substantial vibration. Thus, impacts associated with operational vibration would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Similar to the Proposed Program, the Proposed Project would involve temporary vibration sources associated with general construction activity. As previously shown in **Table 3.11-12**, use of heavy equipment generates vibration levels of 0.089 in/sec PPV or 87 VdB at a distance of 25 feet. FTA has identified the human annoyance response to vibration levels as 80 VdB and building damage with a threshold of 0.5 in/sec PPV.

As discussed above in Impact NOI-1, the nearest sensitive receptor to the Proposed Project components are residences located approximately 50 feet from the proposed recharge facilities, monitoring wells and pipelines. At this distance of 50 feet, vibration levels from heavy equipment would be reduced to 0.031 in/sec PPV. Therefore, vibration levels would not exceed the potential building damage threshold of 0.5 in/sec PPV. Therefore, structural damage from construction vibration would be less than significant. At the distance of 50 feet, VdB levels from heavy equipment, such as a large bulldozer, would be reduced to 78 VdB, and would not exceed the 80 VdB vibration significance criteria. Therefore, construction activity that would occur 50 feet from existing sensitive receptors would not exceed vibration impact criteria, and a less than significant impact would occur.

Similar to the Proposed Program facilities, operation of the Proposed Project facilities would not include any components that would generate substantial vibration levels at the source. Thus, impacts associated with vibration would be less than significant.

Impact Determination

Construction and operation of the Proposed Project would not create groundborne vibration at a level that would cause structural damage to buildings or annoyance to adjacent sensitive receptors. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Permanent Ambient Noise Levels

Impact NOI-3: Implementation of the Proposed Program and the Proposed Project could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Permanent (i.e., operational) activities associated with the Proposed Program facilities would include mechanical equipment at pump stations, extraction wells, and treatment facilities, and traffic noise associated with vehicular trips for maintenance and monitoring activities at the recharge basins and monitoring wells. However, the pump station, extraction wells, and treatment facilities would be enclosed in concrete-block wall buildings, which would attenuate operational noise from the pump station. Other operational activities would include routine maintenance and monitoring activities that would require the transportation of minimal heavy equipment to the project site, workers, and truck trips.

The Proposed Program facilities are located adjacent to area roadways, where ambient noise levels are typically elevated due to vehicle traffic, typically ranging from approximately 60 to 69 dBA CNEL, depending upon roadway capacity and traffic volumes. A substantial operational increase is typically defined as an increase of 5 dBA CNEL or more, where a change of 5 dBA is considered to be a readily perceivable difference. In comparison, a 3 dBA change, which is considered to be a barely perceivable, requires a doubling of the noise source, such a doubling of traffic volumes. Maintenance and monitoring activities would occur infrequently and are not expected to substantially increase ambient noise levels in the area above existing levels without the Proposed Program components. In addition, implementation of Mitigation Measure NOI-PMM-1 would ensure new aboveground facilities are designed to be in compliance with the noise standards of relevant jurisdictions. Therefore, operational activities would not create a substantial permanent increase in ambient noise levels, and impacts would be less than significant with mitigation.

Impact Determination

Operation of the Proposed Program would generate minimal noise and would be designed in accordance with Mitigation Measure NOI-PMM-1 such that there would be no substantial

permanent increase in ambient noise levels. Maintenance and monitoring activities would be infrequent and would not substantially increase ambient noise levels. Impacts would be less than significant with mitigation.

Program Mitigation Measures

Implementation of Mitigation Measure NOI-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge, Monitoring, Extraction, and Conveyance Facilities

Similar to the Proposed Program facilities, operation of the Proposed Project components would generate noise associated with vehicular trips and maintenance and monitoring activities. Maintenance would involve activities such as drying, cleaning, and filling the recharge basins. Noise associated with filling the basins would be limited to water cascading out of the lateral and into the desilting basin. Recharge basin maintenance would require transportation of minimal heavy equipment to the project site and a small maintenance crew. However, maintenance and monitoring activities would occur infrequently and are not expected to substantially increase ambient noise levels in the area above existing levels without the Proposed Project components. The Mountain Avenue West recharge basin would include walking paths around the perimeter of the basin. Passive recreational activities such as walking around the basin would generally not support activities that would generate noise levels higher than normal conversation. Operation of pumps for the extraction wells and the treatment facility processes at Hewitt and Evans would be enclosed to reduce noise levels at the source.

The Proposed Project facilities are located adjacent to area roadways, where ambient noise levels are typically elevated due to vehicle traffic, typically ranging from approximately 60 to 69 dBA CNEL, depending upon roadway capacity and traffic volumes. A substantial operational increase is typically defined as an increase of 5 dBA CNEL or more, where a change of 5 dBA is considered to be a readily perceivable difference. In comparison, a 3 dBA change, which is considered to be a barely perceivable, requires a doubling of the noise source, such a doubling of traffic volumes. In addition, implementation of Mitigation Measure NOI-MM-1 would ensure new aboveground facilities are designed to be in compliance with the noise standards the City of San Jacinto at the property boundaries. Therefore, operational activities would not create a substantial permanent increase in ambient noise levels, and impacts would be less than significant with mitigation.

Impact Determination

Operation of the Proposed Project would generate minimal noise and would be designed in accordance with Mitigation Measure NOI-MM-1 such that there would be no substantial permanent increase in ambient noise levels. Maintenance and monitoring activities would be infrequent and would not substantially increase ambient noise levels. Therefore, impacts to permanent ambient noise levels would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure NOI-MM-1.

Significance Conclusion

Less than Significant with Mitigation

Temporary Ambient Noise Levels

Impact NOI-4: Implementation of the Proposed Program and the Proposed Project could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As discussed above under Impact NOI-1, Proposed Program construction noise would result in a temporary or periodic increase in ambient noise levels in the project vicinity. Typical construction noise levels from heavy equipment (see **Table 3.11-11**), with the exception of well drilling, averaged over one hour would be approximately 80 dBA Leq at 50 feet, depending upon the equipment type and number, and usage factor. Although the exact location of Proposed Program facilities has not yet been determined, they could be located adjacent to residences and area roadways, where ambient noise levels are typically elevated due to vehicle traffic, typically ranging from approximately 60 to 69 dBA CNEL, depending upon roadway capacity and traffic volumes. A substantial temporary increase during construction is typically defined as an increase of 10 dBA or more, where a change of 10 dBA is considered to be as perceivable as twice as loud. Therefore, typical construction activity could potentially result in an increase in ambient noise levels at a residence of 10 dBA or greater, depending on where Proposed Program facilities are located in relation to sensitive receptors.

Noise levels due to well drilling equipment, which is the loudest piece of equipment that would be used, would be approximately 98 dBA at 50 feet without noise controls. While the final locations of the proposed extraction wells and multi-depth monitoring wells have not yet been determined, they could be sited near sensitive receptors. To reduce well drilling noise levels, EMWD would implement noise reduction measures (including but not limited to) sound blankets, noise walls, etc. to attenuate sound as much as possible during 24/7 construction activity periods. Even with these measures, noise levels may still exceed ordinance limits at the nearest sensitive receptors. According to the FTA, noise barriers reduce project noise by at least 5 dBA and up to 15 dBA, lowering the drilling equipment noise levels from 98 dBA to 93-83 dBA at 50 feet (FTA, 2006). The well drilling would require continuous 24/7 operation for 1 to 2 weeks, with additional nighttime activities occurring over approximately 12 weeks, which would exacerbate this effect of this ambient noise increase.

To reduce construction noise associated with the Proposed Program, including well drilling, **Mitigation Measure NOI-PMM-2** would require the construction contractor to direct equipment away from sensitive receptors, and maintain noise controls on standard construction equipment.

With implementation of Mitigation Measure NOI-PMM-2, temporary construction noise levels would be reduced; however, for sensitive receptors in close proximity to construction activities, a substantial increase in ambient noise levels may potentially occur. Although implementation of design features and Mitigation Measure NOI-PMM-2 would reduce construction noise levels associated with the Proposed Program to the maximum extent feasible, under circumstances where proposed facilities are located immediately adjacent to existing sensitive land uses, particularly for proposed wells and pipeline segments, the noise impacts related to a substantial temporary or periodic increase in ambient noise levels above levels existing without the Proposed Program could be significant. Therefore, depending on how far Proposed Program facilities are sited from sensitive receptors, this temporary impact is considered potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less than significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA as Program components are designed and built to determine if implementation of Mitigation Measure NOI-PMM-2 would reduce impacts associated with temporary construction noise to less than significant levels.

Impact Determination

Proposed Program construction noise could expose sensitive receptors to substantial temporary increases in ambient noise levels during typical construction activities, including well drilling. Implementation of NOI-PMM-2 would reduce construction noise levels through implementation of noise controls on construction equipment and other best practices. Although implementation of Mitigation Measure NOI-PMM-2 would reduce construction noise levels associated with construction of the Proposed Program to the maximum extent feasible, the temporary impact associated with construction of Proposed Program facilities is considered potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less than significant impacts for individual Program components. Subsequent project-specific environmental analysis would be conducted in accordance with CEQA to determine as Program components are designed and built.

Program Mitigation Measures

NOI-PMM-2: Construction-Related Noise Measures. For future projects implemented under the Proposed Program that are in close proximity to sensitive receptors, EMWD shall require the construction contractor to implement BMPs that ensure the following:

- a. Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest to the Proposed Program site.
- b. Locate equipment staging areas at the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the Proposed Program site.
- c. Ensure appropriate maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers approved mufflers and baffles.
- d. Install sound-control devices in all construction equipment, no less effective than those provided on the original equipment.

Significance Conclusion

Potentially Significant with Mitigation

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As discussed above under Impact NOI-1, construction of the Proposed Project would result in a temporary or periodic substantial increase in ambient noise levels in the project vicinity. Typical construction noise levels from heavy equipment (see **Table 3.11-11**), with the exception of well drilling, averaged over one hour would be approximately 80 dBA Leq at 50 feet, depending upon the equipment type and number, and usage factor. The Proposed Project facilities are located adjacent to residences and area roadways, where ambient noise levels are typically elevated due to vehicle traffic, typically ranging from approximately 60 to 69 dBA CNEL, depending upon roadway capacity and traffic volumes. A substantial temporary increase during construction is typically defined as an increase of 10 dBA or more, where a change of 10 dBA is considered to be as perceivable as twice as loud. Therefore, typical construction activity would potentially result in a substantial increase in ambient noise levels at a residence of 10 dBA or greater.

The nearest sensitive receptor to the proposed Project-level components are residences located as close as approximately 50 feet from the proposed monitoring and extraction facilities, and approximately 150 feet from the proposed recharge basins. Noise levels due to well drilling, which would use the loudest piece of equipment (i.e., the well drill), would be approximately 98 dBA at a reference distance of 50 feet. To reduce well drilling noise levels, as part of the project design, EMWD will implement noise reduction measures including but not limited to sound blankets, noise walls, etc. to attenuate sound as much as possible during 24/7 construction activity periods prior to construction activities to minimize neighborhood disturbance, specifically during nighttime construction, depending on well locations. According to the FTA, noise barriers reduce project noise by at least 5 dBA and up to 15 dBA, lowering the drilling equipment noise levels from 98 dBA to 93-83dBA (FTA, 2006). To reduce construction noise levels associated with the Proposed Project, **Mitigation Measure NOI-MM-2** would require the construction contractor to direct equipment away from sensitive receptors, and maintain noise controls on standard construction equipment. With implementation of a temporary sound wall and these measures, temporary construction noise impacts would be reduced, but not to levels that are below 70 to 79 dBA CNEL (which is 10 dBA over existing ambient noise levels of approximately 60 to 69 dBA CNEL).

In addition, well drilling would require continuous 24/7 operation for 1 to 2 weeks, with additional nighttime activities occurring over approximately 12 weeks, which would exacerbate this effect of this ambient noise increase. CNEL is an average over a 24-hour period, where hourly noise levels are higher during the day and lower at night, typically based on traffic volume and area activity. Therefore, during the night hours, when ambient noise levels are at their lowest, the increase in ambient noise levels due to well drilling would be greatest.

Impact Determination

Construction of the Proposed Project would expose sensitive receptors to temporary increases in ambient noise levels. Such noise levels would be reduced with implementation of noise controls

on construction equipment and other best practices as required by Mitigation Measure NOI-MM-2. However, construction noise would still result in a substantial increase in ambient noise levels at residences, and impacts would be significant and unavoidable with mitigation.

Mitigation Measures

NOI-MM-2: Construction-Related Noise Measures. To reduce temporary construction-related noise impacts, EMWD shall require the construction contractor to implement BMPs that ensure the following:

- a. Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest to the Proposed Program site.
- b. Locate equipment staging areas at the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the Proposed Program site.
- c. Ensure appropriate maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers approved mufflers and baffles.
- d. Install sound-control devices in all construction equipment, no less effective than those provided on the original equipment.

Significance Conclusion

Significant and Unavoidable with Mitigation

Airport Land Use Plan and Airstrips

Impact NOI-5: 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, or within the vicinity of a private airstrip, implementation of the Proposed Program and the Proposed Project could expose people residing or working in the project area to excessive noise levels.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Hemet-Ryan ALUCP (2007) provides existing and future runways noise contours, land use compatibility zones, safety zones, and the AIA. The ALUCP provides for land use compatibility of proposed development (i.e., residential) within the AIA. According to the ALUCP, the proposed Potable Water Conveyance Pipeline would be located within the AIA, specifically adjacent to the eastern boundary of the Hemet-Ryan Airport for the segment of Warren Road between Whittier Avenue and W Stetson Avenue. The ALUCP identifies this area zoned as industrial by the City of Hemet General Plan. Therefore, the installation of the proposed pipeline would be consistent with the ALUCP. However, the installation of the proposed pipeline near the east end of the airport runway would temporarily expose workers installing the pipeline to aircraft noise during take-offs and landings, requiring appropriate hearing protection.

Once installed, the Proposed Program would result in the operation of new water conveyance, storage, and treatment infrastructure. There would be no new residential or commercial development and, as such, no additional people living or working in the area. The Proposed Program would not require EMWD staff to be onsite at new facilities on a daily basis. Operation of Program facilities within the ALUCP would not expose people residing or working in the area to excessive noise levels.

Impact Determination

The proposed Potable Water Conveyance Pipeline would be located within the ALUCP of the Hemet-Ryan Airport. The proposed pipeline would be underground such that its operation would not expose people residing or working in the ALUCP to excessive noise levels.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts**Recharge, Monitoring, Extraction and Conveyance Facilities**

There are no public airports located within two miles of the Proposed Project facilities. Therefore, the Proposed Project facilities would have no impact on exposing people to excessive noise levels due to public airport use.

Impact Determination

There are no public airports located within two miles of the Proposed Project facilities. Therefore, the Proposed Project facilities would have no impact on exposing people to excessive noise levels due to public airport use.

Mitigation Measures

None required.

Significance Conclusion

No Impact

3.11.4 References

California Department of Transportation (Caltrans). 2013. *Transportation- and Construction- Induced Vibration Guidance Manual*.

City of San Jacinto. 2006. General Plan Environmental Impact Report. April.

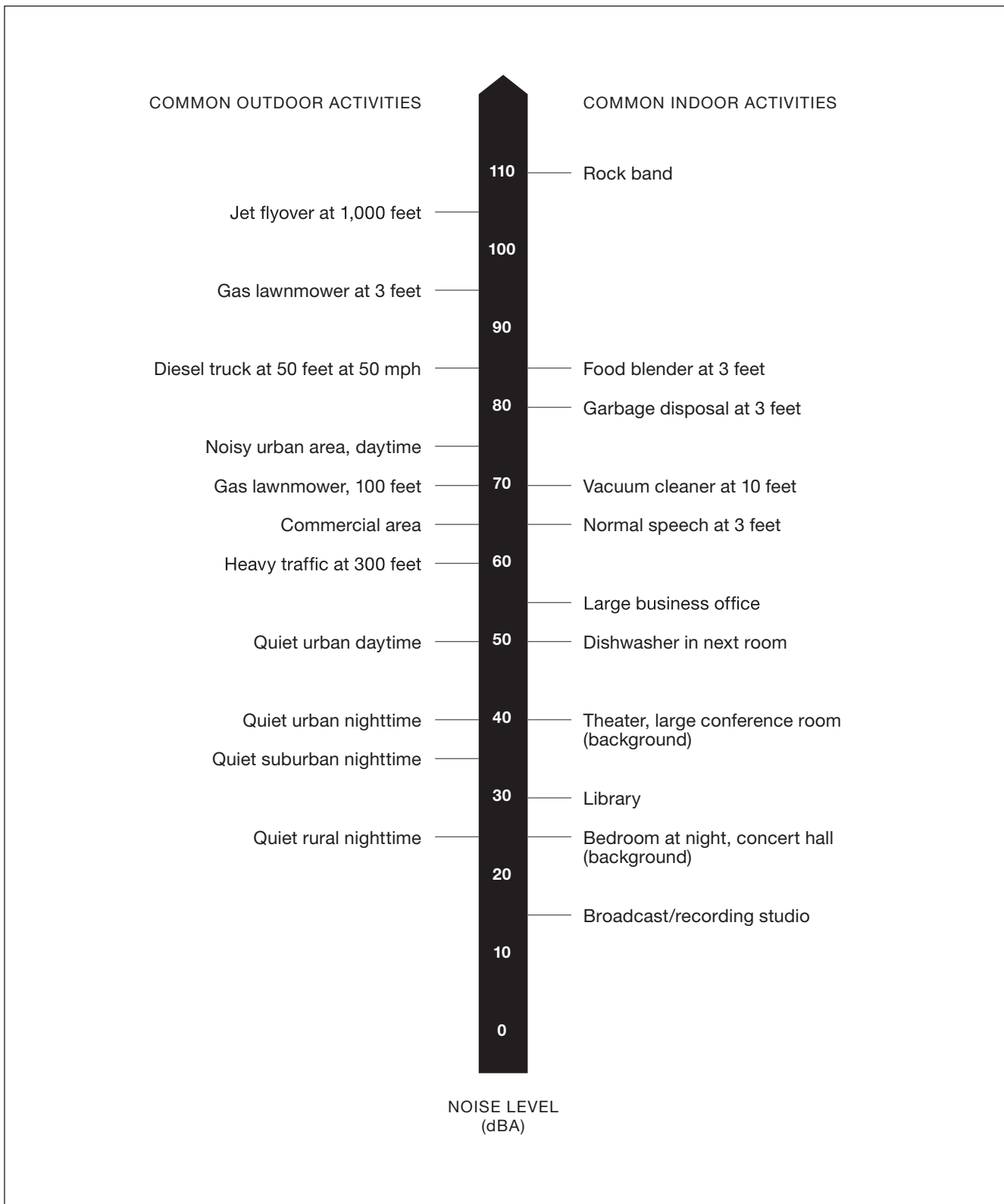
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Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. May.

Riverside County Airport Land Use Commission (RCALUC), Riverside County Airport Land Use Compatibility Plan, Chapter 3: Individual Airport Policies and Compatibility Maps, Hemet-Ryan Airport Land Use Compatibility Plan, adopted February 9, 2017, <http://www.rcaluc.org/Portals/0/16%20-%20Vol.%201%20Hemet-Ryan%202017%20Final.pdf?ver=2017-03-21-131317-620>.

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SOURCE: Caltrans

Palmdale Water District

Figure 3.11-1

Decibel Scale and Common Noise Sources



3.12 Public Services and Recreation

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to public services and recreation. The section includes a description of the environmental setting to establish baseline conditions for public services and recreation; a summary of the regulations related to public services and recreation; and an evaluation of the Proposed Program and Proposed Project's potential effects on public services and recreation.

3.12.1 Environmental Setting

Regional Setting

The Proposed Program and Proposed Project are located in EMWD's service area in the County of Riverside (County). The Proposed Program and Proposed Project area are within the incorporated Cities of Hemet and San Jacinto, and in unincorporated portions of Riverside County.

Program Area Setting

Fire Protection Services

County of Riverside

The Riverside County Fire Department (RCFD), in partnership with the California Department of Forestry and Fire Protection (CAL FIRE), provides fire protection, prevention, and suppression services as well as emergency medical assistance throughout unincorporated portions of the County and 16 cities on a contractual basis (RCFD, 2017). The RCFD operates 101 fire stations throughout the County, where the following stations are within or in proximity to the Proposed Program area (RCFD, 2017):

- Fire Station #25: 132 South San Jacinto Avenue, City of San Jacinto
- Fire Station #26: 25954 Stanford Street, City of Hemet
- Fire Station #72: 25175 Fairview Avenue, City of Hemet
- Fire Station #78: 2450 West Cottonwood Avenue, City of San Jacinto

Fire response for the County is part of a mutual aid program undertaken by all cities in the County. Upon receipt of the call for services, RCFD will dispatch the closest resources in the area to respond to the call. The cities immediately adjacent to Riverside County, including the City of San Jacinto, contract for emergency services with the RCFD and are part of RCFD's Cooperative Regional Integrated Fire Protection System. Other jurisdictions typically participate through mutual or automatic aid agreements with CAL FIRE and RCFD.

City of Hemet

The Hemet Fire Department (HFD) is responsible for fire protection and suppression services, rescue activities, and hazardous materials incidents within the city (City of Hemet, 2012). The HFD operates four fire stations, a fire training center, and an administrative building and

maintains four Type I engine companies, a 102 feet aerial truck company, a hazardous materials response unit, three reserve units, and various staff vehicles within the city limits (City of Hemet, 2012). The HFD operates the following stations within or in proximity to the Proposed Program area:

- Fire Station #1: 220 N. Juanita Street
- Fire Station #2: 895 W. Stetson Avenue
- Fire Station #3: 4110 W. Devonshire Avenue
- Fire Station #4: 1035 S. Cawston Avenue
- Fire Station #5: 120 North Hemet Street
- Fire Training Center: 319 E. Latham Avenue
- Fire Administration Building: 501 E. Florida Avenue

City of San Jacinto

Since 1996, the City of San Jacinto Fire Department (SJFD) has been contracting with the RCFD for fire and emergency services within the City (City of San Jacinto, 2017a). Fire Station #25 and #78, listed above, are within or are in close proximity to the Proposed Program area within the City of San Jacinto.

Police Protection Services

County of Riverside

The Riverside County Sheriff's Department (RCSD) is the second largest Sheriff's office in California. RCSD manages five correctional facilities and provides coroner-public administrator duties, court services, and law enforcement services via ten Sheriff's stations across the county (RCSD, 2016). Portions of the Proposed Program area are located within the service area of the unincorporated Hemet Station, which provides police services to the unincorporated areas of Riverside County around the cities of Hemet and San Jacinto (RCSD, 2016).

City of Hemet

The Hemet Police Department (HPD) is responsible for providing law enforcement and public safety services within the City. The HPD operates three police stations: Headquarters (450 E. Latham Street), West End Sub Station (3663 W. Florida Avenue), and East End Sub Station (2047 E. Florida Avenue) (City of Hemet, 2012). The East End Sub Station is the closest police station to the Proposed Program area within the City of Hemet.

City of San Jacinto

Since 1994, the City of San Jacinto Police Department (SJPD) has contracted with RCSD to provide law enforcement services within the City. The City ensures that staffing levels correspond to the City's population and needs, and uses a mutual aid agreement between the RCSD and the police departments of surrounding jurisdictions when needed (City of San Jacinto, 2006). The SJPD operates one police station and includes seven divisions, which consist of patrol units, investigation units, traffic units, crime prevention unit, a K9 team, school resources officer program, and the

business office (City of San Jacinto, 2017b). The San Jacinto Police Station, located at 160 W 6th Street, is the closest police station to the Proposed Program area within the City of San Jacinto.

Schools

City of Hemet

Hemet Unified School District (HUSD) serves the City of Hemet and the communities of East Hemet, including Valle Vista, Anza, Winchester, and Idyllwild (HUSD, 2017). HUSD consists of 27 schools for students from kindergarten through high school as well as adult night school (HUSD, 2017). The closest school to the Proposed Program area in the HUSD system is Bautista Creek Elementary School, located at 441 N. Lake Street.

City of San Jacinto

San Jacinto Unified School District (SJUSD) is a public school district that serves the city of San Jacinto and the unincorporated area of Soboba Hot Springs (SJUSD, 2017). SJUSD includes 11 schools ranging from kindergarten to high school. The closest schools to the Proposed Program area in the SJUSD system are North Mountain Middle School, located at 1202 E 7th Street; Antonio Estudillo Elementary School, located at 900 Las Rosas Drive South; Park Hill Elementary School, located at 1157 E Commonwealth Avenue; and Hyatt Preschool, located at 400 E Shaver Street.

Parks and Recreation

City of Hemet and Surrounding Unincorporated Areas

Park and recreation facilities in the City of Hemet and surrounding unincorporated areas of Riverside County are maintained by four agencies: City of Hemet, Valley-Wide Parks and Recreation District (Valley-Wide District), HUSD, and the Riverside County Department of Parks and Recreation. According to the Land Use Plan Map in the Hemet General Plan, the City of Hemet and surrounding unincorporated areas of Riverside County includes 17 parks and recreational facilities, ranging in size from the 0.25-acre Rodeghier Green, to 483 acres of open space in Simpson Park (City of Hemet, 2012). These parks vary from passive recreational use to heavily programmed use. A variety of recreational opportunities are offered at each park depending upon the size of the park and the type of facilities (City of Hemet, 2012).

City of San Jacinto

The City of San Jacinto maintains a wide range of recreational facilities within the city's existing parks. Currently, the city includes 32 parks ranging in size and the type of recreational facilities provided (City of San Jacinto, 2017c). There are ten city parks located within the Program area, with the most notable being Hafliger Park, Rancho Park, Sallee Pool and Park, and Estudillo Heritage Park. In addition to the large quantities of parks, the city also includes a bike trail system for pedestrians to use for alternative transportation as well as for recreation (City of San Jacinto, 2017c). A Class I bike trail runs along the western boundary of the city and is within the western portion of the Proposed Program area.

Other Public Facilities

Libraries

Three public libraries are located within the cities of Hemet and San Jacinto and the areas of unincorporated Riverside County. These libraries include the following:

- Hemet Public Library: 300 E Latham Avenue, City of Hemet
- San Jacinto Public Library: 595 South San Jacinto Avenue, City of San Jacinto
- Valle Vista Library: 25757 Fairview Ave, Hemet (unincorporated Riverside County)

Hospitals

Major hospitals and medical clinics within the Proposed Program area include the following:

- Hemet Valley Medical Center: 1117 East Devonshire Avenue in the City of Hemet;
- San Jacinto Medical Center: 1695 South San Jacinto Avenue in the City of San Jacinto; and
- Valley Medical Center: 41511 East Florida Avenue in the City of Hemet.

Project Area Setting

The Proposed Project area is located entirely within the City of San Jacinto. The following public services service the City and Proposed Project area, as shown on **Figure 3.12-1**.

Fire Protection Services

The SJFD contracts with the RCFD to provide fire and emergency services within the city (City of San Jacinto, 2017). Fire Station #25, located at 132 South San Jacinto Avenue, is the closest fire station to the Proposed Project area, approximately one mile northwest of the Hewitt and Evans site and approximately 1.75 miles northwest of the Mountain Avenue West site.

Police Protection Services

The SJPD has contracted with RCSD to provide law enforcement services within the City. The San Jacinto Police Station, located at 160 W 6th Street, is the closest police station to the Project area, approximately 0.5-mile northwest of the of the Hewitt and Evans site and approximately 1.6 miles northwest of the Mountain Avenue West site.

Schools

The SJUSD is a public school district which serves the city of San Jacinto and the unincorporated area of Soboba Hot Springs (SJUSD, 2017). SJUSD includes 11 schools ranging from kindergarten to high school. The closest school to the Hewitt and Evans site is Hyatt Elementary School, which borders the site to the north. The closest school to the Mountain Avenue West site is Park Hill Elementary School, which is approximately 0.4-miles west of the site.

Parks and Recreation

The City of San Jacinto maintains a wide range of recreational facilities within the City's existing parks. The closest park to the Project area is Rancho Park, which is located within the Project area between the Hewitt and Evans site and the Mountain Avenue West site, approximately 0.5-miles from both facilities.

Other Public Facilities

Libraries

The nearest library to the Proposed Project area is the San Jacinto Public Library, located at 595 South San Jacinto Avenue, which is approximately 0.5-mile northwest of the Hewitt and Evans site.

Hospitals

The nearest hospital to the Project area is the San Jacinto Medical Center, located at 1695 South San Jacinto Avenue, which is approximately 0.25-mile south of the Hewitt and Evans site.

3.12.2 Regulatory Setting

Local

Riverside County Emergency Operations Plan

The Riverside County Emergency Operations Plan (EOP) prepared by the RCFD provides an overview of the Emergency Operations system at the policy and operations levels. The first five sections of the EOP address policy-level issues and provide an overview of the organizational, legal, and management concepts that are in place for Riverside County. The second part of the EOP consists of detailed information that will be used in the course of implementing the EOC in the event of an emergency.

3.12.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to public services and recreation. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. 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 any of the public services:
 - a. Fire protection
 - b. Police protection
 - c. Schools
 - d. Parks
 - e. Other public facilities
2. 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.
3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impacts and Mitigation Measures

Fire and Police Protection

Impact PS-1: The Proposed Program and Proposed Project could result in the provision of, or the need for, new or physically altered police or fire protection facilities, the construction of which could cause environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police services.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program facilities do not include new fire departments, police stations or expansion of existing fire and police protection facilities. As discussed in greater detail in Chapter 5, Growth Inducement, the facilities would not directly induce substantial population growth in the Proposed Program area that would require expanded fire or police protection facilities. Construction activities would involve a temporary increase in employees, which could range from three to 10 employees per individual project site. Operation of the Proposed Program would require about 3 to 4 employees. However, employment opportunities associated with the construction activities are assumed to be filled by the local workforce, and would not result in increased housing demand. Therefore, implementation of the Proposed Program would not require new fire or police facilities to maintain response ratios, service ratios, or other measures of performance. In the event of a fire or other emergency at a Proposed Program facility, existing fire protection and police services within the Program area would be able to sufficiently respond to emergency events with existing facilities and staffing capacities. Because the Proposed Program components would not result in the permanent increase in residences or population, no increase in the need for new fire or police protection facilities would occur. As a result, no impacts would occur because construction of a new police or fire facility would not be required.

Impact Determination

Construction and operation of recharge, monitoring and extraction, and conveyance facilities under the Proposed Program would not result in an increase need for fire protection and police services. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project facilities do not include new fire departments, police stations or expansion of existing fire and police protection facilities. As discussed in greater detail in Chapter 5, Growth Inducement, the facilities would not directly induce substantial population growth in the Proposed Project area that would require expanded fire or police protection facilities. Construction activities would involve a temporary increase in employees, which could range from three to 10 employees per individual project site. Operation of the Proposed Project would require about 2 to

3 employees. However, employment opportunities associated with the construction activities are assumed to be filled by the local workforce, and would not result in increased housing demand. Therefore, implementation of the Proposed Project would not require new fire or police facilities to maintain response ratios, service ratios, or other measures of performance. In the event of a fire or other emergency at a Proposed Project facility, existing fire protection and police services within the Project area would be able to sufficiently respond to emergency events with existing facilities and staffing capacities. Because the Proposed Project components would not result in the permanent increase in residences or population, no increase in the need for new fire or police protection facilities would occur. As a result, no impacts would occur because construction of a new police or fire facility would not be required.

Impact Determination

Construction and operation of recharge, monitoring and extraction, and conveyance facilities under the Proposed Project would not result in an increase need for fire protection and police services. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Schools

Impact PS-2: The Proposed Program and the Proposed Project would not result in the provision of, or the need for, new school facilities, the construction of which could cause environmental impacts, in order to maintain acceptable performance objectives for the school district.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The school districts which serve the Program area include the HUSD and the SJUSD. The Proposed Program would involve construction and operation of facilities to support a groundwater recharge and banking program. Since the Proposed Program does not propose to construct any additional housing units within the EMWD service area nor would implementation of the Proposed Program result in a substantial increase in new employment opportunities within the region, population growth would not occur within the Program area. No new schools would need to be built in order to maintain acceptable performance objectives. Thus, the Proposed Program would not require the construction of new schools, and no impacts would occur.

Impact Determination

The Proposed Program would not require construction of new schools and, as such, would not result in any environmental impacts.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

The school district which serves the City of San Jacinto is the SJUSD. The Proposed Project includes a recharge facility and associated pipelines at the Mountain Avenue West site, monitoring wells, extraction wells, the Hewitt and Evans treatment/blending and disinfection facility, and conveyance facilities, as shown on **Figure 2-3**. As stated above for the Proposed Program, construction and operation of these facilities within the City of San Jacinto would not result in direct or indirect population growth within the city. No new schools would need to be built in order to maintain acceptable performance objectives. As a result, the Proposed Project would not require the construction of new schools, and no impacts would occur.

Impact Determination

The Proposed Project would not require construction of new schools and therefore would not result in any environmental impacts.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Parks and Other Facilities

Impact PS-3: The Proposed Program and the Proposed Project could result in the provision of, or the need for, new or physically altered parks and recreation facilities, the construction of which could cause environmental impacts, in order to maintain acceptable performance objectives for parks and recreation.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

There are numerous parks, three libraries, and multiple hospitals located within the cities of Hemet and San Jacinto and the surrounding unincorporated areas of Riverside County. The Proposed Program is a groundwater banking program and does not propose any new housing units or a substantial increase in new employment opportunities within the region. Thus, the Proposed Program would not induce population growth, either directly or indirectly, and would not necessitate the construction of additional parks, libraries, or hospitals within the Program area in order to meet performance objectives. Therefore, the Proposed Program would not adversely affect parks, libraries, or hospitals and impacts would be less than significant.

Impact Determination

The Proposed Program would not result in population growth, which could degrade the quality of existing public services, such as parks, libraries, or hospitals within the Program area. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

There are parks, libraries, and hospitals located within the City of San Jacinto. The Proposed Project is a groundwater banking program and does not propose any new housing units or a substantial increase in new employment opportunities within the City of San Jacinto. Thus, the Proposed Project would not induce population growth, either directly or indirectly, and would not necessitate the construction of additional parks, libraries, or hospitals within the City of San Jacinto in order to meet performance objectives. Therefore, the Proposed Project would not adversely affect parks, libraries, or hospitals and impacts would be less than significant.

Impact Determination

The Proposed Project would not result in population growth, which could degrade the quality of existing public services, such as parks, libraries, or hospitals within the City of San Jacinto. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Use of Existing Recreational Facilities

Impact REC-1: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

There are numerous parks, three libraries, and multiple hospitals located within the cities of Hemet and San Jacinto and the surrounding unincorporated areas of Riverside County, which encompasses the Proposed Program area. The Proposed Program does not include any additional housing units nor a substantial increase in new employment opportunities within the region and

thus, would not cause population growth. Since the Proposed Program would not result in population growth, the potential for increased use and degradation of parks and recreational facilities would not occur with Program implementation. Thus, it is reasonable to assume that park users would still be able to access local parks within the Program area, and use of any one park would not substantially increase during construction of the Proposed Program. Therefore, implementation of the Proposed Program would not cause the substantial degradation of existing parks or recreational facilities within the Program area. Impacts would be less than significant.

Impact Determination

Implementation of the Proposed Program would not substantially degrade existing parks or recreational facilities within the Program area. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The closest park to the Proposed Project area is Rancho Park, which is located at 975 Esplanade Avenue, between the Hewitt and Evans site and the Mountain Avenue West site, as shown on **Figure 3.12-1**. The Proposed Project does not include any additional housing units nor a substantial increase in new employment opportunities within the region and thus, would not cause population growth. Since the Proposed Project would not result in population growth, the potential for increased use and degradation of parks and recreational facilities would not occur with Project implementation. Further, the Proposed Project includes the construction and operation of public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage as shown on **Figure 2-7**. The walking path implemented at the Mountain Avenue West site would be a new recreational path within the City of San Jacinto and would provide new recreational opportunities for local residents. With the development of new public amenities at the Mountain Avenue West site, implementation of the Proposed Project could potentially alleviate usage levels and pressure on facilities at existing parks, which would ultimately slow the rate of degradation at those parks. Thus, implementation of the Proposed Project would not cause the increased degradation of existing park and recreational facilities within the City of San Jacinto. Impacts would be less than significant.

Impact Determination

Implementation of the Proposed Project would not substantially degrade existing parks or recreational facilities within the City of San Jacinto. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Construction of Recreational Facilities

Impact REC-2: Implementation of the Proposed Program and the Proposed Project could include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The majority of the facilities included under the Proposed Program would either be underground or ancillary aboveground facilities, which would not affect existing recreational facilities. However, the Mountain Avenue West site would include construction and operation of public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage as shown on **Figure 2-7**. The walking path implemented at the Mountain Avenue West site would be a new recreational path within the City of San Jacinto and would provide new recreational opportunities for local residents. Public amenities would be added to the Mountain Avenue West recharge facility consistent with the Inter-Agency Agreement between EMWD and the City of San Jacinto (included in **Appendix MAW**). These amenities would be installed along the perimeter of the Mountain Avenue West site outside of a wrought-iron perimeter fence (see **Figure 2-8** for a visual simulation of the amenities and recharge area). Upon completion, the perimeter amenities would be dedicated to the City of San Jacinto in accordance with the Inter-Agency Agreement. Easements would be retained by EMWD to facilitate ingress/egress to the site and maintenance of the facilities. However, the environmental effects of constructing these new public amenities have been considered throughout this Draft EIR as part of the Mountain Avenue West recharge facilities. Therefore, while the Proposed Program would construction and operate a new recreational facility at the Mountain Avenue West site, implementation of the Proposed Program would not cause an adverse effect on the environment within the Program area. Impacts would be less than significant.

Impact Determination

The Proposed Program does not include a new recreational facility and would not necessitate the construction of new recreational facilities, which could cause an adverse effect on the environment. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge Facilities

As stated above, the Mountain Avenue West site would include construction and operation of public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage as shown on **Figure 2-7**. These amenities would be installed along the perimeter of the Mountain Avenue West site outside of a wrought-iron perimeter fence and, upon completion, would be dedicated to the City of San Jacinto in accordance with the Inter-Agency Agreement. Easements would be retained by EMWD to facilitate ingress/egress to the site and maintenance of the facilities. However, the environmental effects of constructing these new public amenities have been considered throughout this Draft EIR as part of the Mountain Avenue West recharge facilities. Further, as stated above under Impact PS-1, the Proposed Project does not include features (like new housing) that would require construction of new parks in order to maintain acceptable performance objectives. As a result, impacts would be less than significant.

Monitoring, Extraction and Conveyance Facilities

The proposed monitoring, extraction and conveyance facilities included under the Proposed Project would not affect existing recreational facilities or cause a new recreational facility to be constructed within the City of San Jacinto. The new Hewitt and Evans treatment/blending and disinfection facility would not include recreational components or result in the need for a new recreational facility to be constructed. As a result, no impact would occur.

Impact Determination

The Proposed Project would include a new recreational walking path at Mountain Avenue West. Any environmental effects of constructing this new recreational facility have been considered within the scope of this Draft EIR. All other Proposed Project facilities would not affect existing recreational facilities or cause the need for a new recreational facility to be constructed. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

3.12.4 References

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SOURCE: ESRI

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.12-1
Public Services

3.13 Transportation and Traffic

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to transportation and traffic. The section includes a description of the environmental setting to establish baseline conditions for transportation and traffic; a summary of the regulations related to transportation and traffic; and an evaluation of the Proposed Program and Proposed Project's potential effects on transportation and traffic.

3.13.1 Environmental Setting

Regional Setting

Existing Regional Traffic Circulation System

The Proposed Program and Proposed Project are located within Riverside County, specifically the cities of San Jacinto and Hemet as well as areas of unincorporated Riverside County. **Figure 3.13-1** shows the roadway facilities which would provide regional access to the Proposed Program and Proposed Project. The regional circulation system within which construction vehicles, including trucks that would transport equipment and material as well as individual construction workers trips, would travel to access the Proposed Program and Proposed Project areas consists of the following regional highways:

State Route 79 (SR 79) is a north-south freeway that connects Interstate 10 (I-10) in Beaumont (Riverside County) south to Interstate 8 (I-8) in Descanso (San Diego County). SR-79 intersects State Route 74 in the City of Hemet. It runs through the Proposed Program area, specifically overlaying the proposed raw water and potable water pipelines in the City of San Jacinto, and is near the facilities in the Proposed Project area.

State Route 74 (SR 74) is an east-west freeway that connects Interstate 5 (I-5) in San Juan Capistrano (Orange County) east to Palm Desert (Riverside County). SR 74 intersects the proposed alignment of the potable water pipeline proposed in the City of Hemet and also bisects the area within which Proposed Program extraction wells could be located.

Ramona Expressway is a north-south two-lane undivided roadway which provides regional access to the City of San Jacinto from surrounding cities and communities within Riverside County. The Ramona Expressway bisects the area within which Proposed Program extraction wells could be located and turns into Mountain Avenue, where the Proposed Program recharge facilities would be located.

Program Area Setting

Existing Local Traffic Circulation System

The Proposed Program area encompasses portions of the cities of San Jacinto and Hemet as well as areas of unincorporated Riverside County. As stated above, SR 79 and SR 74 provide regional access to the Proposed Program area. SR 74 provides local access to the eastern portions of

unincorporated Riverside County within the Proposed Program area while SR 74 and SR 79 provide local access to the western portions of unincorporated Riverside County within the Proposed Program area. The cities of San Jacinto and Hemet circulation systems provide local access to the majority of the Proposed Program area, as described in greater detail below.

City of Hemet Local Circulation System

Figure 3.13-2 shows the roadways which would provide local access for construction vehicles and workers as well as roadways where Proposed Program facilities could be located through the city of Hemet. The City of Hemet's General Plan includes the following descriptions for these local roadways (City of Hemet, 2012):

Florida Avenue: SR 74 turns into Florida Avenue within the boundaries of the city of Hemet. Florida Avenue is an east-west roadway which traverses the entire city in the north of the city. From east to west, Florida Avenue is classified as Divided Secondary –A 4D, Major 4D-6, and Arterial 6D. The Divided Secondary –A 4D classification provides for a four-lane street, with a landscaped median and are likely to have speeds that accommodate roadway constraints and community design issues. The Major 4D-6 classification provides four-lane street with a landscaped median and is intended to have design speeds based on greater sight distance, curves that are less acute, restricted access, and greater distance between intersection crossings. The Arterial 6D classification is a six-lane road with a median and is intended to have a somewhat limited amount of access. Florida Avenue includes Class 2 bicycle lanes, which is on-road, two way stripped lanes, across the entire length of the city. The proposed potable water pipeline would intersect this roadway at its intersection with Warren Road in the western portion of the city.

Cawston Avenue: is a north-south Divided Secondary B-4D roadway, which runs from the northern to the southern city boundary. The Divided Secondary B-4D classification is similar to the Divided Secondary A street described above but does not provide for bike lanes, resulting in a smaller curb-to-curb footprint than the Divided Secondary A street. Cawston Avenue includes Class 2 bicycle lanes, which extend from the northern city limit to southern city limit. The proposed potable pipeline would be installed within this roadway right-of-way from 7th Street to Devonshire Avenue.

Sanderson Avenue: is a north-south Major 4D-6 roadway which runs from the northern city limit boundary to the southern city limit in the middle of the city. The Major 4D-6 classification provides for a four-lane street with a landscaped median and is intended to have design speeds based on greater sight distance, curves that are less acute, restricted access, and greater distance between intersection crossings. Sanderson Avenue includes Class 2 bicycle lanes, which extend from the northern city limit to Menlo Avenue. The proposed raw water pipeline and associated facilities would be located within this roadway from Menlo Avenue to Esplanade Avenue.

Warren Road: is a north-south Arterial 6D roadway which runs from the northern city limit boundary to the southern city limit in the western portion of the city. The Arterial 6D classification is a six-lane road with a median and is intended to have a limited amount of access. Warren Road includes a Class 1 bicycle lane, which is off-road bicycle lane that runs along the

side of the roadway, which extends from the northern city limit to the southern city limit. The proposed potable pipeline would be installed within this roadway right-of-way from Devonshire Avenue to Stetson Avenue.

Stetson Avenue: is an east-west roadway which traverses the entire city and is located in the middle portion of the city. From Fairview Avenue to Palm Avenue, Sanderson Avenue is classified as Divided Secondary –A 4D and from Palm Avenue west to Sanderson Avenue is classified as Major 4D-6. Stetson Avenue includes Class 2 bicycle lanes, which extend from Fairview Avenue to California Avenue.

Simpson Road: is an east-west Secondary 4U roadway which traverses from the eastern city limit boundary to Warren Road in the southwestern portion of the city. The Secondary 4U classification is a four-lane street with a striped centerline, where parking is not permitted but bicycle lanes may occur. Simpson Road includes Class 2 bicycle lanes, which extend from Warren Road to Winchester Road. The proposed potable pipeline would terminate at the intersection of this roadway and Patterson Avenue.

Menlo Avenue: is an east-west Secondary 4U roadway which runs from Cawston Avenue to northeastern city limit boundary in the northern portion of the city. The Secondary 4U classification is a four-lane street with a striped centerline, where parking is not permitted but may have bicycle lanes. Menlo Avenue includes Class 2 bicycle lanes, which extend across the entirety of Menlo Avenue. The proposed raw water pipeline and associated facilities would be located within this roadway from Palm Avenue to Sanderson Avenue.

City of San Jacinto Local Circulation System

Figure 3.13-3 shows the roadways that would provide local access for construction vehicles and workers as well as roadways where Proposed Program facilities could be located through the city of San Jacinto. The City of San Jacinto's General Plan includes the following descriptions for these local roadways (City of San Jacinto, 2012):

Esplanade Avenue is an east-west four-lane roadway with striped medians classified as a Major Highway, which complements the arterial highway system within the city. Esplanade Avenue runs across the entire city in the south. The maximum two-way traffic volume is designated as 34,100 ADT. Esplanade Avenue includes Class II bike lanes, which provide a restricted right-of-way on a roadway's shoulder designated for the exclusive or semi-exclusive use of bicycles, that extends from the eastern to western city limits. The proposed raw water pipeline and associated facilities would be located within this roadway from the Mountain Avenue West site, on Mountain Avenue, to Palm Avenue and from Sanderson Avenue to Warren Road.

San Jacinto Avenue is a north-south four-lane roadway with striped medians classified as a Major Highway from Main Street in the south of the city to the city limits. The maximum two-way traffic volume for this portion of San Jacinto Avenue is designated as 34,100 ADT. North of Main Street, San Jacinto Avenue is classified as a four-lane Secondary Roadway, which is intended to carry traffic between the local street system and the arterial highway system. The maximum two-way traffic volume for this portion of San Jacinto Avenue is designated as 25,900

ADT. This roadway does not include bicycle lanes. The proposed potable water pipeline would intersect this roadway at its intersection with 7th Street in the eastern portion of the city.

7th Street is an east-west four-lane roadway that is classified as a Secondary Roadway, which traverses the entire city. The maximum two-way traffic volume is designated as 25,900 ADT. This roadway does not include bicycle lanes. The proposed potable water pipeline would be located within this roadway from Hewitt Street to Cawston Avenue. A proposed well would be located at the eastern end of this roadway.

Mountain Avenue is a north-south six-lane roadway with raised medians that is classified as an Urban Arterial. Mountain Avenue serves as a two-mile portion of Ramona Expressway between Lake Street and Main Street in the City of San Jacinto. Urban arterials are intended to carry moderately high volumes long distances as well as local traffic. The maximum two-way traffic volume is designated as 35,900 to 71,800 ADT. Mountain Avenue has Class I bicycle lanes, which are two-way bike paths on a separate right-of-way, that extends from Main Street to State Street. The four recharge facilities would be located along this roadway.

Main Street is an east-west four-lane roadway that is classified as a Secondary Roadway, which traverses between the Ramona Expressway and San Jacinto Avenue in the eastern portion of the city. The maximum two-way traffic volume is designated as 25,900 ADT. This roadway does not include bicycle lanes.

Hewitt Avenue is a north-south four-lane roadway that is classified as a Secondary Roadway, which runs between Main Street and Washington Avenue in the eastern portion of the city. The maximum two-way traffic volume is designated as 25,900 ADT. This roadway does not include bicycle lanes. The Hewitt and Evans treatment/disinfection facility would be located at the intersection of this roadway and Old Mountain Avenue. The proposed potable water pipeline would be located within this roadway's right-of-way from the Hewitt and Evans facility to 7th Street.

Commonwealth Avenue is an east-west four-lane roadway that is classified as a Secondary Roadway between San Jacinto Avenue and Hewitt Avenue in the eastern portion of the city. The maximum two-way traffic volume for this portion of Commonwealth Avenue is designated as 25,900 ADT. The portion of Commonwealth Avenue between Hewitt Avenue and Esplanade Avenue is classified as a Collector roadway, which provides access to the secondary and main roadways systems. The maximum two-way traffic volume for this portion of Commonwealth Avenue is designated as 13,000 ADT. This roadway does not include bicycle lanes.

Public Transportation

Transit Services

The Riverside Transit Agency (RTA) provides public transportation throughout Riverside County and operates fixed bus routes throughout a 2,500 square-mile service area. Specifically, bus routes 32, 33, and 42 provide local public transportation through the cities of Hemet and San Jacinto, including the Proposed Program area, as well as the surrounding unincorporated communities (City of Hemet, 2012). In the city of Hemet, RTA uses the Hemet Valley Mall

located near the intersection of Florida Avenue and Kirby Street as a hub point for all bus routes serving the Hemet and San Jacinto areas and for those routes connecting to regional destinations (City of Hemet, 2012). In the city of San Jacinto, Route 31 provides access along State Street and to the north and south ends of the city of San Jacinto; Route 32 serves Mount San Jacinto Community College; and Route 42 provides service from the eastern portion of the city of San Jacinto to shopping areas in the south (City of San Jacinto, 2012). These bus routes provide limited access to the employment centers, shopping, and recreational areas within the city of San Jacinto.

Bicycle and Pedestrian Facilities

Figures 3.13-4 and **3.13-5** show the bicycle circulation systems in the cities of Hemet and San Jacinto, respectively. Both cities include various bicycle lanes and pathways for bicycle transportation and for recreational use. As shown in **Figure 3.13-4**, the City of Hemet includes on-road bicycle lanes on major roadways and secondary roadways through the city. All of the roadways listed above under the City of Hemet's local circulation system include on-road bicycle lanes, primarily of Class 2, and a few off-road bicycle paths, classified as Class 1 (City of Hemet, 2012). Additionally, as shown in **Figure 3.13-5**, the City of San Jacinto includes approximately seven bicycle lanes. Class II bike lanes provide a restricted right-of-way on a roadway's shoulder designated for the exclusive or semi-exclusive use of bicycles, while Class I bike lanes are two-way bike paths on a separate right-of-way (City of San Jacinto, 2012). Class II bike lanes are located on the major local roadways within the City of San Jacinto, including Warren Road, Sanderson Avenue, State Street, Cottonwood Avenue, and Esplanade Avenue (City of San Jacinto, 2012). Ramona Expressway, which turns into Mountain Avenue, is the only roadway within the city that includes a Class I bikeway (City of San Jacinto, 2012).

Project Area Setting

The Proposed Project area is located within the City of San Jacinto and is roughly bounded by Main Street to the north, Mountain Avenue to the east, Esplanade Avenue to the south, and South Hewitt Street to the west. Refer above to the City of San Jacinto Local Circulation System for the description of the roadways specifically in the Proposed Project area. The nearest bicycle lane is along Esplanade Avenue, which runs along the southern boundary of the Mountain Avenue West site.

3.13.2 Regulatory Setting

State

California Department of Transportation

Caltrans is responsible for planning, designing, building, operating, and maintaining California's transportation system. Caltrans sets standards, policies, and strategic plans that aim to do the following: 1) provide the safest transportation system for users and workers; 2) maximize transportation system performance and accessibility; 3) efficiently deliver quality transportation projects and services; 4) preserve and enhance California's resources and assets; and 5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of State highways for other than normal transportation purposes. Caltrans also reviews all requests

from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within the State Highway right-of-way.

The following Caltrans regulations apply to potential transportation and traffic impacts associated with the Proposed Program and the Proposed Project.

California Vehicle Code (CVC), division 15, chapters 1 through 5 (Size, Weight, and Load). Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

California Street and Highway Code Sections 660-711. Caltrans encroachment regulations would apply to construction of the proposed pipelines within and immediately adjacent to roadways, as well as the transportation of construction crews and construction equipment throughout the Proposed Program and Proposed Project area. Caltrans requires that permits be obtained for transportation of oversized loads, certain materials, and construction-related traffic disturbance.

Regional

Southern California Association of Governments 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy

SCAG is the designated Metropolitan Planning Organization for Imperial, Los Angeles, Orange, Riverside, Ventura and San Bernardino Counties. On April 7, 2016, SCAG adopted its 2016-2040 RTP/SCS. The RTP/SCS presents the transportation vision for the SCAG region through the year 2040 and provides a long-term investment framework for addressing the region's transportation and related challenges. The RTP/SCS focuses on maintaining and improving the transportation system through a balanced approach and considers economic, environmental, public health, improved coordination between land-use decisions and transportation investments, and strategic expansion of the system to accommodate future growth (SCAG, 2016).

Local

Riverside County Congestion Management Program

The Riverside County Transportation Commission (RCTC), with support from Riverside County, prepares and implements the Riverside Congestion Management Program (CMP), created in compliance with Proposition 111 that aims to more directly link land use, transportation, and air quality to promote reasonable growth management programs. The CMP was most recently updated in 2011. The purpose of the state-mandated CMP is to monitor roadway congestion and assess the overall performance of the region's transportation system. Based upon this assessment, the CMP contains specific strategies and improvements to reduce traffic congestion and improve the performance of a multi-modal transportation system. Examples of strategies include increased emphasis on public transportation and rideshare programs, mitigating the impacts of new development, and better coordinating land use and transportation planning decisions.

City of Hemet General Plan

The Circulation Element of the City of Hemet’s General Plan establishes standards for the movement of people, goods, and services throughout the city and proposes concepts, strategies, and implementation measures necessary to support development of the land uses described in the Land Use Element. While there are no applicable goals and policies to the Proposed Program and Project, the Circulation Element identifies designated truck routes for the transportation of goods and freight within the city with the intention of routing truck trips to City arterials so trucks cause the least amount of disruption to residential uses. The Circulation Element identifies the following roadways as designated truck routes. Construction-related trucks would be required to use these routes as much as possible during construction:

- Florida Avenue;
- Warren Road;
- Sanderson Avenue;
- State Street and San Jacinto Street north of Florida Avenue;
- Menlo Avenue between Sanderson Avenue and San Jacinto Street; and
- Domenigoni Parkway.

City of San Jacinto General Plan

The Circulation Element of the City of San Jacinto’s General Plan guides the continued development and improvement of the circulation system to support existing and planned development identified in the Land Use Element. While there are no applicable goals and policies to the Proposed Program and Project, the Circulation Element identifies designated truck routes for the transportation of goods and freight within the city to decrease noise and congestion impacts cause by truck trips in urban areas. To avoid these impacts, truck routes are identified on the Ramona Expressway and SR-79 and, where feasible, should be consolidated on arterial roadways through the city to minimize noise and congestion impacts to residential uses.

3.13.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to transportation and traffic. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Conflict with an applicable plan, ordinances 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.
2. 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.

3. 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.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Impacts and Mitigation Measures

Traffic Circulation

Impact TRAF-1: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge and Monitoring Facilities

The Proposed Program includes four recharge facilities, consisting of Mountain Avenue East, West, North, and South, which include recharge ponds and appurtenant facilities. All four facilities would be constructed within the City of San Jacinto within the area roughly bounded by Main Street to the north, the San Jacinto River to the east, Esplanade Avenue to the south, and South Hewitt Street to the west, as shown on **Figure 2-3**. In addition, the Proposed Program includes the construction and operation of a total of 16 shallow and 7 multi-depth monitoring wells on the four Mountain Avenue recharge sites. Mountain Avenue West recharge facility with the associated monitoring facilities is discussed in greater detail below as part of the Proposed Project, but construction would generally begin in approximately April 2018. Construction of the remaining three recharge facilities proposed under the Proposed Program would occur over a 20 to 30-year timespan, from approximately 2025 through 2045. The three recharge facilities and monitoring facilities would take approximately 12 months to construct and could occur simultaneously. In order to analyze the worst-case scenario, it is assumed in the following analysis that all three recharge facilities and monitoring facilities would be constructed simultaneously.

Construction truck and vehicle trips would be generated primarily by construction workers commuting to and from the work sites, and by trucks hauling materials and equipment to and from the recharge facilities sites. Construction trucks and vehicles would use the regional circulation system as well as the main roadways within the City of San Jacinto. Based on the designated construction truck routes established in the City of San Jacinto's General Plan, construction trucks would primarily use the Ramona Expressway, SR-79, Esplanade Avenue, Hewitt Street, Mountain Avenue, and Commonwealth Avenue to bring construction materials and construction workers to the recharge facilities sites. The three recharge facilities are located in

close proximity to one another off Mountain Avenue and construction traffic associated with the simultaneous basin construction would contribute to traffic congestion along this corridor.

While construction of the proposed recharge facilities would temporarily generate additional truck and vehicle trips within the city of San Jacinto and the regional circulation system, traffic levels would not substantially increase and would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. Additionally, while local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans facilities would be required to comply with CVC, division 15, chapters 1 through 5 (Size, Weight, and Load) and California Street and Highway Code Sections 660-711, as applicable, to minimize impacts to roadway operations. Therefore, impacts to the existing performance of the surrounding circulation system during construction of the recharge facilities under the Proposed Program would be less than significant.

Operation of the recharge facilities would include maintenance activities to keep the recharge basins functioning at the optimal infiltration rate. As part of routine maintenance, the recharge basins would need to be cleaned out by removing debris clogging the system at least annually during dry years and 2-4 times per year during wet years. Generally, frequency of cleanouts would be determined by the infiltration rate decay of the basins, as well as the weather conditions during the drying and cleaning period. Additionally, silt collected at the desilting basins would be hauled off-site approximately every three to six months. Since the monitoring facilities would be underground, maintenance activities would be occasional and would occur on an as-needed basis, but are not expected to generate any material to be disposed of offsite. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would occur on a limited number of days throughout the year. Since the number of truck trips would be minimal during operation of the Proposed Program, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation to decrease. Therefore, impacts to the existing performance of the surrounding circulation system during operation of the recharge facilities and monitoring facilities under the Proposed Program would be less than significant.

Extraction Facilities

The Proposed Program includes up to 11 extraction wells with block wall pump buildings and associated treatment/blending and disinfection facilities. The exact locations of the 11 extraction wells are to be determined but would occur within the larger area identified on **Figure 2-2**, which encompasses the cities of San Jacinto and Hemet and unincorporated areas of Riverside County. The first three extraction facilities and the Hewitt and Evans treatment/blending and disinfection facility would be constructed over approximately three years beginning in the fall of 2018, which is discussed in greater detail below under the Proposed Project. Construction of the remaining eight extraction facilities proposed under the Proposed Program would occur in future phases starting in 2025 through 2045. Drilling and well head construction requires about three years for each well, and two to three wells would be constructed at a time. In addition, the

treatment/blending and disinfection facilities would be constructed to allow expansion of the facilities by adding modules to the base system during future phases. Each additional phase of treatment/blending and disinfection expansion would require 12 to 18 months to complete construction. The first expansion of the treatment/blending and disinfection facilities could be initiated in 2025 and continuing in phases through 2045.

Construction of the extraction wells could occur within the cities of Hemet and San Jacinto as well as within areas of unincorporated Riverside County as shown on **Figure 2-2**. Construction truck and vehicle trips would be generated primarily by construction workers commuting to and from the work sites, and by trucks hauling materials and equipment to and from the extraction facility sites. As stated in the City of San Jacinto and City of Hemet's General Plans, construction trucks would primarily use designated construction routes through the cities, which include the Ramona Expressway, SR-79, Esplanade Avenue, Hewitt Street, Mountain Avenue, and Commonwealth Avenue Florida Avenue in the City of San Jacinto and Warren Road, Sanderson Avenue, State Street and San Jacinto Street north of Florida Avenue, Menlo Avenue between Sanderson Avenue and San Jacinto Street; and Domenigoni Parkway in the City of Hemet. While construction of the extraction wells and the treatment/blending and disinfection facilities would generate additional trips on the local and regional circulation systems within the Proposed Program area, the amount of trips would be minimal and would not substantially increase travel times on these roadways. Further, all construction truck and vehicle trips would cease once construction of the extraction wells and the treatment/blending and disinfection facilities is completed. Therefore, construction of the extraction wells and the treatment/blending and disinfection facilities would not decrease the performance level of any of the roadways in the local or regional circulation systems. Impacts would be less than significant.

All extraction wells would require maintenance once every five years and would include maintenance of various pump and well appurtenances. On occasion, unscheduled maintenance or repair of facilities may be required; replacement or repair of the pump, motor or other appurtenances of the well would be conducted as needed. The proposed extraction wells are expected to last approximately 40 years. When needed, wells would be replaced at the same location with similar or updated technology. Pipelines connecting extraction wells and recharge basins to EMWD's potable water distribution system would be contained entirely underground and would require minimal maintenance. Operation and maintenance activities would generate a limited amount of truck and vehicle trips annually and would not affect the performance level of the surrounding roadways in the cities of San Jacinto and Hemet and the areas of unincorporated Riverside County within the Proposed Program area. Therefore, impacts to the local and regional circulation systems during operation of the extraction wells and the treatment/blending and disinfection facilities would be less than significant.

Conveyance Facilities

The Proposed Program would include construction of conveyance system pipelines and ancillary facilities within the cities of San Jacinto and Hemet and unincorporated areas of Riverside County, as shown on **Figure 2-2** and **Figure 2-3**. This includes a new raw water pipeline along Esplanade Avenue and Commonwealth Avenue along the border of the Cities of Hemet and San Jacinto, a new 48-inch potable water pipeline that runs through the southern portion of the city of

San Jacinto and then south through the western portion of the city of Hemet, and new well water collector pipelines between the Hewitt and Evans site and the proposed extraction wells. Construction of proposed conveyance pipelines would begin in 2019 and continue in phases through 2045 and would occur over a 12- to 18-month period depending on the phase. Construction activities would involve trenching as pipelines would be installed primarily within existing roadway rights-of-way and on EMWD owned property. Construction equipment needed for pipeline installation generally includes: backhoes, excavators, dump trucks, shoring equipment, steam roller, and plate compactor. Approximately 5 to 10 construction workers would be required during various phases of pipeline installation. Excavated soils would be reused as backfill and otherwise disposed offsite.

Construction of the conveyance pipelines would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bringing materials to and from the construction sites and daily construction worker vehicle trips. However, while construction of the conveyance facilities wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partial closure of traffic lanes, which could significantly impact the performance of applicable roadways. In order to reduce impacts to roadway performance during construction of the conveyance facilities, EMWD would be required to implement **Mitigation Measure TRAF-PMM-1**, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan could include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. Specific components of the Traffic Control Plan will be determined at a future date depending on the location of conveyance facility. The Traffic Control Plan for each conveyance pipeline project would be coordinated with the applicable jurisdictions, including the City of San Jacinto, the City of Hemet, and Riverside County. Therefore, with implementation of Mitigation Measure TRAF-PMM-1, impacts to the local and regional circulation systems during construction of the conveyance facilities would be reduced to less than significant levels.

Once constructed, all conveyance pipelines would be contained entirely underground and would require minimal maintenance. In addition, any associated aboveground facilities (like pump stations) would require occasional maintenance, which could generate a few vehicle trips annually. Thus, operation of the conveyance facilities would not affect the performance of the local or regional circulation systems and impacts would be less than significant.

Impact Determination

While construction of the majority of the facilities included under the Proposed Program would not affect existing traffic levels or performance, the partial traffic lane closures required during the construction of the conveyance pipelines could significantly impact the performance of applicable roadways. However, implementation of Mitigation Measure TRAF-PMM-1, which requires the preparation and implementation of a Traffic Control Plan, would reduce impacts to a less than significant level. Operation and maintenance of the facilities constructed under the

Proposed Program would not affect performance levels of any roadways within the Proposed Program area. Operational impacts would be less than significant.

Program Mitigation Measures

TRAF-PMM-1: Traffic Control Plan. For future projects implemented under the Proposed Program that require construction within roadways, EMWD shall require the construction contractor to prepare a Traffic Control Plan prior to construction. The Traffic Control Plan shall be prepared in accordance with the local jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge and Monitoring Facilities

The Proposed Project includes the construction of a recharge facility at the Mountain Avenue West site, which include recharge ponds and appurtenant facilities. The proposed recharge facility would be constructed within the City of San Jacinto on the Mountain Avenue West site, which is roughly bounded by Esplanade Avenue to the south, Mountain Avenue to the east, and residential uses to the north and west, as shown on **Figure 2-3**. In addition, the Proposed Project would construct and operate 8 shallow and 3 multi-depth monitoring wells on the Mountain Avenue West site. Construction of the Mountain Avenue West recharge facility along with supporting infrastructure and the monitoring facilities would occur over an approximately 12-month period starting in April 2018 and roughly ending in April 2019.

Construction truck and vehicle trips would be generated primarily by construction workers commuting to and from the work sites, and by trucks hauling materials and equipment to and from the recharge facilities sites. Construction trucks and vehicles would use the regional circulation system as well as the main roadways within the City of San Jacinto. Based on the designated construction truck routes established in the City of San Jacinto's General Plan, construction trucks would primarily use the Ramona Expressway, SR-79, Esplanade Avenue, Hewitt Street, Mountain Avenue, and Commonwealth Avenue to bring construction materials and construction workers to the recharge facilities sites.

While construction of the proposed Mountain Avenue West facility and monitoring facilities would temporarily generate additional truck and vehicle trips within the city of San Jacinto and the regional circulation system, traffic levels would not substantially increase and would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. Additionally, while local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans

facilities would be required to comply with CVC, division 15, chapters 1 through 5 (Size, Weight, and Load) and California Street and Highway Code Sections 660-711, as applicable, to minimize impacts to roadway operations. Therefore, impacts to the existing performance of the surrounding circulation system during construction of the recharge facilities under the Proposed Project would be less than significant.

Operation of the Mountain Avenue West facility and monitoring facilities would include maintenance activities to keep the recharge basins functioning at the optimal infiltration rate. As part of routine maintenance, the recharge basins would need to be cleaned out by removing debris clogging the system at least annually during dry years and 2-4 times per year during wet years. Generally, frequency of cleanouts would be determined by the infiltration rate decay of the basins, as well as the weather conditions during the drying and cleaning period. Additionally, silt collected at the desilting basins would be hauled off-site approximately every three to six months. Since the monitoring facilities would be underground, maintenance activities would be occasional and would occur on an as-needed basis. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would occur on a limited number of days throughout the year. Since the number of truck trips would be minimal during operation of the Proposed Project, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation to decrease. Therefore, impacts to the existing performance of the surrounding circulation system during operation of the recharge facilities and monitoring facilities under the Proposed Project would be less than significant.

Extraction Facilities

The Proposed Project would construct 3 extraction wells with block wall pump buildings and the associated Hewitt and Evans treatment/blending and disinfection facility. The three extraction wells would be constructed within the Proposed Project area within the City of San Jacinto, as shown on **Figure 2-9**. Drilling of the extraction wells would require about 10 months, with construction of the well head facilities requiring an additional 18 months. There would be about a 10-month lag between when drilling is completed and the start of construction of the well head facilities, where the net result is about three years of construction activities for the Proposed Project. For the purposes of this analysis, it is assumed that the three extraction wells included under the Proposed Project would be constructed simultaneously from approximately 2018-2021. In addition, the treatment/blending and disinfection facility at the Hewitt and Evans site is located within the City of San Jacinto along Hewitt Street, as shown in **Figure 2-3**. Construction of the Hewitt and Evans site would take approximately two years to construct and would likely occur simultaneously with the well head facilities construction beginning in the fall of 2018.

Construction of the extraction wells and Hewitt and Evans treatment/blending and disinfection facility would occur within the City of San Jacinto. Construction activities associated with the extraction wells would be generated primarily by construction workers commuting to and from the work sites, and by trucks hauling materials and equipment to and from the extraction facility sites. As stated in the City of San Jacinto General Plan, construction trucks would primarily use designated construction routes through the city, which include the Ramona Expressway, SR-79, Esplanade Avenue, Hewitt Street, Mountain Avenue, and Commonwealth Avenue Florida

Avenue. While construction of the extraction wells and the Hewitt and Evans facility would generate additional trips on the City of San Jacinto and the regional circulation systems, the amount of trips would be minimal and would not substantially increase travel times on these roadways. Further, all construction truck and vehicle trips would cease once construction of the extraction wells and the Hewitt and Evans treatment/blending and disinfection facility is completed. Therefore, construction of the extraction wells and the Hewitt and Evans treatment/blending and disinfection facility would not decrease the performance level of any of the roadways in the City of San Jacinto and the regional circulation systems. Construction impacts would be less than significant.

All extraction wells would require maintenance once every five years and would include maintenance of various pump and well appurtenances. On occasion, unscheduled maintenance or repair of facilities may be required; replacement or repair of the pump, motor or other appurtenances of the well would be conducted as needed. The proposed extraction wells are expected to last approximately 40 years. When needed, wells would be replaced at the same location with similar or updated technology. Operation and maintenance activities would generate a limited amount of truck and vehicle trips annually and would not affect the performance level of the surrounding roadways in the City of San Jacinto and the regional circulation system within the Proposed Project area. Therefore, impacts to the City of San Jacinto and regional circulation systems during operation of the extraction wells and the Hewitt and Evans facility would be less than significant.

Conveyance Facilities

The Proposed Project would use the existing raw water pipeline to convey imported water to the Mountain Avenue West recharge facility and would construct additional conveyance pipelines within the City of San Jacinto, as shown in **Figure 2-3**. The Proposed Project would construct a lateral from the existing pipeline to the onsite facilities at the Mountain Avenue West site simultaneously with the recharge ponds and appurtenant facilities. The well collector pipelines for the Proposed Project, which connect the extraction wells to the treatment/blending and disinfection facilities at the Hewitt and Evans site, would be constructed simultaneously with the construction of the well head facilities from 2019-2021. The discharge pipeline from the Hewitt and Evans site to the potable water distribution system would be constructed with the treatment/blending and disinfection facilities from 2019-2021.

Construction of the conveyance pipelines would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bring materials to and from the construction sites and daily construction worker vehicle trips. However, while construction of the conveyance facilities wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partially closure of traffic lanes, which could significantly impact the performance of applicable roadways. In order to reduce impacts to roadway performance during construction of the conveyance facilities, EMWD would be required to implement **Mitigation Measure TRAF-MM-1**, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs,

delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of San Jacinto. Approximately two to four construction workers would be required to implement the traffic control plan during construction. The traffic control plan for each conveyance pipeline project would be coordinated with the City of San Jacinto. Therefore, with implementation of Mitigation Measure TRAF-MM-1, impacts to the City of San Jacinto and regional circulation systems during construction of the conveyance facilities would be reduced to less than significant levels.

Once constructed, all conveyance pipelines would be contained entirely underground and would require minimal maintenance. In addition, all associated aboveground facilities would require occasional maintenance, which could generate a few vehicle trips annually. Thus, operation of the conveyance facilities would not affect the performance of the local or regional circulation systems and impacts would be less than significant.

Impact Determination

While construction of the majority of the facilities included under the Proposed Project would not affect existing traffic levels or performance, the partial traffic lane closures required during the construction of the conveyance pipelines could significantly impact the performance of applicable roadways. However, implementation of Mitigation Measure TRAF-MM-1, which requires the preparation and implementation of a Traffic Control Plan, would reduce impacts to a less than significant level. Operation of the facilities included under the Proposed Project would not substantially increase the amount of trucks and vehicles on the City of San Jacinto and regional circulation systems, and as such, would not decrease existing performance on any of those roadways. Impacts would be less than significant.

Mitigation Measures

TRAF-MM-1: Traffic Control Plan. Prior to the start of construction of the conveyance facilities, EMWD shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of San Jacinto. The Traffic Control Plan shall be prepared in accordance with the City of San Jacinto's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. In addition, EMWD shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction.

During construction, EMWD will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, EMWD shall notify the owner

or occupant of the closure of the driveway at least five working days prior to the closure. The Traffic Control Plan shall include provisions to ensure that the construction of the conveyance pipelines do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

EMWD shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for Proposed Program facility construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the Proposed Program area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.

Significance Conclusion

Less than Significant with Mitigation

Level of Services Standards

Impact TRAF-2: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The RCTC prepares and implements the CMP for Riverside County, which provides congestion management strategies for Caltrans facilities within the county. Caltrans facilities within the Program area include SR-74. According to the CMP, traffic volumes related to construction activities are considered to be temporary. As such, construction-related traffic levels would return to existing levels once construction has ceased and lead agencies are not required to comply with the measures established in the CMP (RCTC, 2011). Therefore, all traffic generated during the construction of the Proposed Program would be consistent with the CMP and would not decrease the performance of SR-74 within the Proposed Program area. Impacts during construction of the Proposed Program would be less than significant.

Truck trips associated with operation and maintenance of the Proposed Program would be relatively limited and would consist of removal of silt and vegetation from the recharge basins up to four times a year depending on weather conditions, removal and off-site hauling of silt collected at the desilting basins approximately every three to six months, and occasional inspection of aboveground and underground facilities on an as-needed basis. Traffic volumes generated during operation and maintenance of the Proposed Program would be minimal and sporadic and would not cause a substantially decrease in the performance of SR-74 within the Proposed Program area. Thus, operation and maintenance of the Proposed Program would not conflict with the CMP and impacts would be less than significant.

Impact Determination

Implementation of the Proposed Program would generate minimal truck and vehicle trips on SR-74 and would not cause a substantially decrease in the performance of SR-74 within the Program area. The Proposed Program would be consistent with the CMP and impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge Facilities, Monitoring, Extraction and Conveyance Facilities

The RCTC prepares and implements the CMP for Riverside County, which provides congestion management strategies for Caltrans facilities within the county. While there are no Caltrans facilities within the Proposed Project area, construction trips associated with the Proposed Project would use the regional circulation system, including SR-74 which is a Caltrans facility, to transport construction materials and workers to the Proposed Project area. According to the CMP, traffic volumes related to construction activities are considered to be temporary. As such, construction-related traffic levels would return to existing levels once construction has ceased and lead agencies are not required to comply with the measures established in the CMP (RCTC, 2011). Therefore, all traffic generated during the construction of the Proposed Project would be consistent with the CMP and would not decrease the performance of SR-74 within the Proposed Project area. Impacts during construction of the Proposed Project would be less than significant.

Truck trips associated with operation and maintenance of the Proposed Project would be relatively limited and would consist of removal of silt and vegetation from the recharge basins up to four times a year depending on weather conditions, removal and off-site hauling of silt collected at the desilting basins approximately every three to six months, and occasional inspection of aboveground and underground facilities on an as-needed basis. Traffic volumes generated during operation and maintenance of the Proposed Project would be minimal and sporadic and would not cause a substantially decrease in the performance of SR-74 within the regional circulation system. Thus, operation and maintenance of the Proposed Project would not conflict with the CMP and impacts would be less than significant.

Impact Determination

Implementation of the Proposed Project would generate minimal truck and vehicle trips on SR-74 and would not cause a substantially decrease in the performance of SR-74 within the regional circulation system. The Proposed Project would be consistent with the CMP and impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Air Traffic Patterns

Impact TRAF-3: Implementation of the Proposed Program and the Proposed Project could 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.

Program-Level Impacts

Recharge Facilities, Monitoring, Extraction and Conveyance Facilities

Construction of the proposed 48-inch potable water pipeline and associated facilities could occur within the airport influence area of the Hemet-Ryan Airport. However, construction of the potable water pipeline would not include any tall or large construction equipment, such as a crane, which could physically interfere with the air traffic patterns of the Hemet-Ryan Airport. Additionally, construction would not occur at nighttime and would not have the potential to distract planes from new nighttime light sources. Once operational, the potable water pipeline would not have any features which would interfere with the Hemet-Ryan Airport. All other Proposed Program facilities would be located outside of the airport influence area of the Hemet-Ryan Airport and would be located too far away to affect air traffic patterns. Thus, implementation of the Proposed Program would not affect air traffic patterns and impacts would be less than significant.

Impact Determination

Construction and operation of the Proposed Program facilities would not interfere or cause a change in air traffic patterns at the Hemet-Ryan Airport. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project is not located within an airport influence area. The nearest airport is the Hemet-Ryan Airport, approximately five miles southwest of the Proposed Project area. Due to the distance from the airport, neither construction nor operation activities within the Project area would introduce aboveground features that would change air traffic patterns or introduce hazards that affect air safety risks. Thus, the Proposed Project would have no impact to air traffic patterns.

Impact Determination

The Proposed Project is located five miles from the nearest airport and would have no impact to air traffic patterns.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Hazardous Design Features

Impact TRAF-4: Implementation of the Proposed Program and the Proposed Project could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction of the Proposed Program would develop water infrastructure facilities within the cities of San Jacinto and Hemet as well as areas of unincorporated Riverside County. The Proposed Program does not include the construction of a new roadway or intersection, which could be determined to be a hazardous design feature. Additionally, construction of the Proposed Program would include the use of construction trucks to bring construction materials to and from the Proposed Program area. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, heavy trucks are typical of construction activities and are not considered a roadway hazard. Construction of the conveyance facilities included under the Proposed Program would require partial lane closures, which could result in hazardous driving conditions. However, implementation of Mitigation Measure TRAF-PMM-1 would require the preparation and implementation of a Traffic Control Plan for roadways which require partial closures during construction to minimize the effects on roadway safety. Therefore, with implementation of Mitigation Measure TRAF-PMM-1, construction of the Proposed Program would not result in a hazardous design feature or incompatible use within the Proposed Program area. Impacts during construction would be less than significant.

Operation of the Proposed Program would not involve operation any new intersections or roadways and as such would not result in a hazardous design feature. Impacts during operation of the Proposed Program would be less than significant.

Impact Determination

Construction of the Proposed Program would not substantially increase traffic volume but could cause a roadway hazard associated with the required partial traffic lane closures during installation of conveyance facilities. However, implementation of TRAF-PMM-1 would require the preparation and implementation of a Traffic Control Plan which would reduce impacts to roadway hazards and safety. Operation of the Proposed Program would not result in a hazardous roadway feature and impacts would be less than significant.

Program Mitigation Measures

Implementation of Mitigation Measure TRAF-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction of the Proposed Project would develop water infrastructure within the City of San Jacinto. The Proposed Project does not include the construction of a new roadway or intersection, which could be determined to be a hazardous design feature. Additionally, construction of the Proposed Project would include the use of heavy trucks to bring construction materials to and from the Project area. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, these delays would be intermittent throughout the day and would cease once construction activities are completed. Further, heavy trucks are typical of construction activities and are not considered a roadway hazard. Construction of the facilities included under the Proposed Program would require partial lane closures, which could result in hazardous driving conditions. However, implementation of Mitigation Measure TRAF-MM-1 would require the preparation and implementation of a Traffic Control Plan for roadways which require partial closures during construction to minimize the effects on roadway safety. Therefore, construction of the Proposed Project would not result in a hazardous design feature within the Program area. Impacts during construction would be less than significant.

Operation of the Proposed Project would operate water infrastructure within the city of San Jacinto, where the type of water infrastructure would be similar in nature to existing water infrastructure within the city and would not be considered an incompatible use. Further, operation of the Proposed Project would not operate any new intersections or roadways and as such would not result in a hazardous design feature. Impacts during operation of the Proposed Project would be less than significant.

Impact Determination

Construction of the Proposed Project would not substantially increase traffic volume but could cause a roadway hazard associated with the required partial traffic lane closures during installation of conveyance facilities. However, implementation of TRAF-MM-1 would require the preparation and implementation of a Traffic Control Plan which would reduce impacts to roadway hazards and safety. Operation of the Proposed Program would not result in a hazardous roadway feature and impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure TRAF-MM-1.

Significance Conclusion

Less than Significant with Mitigation

Emergency Access

Impact TRAF-5: Implementation of the Proposed Program and the Proposed Project could result in inadequate emergency access.

Program-Level Impacts

Recharge and Monitoring Facilities

During construction, emergency access would be provided to the Mountain Avenue recharge facilities and the monitoring facilities via Main Street, Esplanade Avenue, South Hewitt Street, Commonwealth Avenue, 7th Street, Shaver Street, and Evans Street. Construction trucks and vehicles would access the Mountain Avenue recharge facilities and the monitoring facilities intermittently throughout the day and would not interfere with the use of roadways for emergency access. Further, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during construction of the recharge and monitoring facilities.

Operation of the recharge facilities would include maintenance activities to keep the recharge basins functioning at the optimal infiltration rate. As part of routine maintenance, the recharge basins would need to be cleaned out by removing debris clogging the system at least annually during dry years and 2-4 times per year during wet years. Generally, frequency of cleanouts would be determined by the infiltration rate decay of the basins, as well as the weather conditions during the drying and cleaning period. Additionally, silt collected at the desilting basins would be hauled off-site approximately every three to six months. Since the monitoring facilities would be underground, maintenance activities would be occasional and would occur on an as-needed basis. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, trucks and vehicles accessing the facilities would be sporadic and would be required to comply all applicable roadway regulations and standards related to emergency access. Therefore, operation of the recharge and monitoring facilities would not result in inadequate emergency access and impacts would be less than significant.

Extraction Facilities

The additional construction trucks and vehicles generated from construction of the extraction facilities identified in Impact TRAF-1 would not impact the performance of the local or regional circulation systems and, as such, would not interfere with emergency access to the extraction facilities or throughout the Program area.

While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, trucks and vehicles accessing the extraction facilities would be sporadic and would not result in inadequate emergency access. Impacts would be less than significant.

Conveyance Facilities

As described in Impact TRAF-1, construction of the conveyance pipelines would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bring materials to and from the construction sites and daily construction worker vehicle trips. However, while construction of the conveyance

facilities wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partially closure of traffic lanes, which could interfere with emergency access. In order to reduce impacts to emergency access during construction of the conveyance facilities, EMWD would be required to implement Mitigation Measure TRAF-PMM-1, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. Approximately two to four construction workers would be required to implement the traffic control plan during construction. The Traffic Control Plan for each conveyance pipeline project would be coordinated with the applicable jurisdictions, including the City of San Jacinto, the City of Hemet, and unincorporated portions of Riverside County, as well as emergency responders, which include fire departments, police departments, and ambulances that have jurisdiction within the Proposed Program area. Therefore, with implementation of Mitigation Measure TRAF-PMM-1, impacts to emergency access during construction of the conveyance facilities would be reduced to less than significant.

Once constructed, all conveyance pipelines would be contained entirely underground and would not interfere with emergency access. In addition, all associated aboveground facilities would require occasional maintenance, which could generate a few vehicle trips annually. However, due to the relatively limited amount of vehicle trips associated with operation and maintenance of the conveyance facilities, it is reasonable to assume these trips would not interfere with emergency access. Thus, impacts to emergency access would be less than significant.

Impact Determination

While the majority of the construction activities required for the Proposed Program would not affect emergency access, the installation of the conveyance pipelines would require partial traffic lane closures, which could impede emergency access. However, implementation of Mitigation Measure TRAF-PMM-1 would require the preparation and implementation of a Traffic Control Plan which would minimize impacts to emergency access. Operation of the Proposed Program would not interfere with emergency access.

Program Mitigation Measures

Implementation of Mitigation Measure TRAF-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge and Monitoring Facilities

As explained in Impact TRAF-1, construction truck and vehicle trips would be generated primarily by construction workers commuting to and from the work sites, and by trucks hauling materials and equipment to and from the recharge facilities sites. Construction trucks and vehicles would use the regional circulation system as well as the main roadways within the City of San

Jacinto. Based on the designated construction truck routes established in the City of San Jacinto's General Plan, construction trucks would primarily use the Ramona Expressway, SR-79, Esplanade Avenue, Hewitt Street, Mountain Avenue, and Commonwealth Avenue to bring construction materials and construction workers to the recharge facilities sites.

Emergency access would be provided to the Mountain Avenue West recharge facility and the monitoring facilities via Main Street, Esplanade Avenue, South Hewitt Street, Commonwealth Avenue, 7th Street, Shaver Street, and Evans Street. Construction trucks and vehicles would access the Mountain Avenue recharge facilities and the monitoring facilities intermittently throughout the day and would not interfere with emergency access to the facilities. Further, all construction trucks and vehicles would adhere to all applicable roadway regulations and standards related to emergency access. Therefore, adequate emergency access would be provided during construction of the recharge and monitoring facilities.

Operation of the Mountain Avenue West facility and monitoring facilities would include maintenance activities to keep the recharge basins functioning at the optimal infiltration rate, as described above in Impact TRAF-1. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, trucks and vehicles accessing the facilities would be sporadic and would be required to comply all applicable roadway regulations and standards related to emergency access. Therefore, operation of the recharge and monitoring facilities would not result in inadequate emergency access and impacts would be less than significant.

Extraction Facilities

Construction of the extraction wells and Hewitt and Evans facility would occur within the City of San Jacinto. As described in Impact TRAF-1, construction truck and vehicle trips would be generated primarily by construction workers commuting to and from the work sites, and by trucks hauling materials and equipment to and from the extraction facility sites. Emergency access to the extraction wells and Hewitt and Evans facility would be provided via Main Street, Esplanade Avenue, South Hewitt Street, Commonwealth Avenue, 7th Street, Shaver Street, and Evans Street. The additional construction trucks and vehicles generated from construction of the extraction facilities would not significantly impact the performance of the local or regional circulation systems and, as such, would not interfere with emergency access to the extraction facilities and Hewitt and Evans site or throughout the City of San Jacinto.

While the operational activities described in Impact TRAF-1 would generate additional truck trips on the surrounding local and regional circulation system, trucks and vehicles accessing the extraction wells and Hewitt and Evans site would be sporadic and would not result in inadequate emergency access. Impacts would be less than significant.

Conveyance Facilities

The Proposed Project would use the existing raw water pipeline to convey imported water to the Mountain Avenue West recharge facility and would construct additional conveyance pipelines within the City of San Jacinto, as shown in **Figure 2-3**. The Proposed Project would construct a lateral from the existing pipeline to the onsite facilities at the Mountain Avenue West site

simultaneously with the recharge ponds and appurtenant facilities. Emergency access to the conveyance facilities would be provided via Main Street, Esplanade Avenue, South Hewitt Street, Commonwealth Avenue, 7th Street, Shaver Street, and Evans Street. While construction of the conveyance pipelines would not substantially increase traffic levels on the surrounding roadways, construction activities within roadways would require partially closure of traffic lanes, which could affect emergency access routes and times. In order to reduce impacts to emergency access during construction of the conveyance facilities, EMWD would be required to implement Mitigation Measure TRAF-MM-1, which would require the preparation and implementation of a Traffic Control Plan. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of San Jacinto. In addition, the Traffic Control Plan for each conveyance pipeline project would be coordinated with the applicable surrounding jurisdictions, including the City of San Jacinto, the City of Hemet, and unincorporated portions of Riverside County, as well as emergency responders, which include fire departments, police departments, and ambulances that have jurisdiction within the Proposed Project area. Approximately two to four construction workers would be required to implement the traffic control plan during construction. The traffic control plan for each conveyance pipeline project would be coordinated with the City of San Jacinto. Therefore, with implementation of Mitigation Measure TRAF-MM-1, impacts related to emergency access during construction of the conveyance facilities under the Proposed Project would be reduced to less than significant.

Once constructed, all conveyance pipelines would be contained entirely underground and would require minimal maintenance. In addition, all associated aboveground facilities would require occasional maintenance, which could generate a few vehicle trips annually. While these operational activities would generate additional truck trips on the surrounding local and regional circulation system, trucks and vehicles accessing the conveyance facilities would be sporadic and would not result in inadequate emergency access. Thus, operation of the conveyance facilities would not impede emergency access and impacts would be less than significant.

Impact Determination

While the majority of the construction activities required for the Proposed Project would not affect emergency access, the installation of the conveyance pipelines would require partial traffic lane closures, which could impede emergency access. However, implementation of Mitigation Measure TRAF-MM-1 would require the preparation and implementation of a Traffic Control Plan which would minimize impacts to emergency access. Operation of the Proposed Project would not interfere with emergency access and no impact would occur.

Mitigation Measures

Implementation of Mitigation Measure TRAF-MM-1.

Significance Conclusion

Less than Significant with Mitigation

Alternative Transportation Policies

Impact TRAF-6: Implementation of the Proposed Program and the Proposed Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Program-Level Impacts

Recharge and Monitoring Facilities

Figure 3.13-5 shows the bicycle facilities within or in proximity to the Mountain Avenue recharge facilities and the monitoring facilities. A Class I bicycle lane is located along the Ramona Expressway east of the recharge and monitoring facilities and a Class II bicycle lane along Esplanade Avenue. While construction and operation of the recharge and monitoring facilities would require heavy trucks and passenger vehicles to utilize the City of San Jacinto's and the regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Further, construction and operation of the recharge and monitoring facilities would not inhibit existing transit routes or block bus stops as all trucks and vehicles would be parked on the Mountain Avenue recharge sites or within designated loading and/or parking areas. Therefore, implementation of the recharge and monitoring facilities under the Proposed Program would not conflict with alternative transportation and impacts would be less than significant.

Extraction Facilities

Figures 3.13-4 and 3.13-5 show the bicycle lanes within the cities of San Jacinto and Hemet. The exact locations of the 11 extraction wells included under the Proposed Program are to be determined but would occur within the larger area identified on **Figure 2-2**, which encompasses the cities of San Jacinto and Hemet and unincorporated areas of Riverside County. Construction of the extraction wells and facilities would occur on property owned by EMWD and would not affect surrounding bicycle lanes, transit routes, or pedestrian facilities. Additionally, the additional trucks and vehicles generated by the construction of the extraction facilities would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks or transit routes. Operation of the extraction facilities would require minimal maintenance and would affect alternative transportation facilities. Therefore, implementation of the extraction facilities under the Proposed Program would not conflict with alternative transportation and impacts would be less than significant.

Conveyance Facilities

Figure 2-2 shows the proposed alignments for the conveyance pipelines included under the Proposed Program, which run through the cities of San Jacinto and Hemet as well as a small portion of unincorporated Riverside County. **Figures 3.13-4 and 3.13-5** show the bicycle lanes within the cities of San Jacinto and Hemet. The proposed potable water pipeline would be located within 7th Street, Cawston Avenue, Devonshire Avenue, Warren Road, Stetson Avenue within the cities of Hemet and San Jacinto. The proposed raw water pipeline would be located within Esplanade Avenue and Menlo Avenue and the proposed well water collector pipeline would be located within 7th Street and Old Mountain Avenue. As stated above, different classes of bicycle

lanes are located along Esplanade Avenue, Ramona Expressway/Mountain Avenue, Cawston Avenue, Devonshire Avenue, Warren Road, and Stetson Avenue.

Construction of the conveyance facilities would involve trenching as pipelines would be located within public rights-of-way or on property or easements owned by EMWD or acquired by EMWD. While construction and operation of the conveyance pipelines and facilities would require heavy trucks and passenger vehicles to utilize the regional and local circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Although construction of the conveyance facilities wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, installation of the conveyance pipelines within the listed above roadways would require partial or full closure of traffic lanes, which would significantly impact bicycle lanes, sidewalks, and transit routes and bus stops. In order to reduce impacts to alternative transportation facilities during construction of the conveyance facilities, EMWD would be required to implement Mitigation Measure TRAF-PMM-1, which would require the preparation and implementation of a Traffic Control Plan, which includes measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. In addition, the Traffic Control Plan would include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. The Traffic Control Plan for each conveyance pipeline project would be coordinated with the applicable jurisdictions, consisting of the City of San Jacinto, the City of Hemet, and unincorporated portions of Riverside County. Therefore, with implementation of Mitigation Measure TRAF-PMM-1, impacts to alternative transportation facilities during construction of the conveyance facilities would be reduced to less than significant.

Once construction of the conveyance facilities is complete, operation of alternative transportation facilities would return to pre-construction conditions as the pipelines would be underground and the aboveground facilities would not be located within the roadway rights-of-way. Operation and maintenance of the conveyance facilities would be minimal and would not interfere with alternative transportation facilities. Therefore, impacts to alternative transportation facilities during operation of the conveyance facilities would be reduced to less than significant.

Impact Determination

While the majority of the construction activities required for the Proposed Program would not affect alternative transportation facilities, the installation of the conveyance pipelines would require partial traffic lane closures, which would interfere with bicycle lanes, sidewalks, transit routes, and bus stops. However, implementation of Mitigation Measure TRAF-PMM-1 would require the preparation and implementation of a Traffic Control Plan which would minimize impacts to alternative transportation. Operation of the Proposed Program would not interfere with alternative transportation.

Program Mitigation Measures

Implementation of Mitigation Measure TRAF-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Recharge and Monitoring Facilities

Figure 3.13-5 shows the bicycle facilities in proximity to the Mountain Avenue recharge and monitoring facilities. A Class I bicycle lane is located along the Ramona Expressway east of the recharge and monitoring facilities and a Class II bicycle lane along Esplanade Avenue. While construction and operation of the Mountain Avenue West recharge and monitoring facilities, including the laterals that would connect the recharge basin to the existing raw water pipeline, would require heavy trucks and passenger vehicles to utilize the City of San Jacinto's and the regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. Furthermore, construction and operation of the Mountain Avenue West recharge and monitoring facilities would not inhibit existing transit routes or block bus stops as all trucks and vehicles would be parked on the Mountain Avenue West site or within designated loading and/or parking areas. In addition, the Mountain Avenue West site includes the construction of public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage as shown on **Figure 2-7**. The walking path implemented at the Mountain Avenue West site would be a new pedestrian path within the City of San Jacinto and would provide new recreational opportunities for local residents. Therefore, implementation of the recharge and monitoring facilities under the Proposed Project would not conflict with alternative transportation and impacts would be less than significant.

Extraction Facilities

Figure 3.13-5 shows the bicycle facilities within or in proximity to Project area. A Class I bicycle lane is located along the Ramona Expressway east of the recharge and monitoring facilities and a Class II along Esplanade Avenue. While construction and operation of the recharge and monitoring facilities would require heavy trucks and passenger vehicles to utilize the City of San Jacinto's and the regional circulation systems, the presence of these heavy trucks and passenger vehicles would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks. The Proposed Project would construct 3 extraction wells with block wall pump buildings and the associated treatment/blending and disinfection facility at the Hewitt and Evans site. The three extraction wells and the Hewitt and Evans facility would be constructed within the Proposed Project area within the City of San Jacinto, as shown on **Figure 2-9**. Construction of the extraction facilities and the Hewitt and Evans facility would occur solely each individual site and would not affect surrounding bicycle lanes, transit routes, or pedestrian facilities. Additionally, the additional trucks and vehicles generated by the construction of the extraction facilities would not interfere with the existing operation of the surrounding bicycle lanes and sidewalks or transit routes. Operation of the extraction facilities would require minimal maintenance and would affect alternative transportation facilities. Therefore, implementation of the extraction facilities under

the Proposed Project would not conflict with alternative transportation and impacts would be less than significant.

Conveyance Facilities

The Proposed Project would utilize the existing raw water pipeline to convey imported water to the Mountain Avenue West recharge facility and would construct additional conveyance pipelines within the City of San Jacinto, as shown in **Figure 2-3**. The Proposed Project would construct a lateral from the existing pipeline in Esplanade Avenue to the onsite facilities at the Mountain Avenue West site simultaneously with the recharge ponds and appurtenant facilities. The well collector pipelines for the Proposed Project, which connect the extraction wells to the treatment/blending and disinfection facilities at the Hewitt and Evans site along Evans Street and Old Mountain Avenue, would be constructed simultaneously with the construction of the well head facilities from 2019-2021. The discharge pipeline from the Hewitt and Evans site to the potable water distribution system along Hewitt Street would be constructed with the treatment/blending and disinfection facilities from 2019-2021.

While construction of the conveyance facilities wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partially closure of traffic lanes, which would significantly impact bicycle lanes, sidewalks, and transit routes and bus stops. In order to reduce impacts to alternative transportation facilities during construction of the conveyance facilities, EMWD would be required to implement Mitigation Measure TRAF-MM-1, which would require the preparation and implementation of a Traffic Control Plan, which includes measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. In addition, the Traffic Control Plan would include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. The Traffic Control Plan for each conveyance pipeline would be coordinated with the applicable jurisdictions, consisting of the City of San Jacinto, the City of Hemet, and unincorporated portions of Riverside County. Therefore, with implementation of Mitigation Measure TRAF-MM-1, impacts to alternative transportation facilities during construction of the Proposed Project conveyance facilities would be reduced to less than significant.

Once construction of the conveyance facilities is complete, operation of alternative transportation facilities would return to pre-construction conditions as the pipelines would be underground and the aboveground facilities would not be located within roadway rights-of-way. Operation and maintenance of the conveyance facilities would be minimal and would not interfere with alternative transportation facilities. Therefore, impacts to alternative transportation facilities during operation of the conveyance facilities would be reduced to less than significant.

Impact Determination

While the majority of the construction activities required for the Proposed Project would not affect alternative transportation facilities, the installation of the conveyance pipelines would require partial traffic lane closures, which would interfere with bicycle lanes, sidewalks, transit routes, and bus stops. However, implementation of Mitigation Measure TRAF-MM-1 would require the preparation and implementation of a traffic control plan which would minimize impacts to alternative transportation. Operation of the Proposed Program would not interfere with alternative transportation.

Mitigation Measures

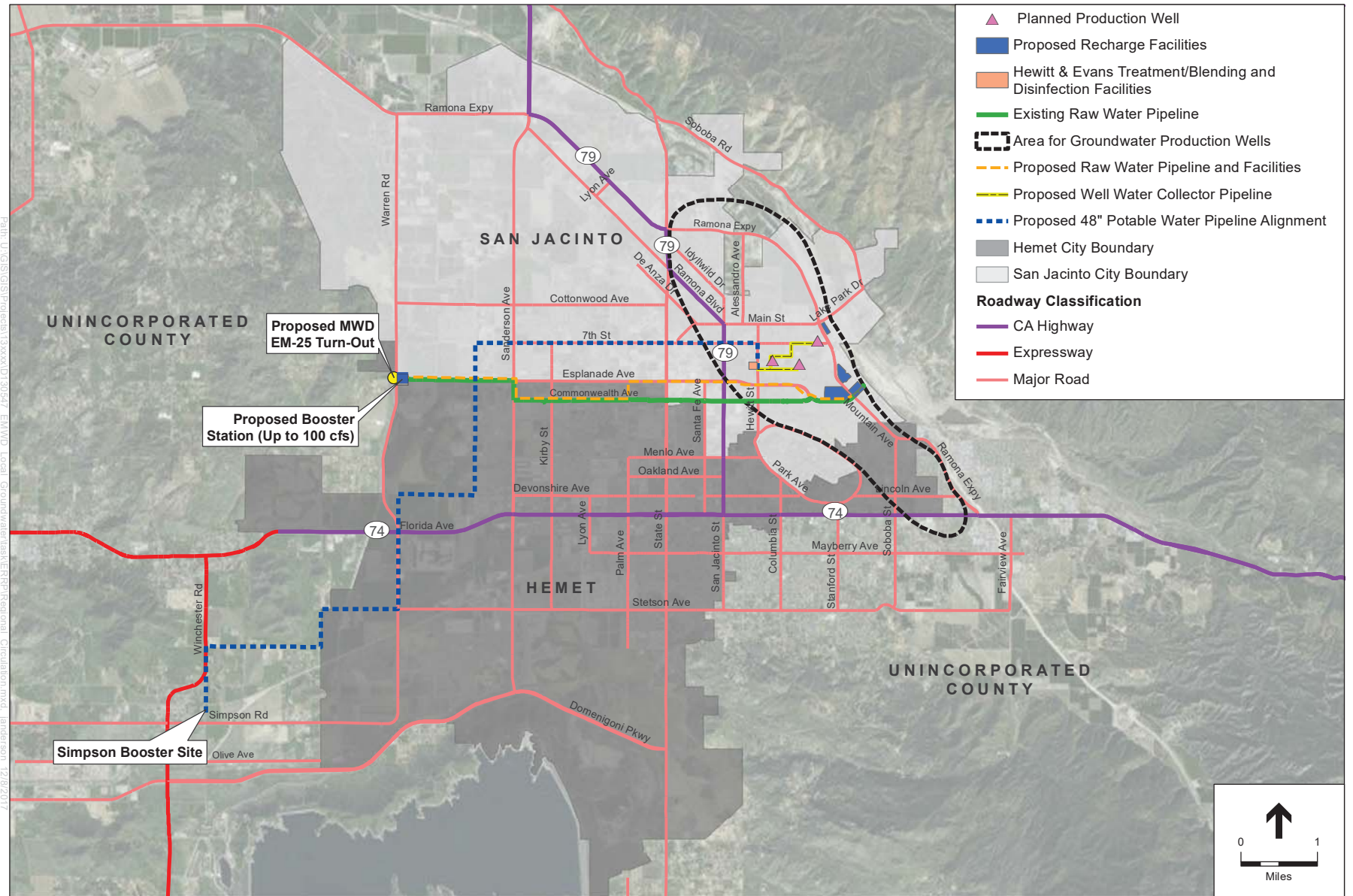
Implementation of Mitigation Measure TRAF-MM-1.

Significance Conclusion

Less than Significant with Mitigation

3.13.4 References

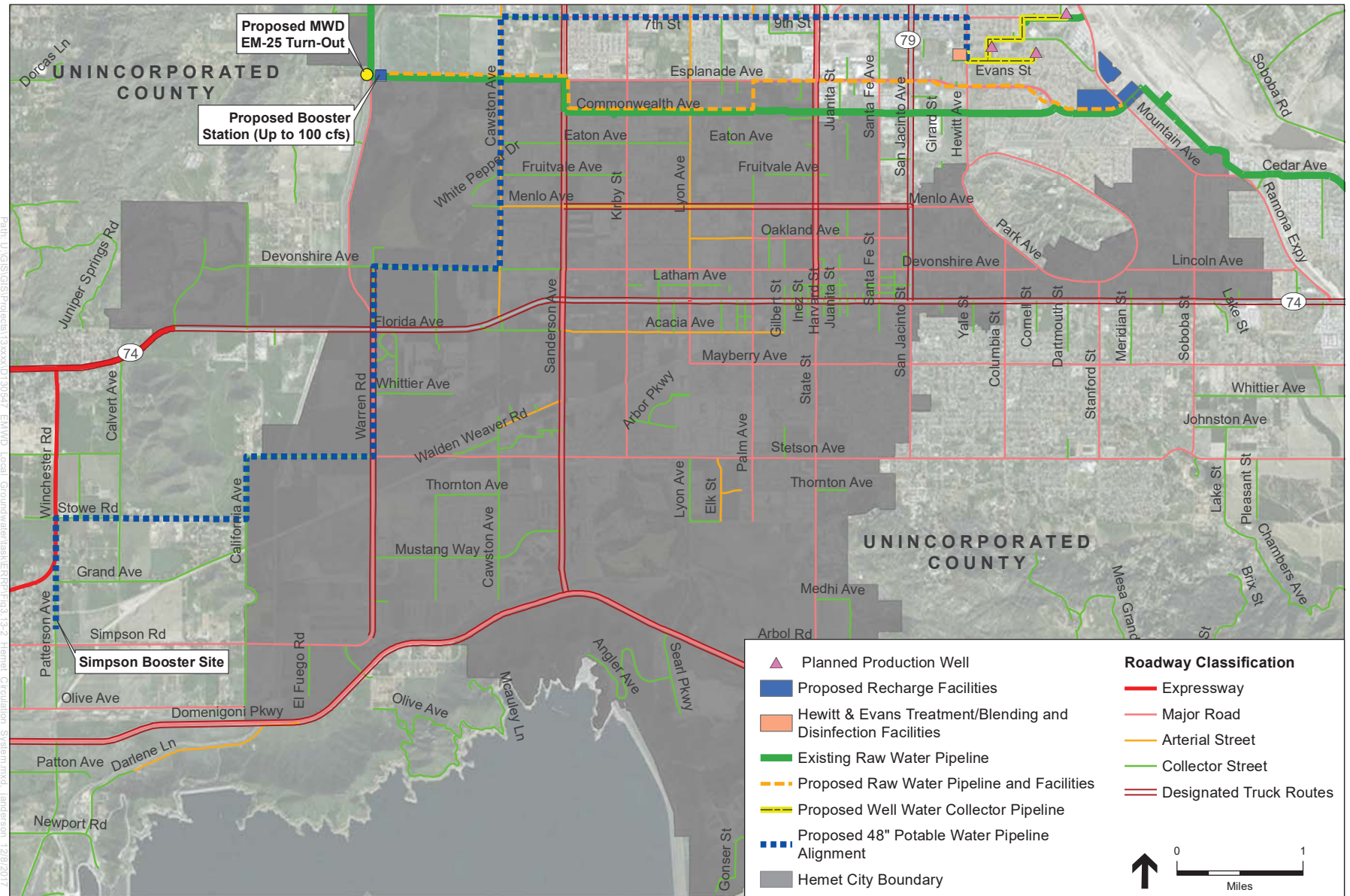
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SOURCE: ESRI; Eastern Municipal Water District

EMWD San Jacinto Valley ERRP . 130547.05

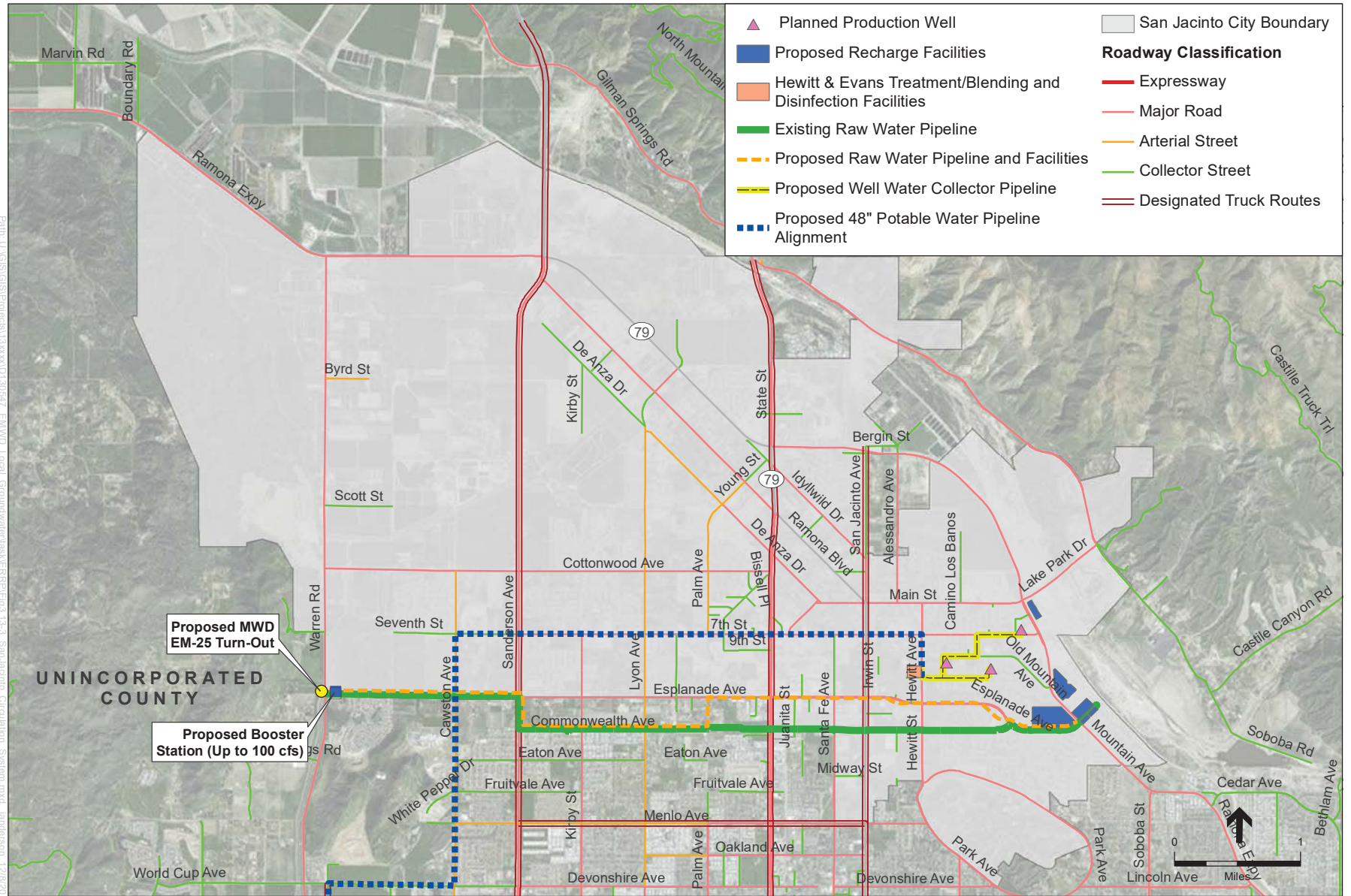
Figure 3.13-1
Regional Circulation System



SOURCE: ESRI; Eastern Municipal Water District; Riverside County

EMWD San Jacinto Valley ERRP . 130547.05

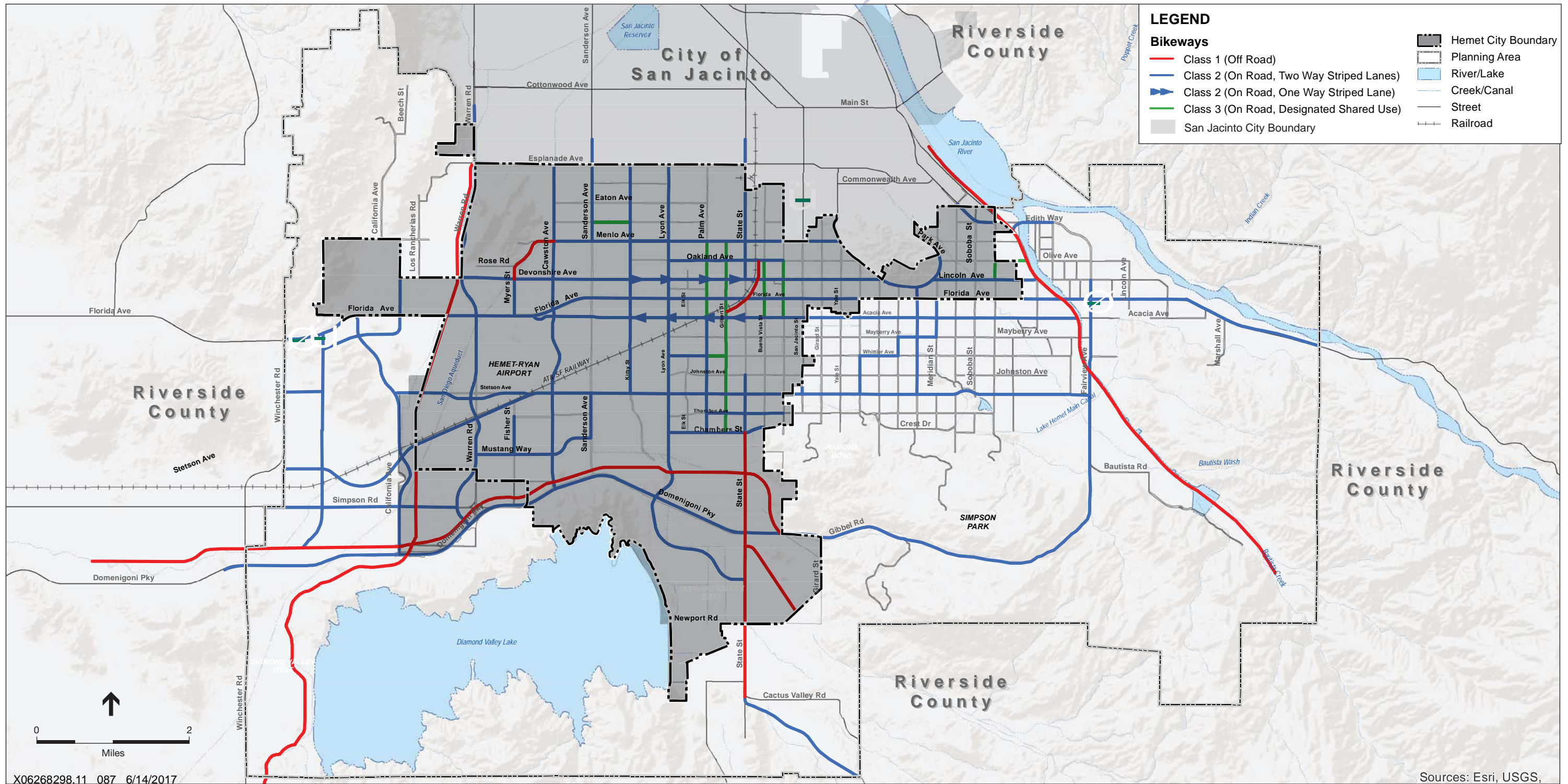
Figure 3.13-2
City of Hemet Local Circulation System



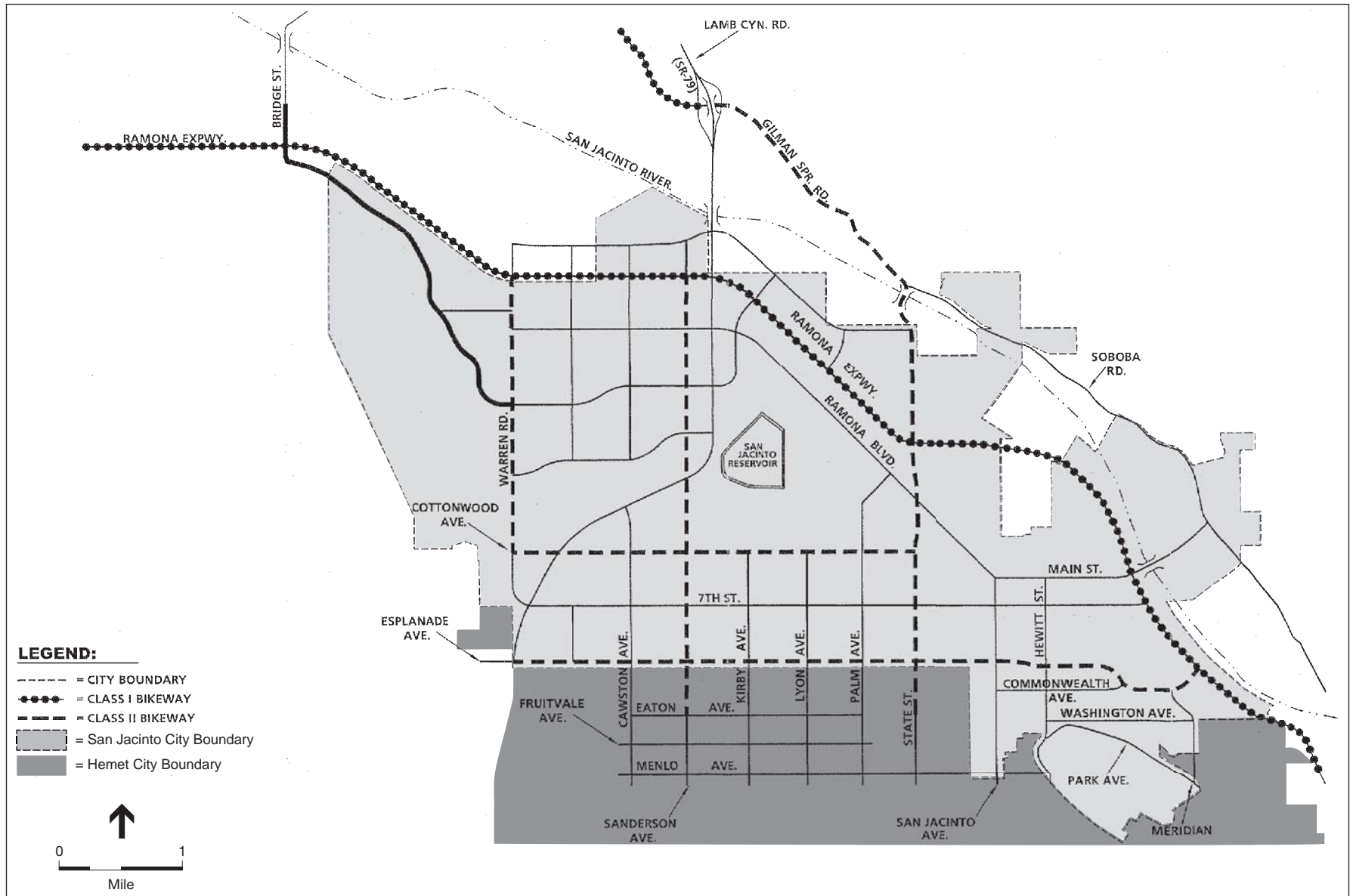
SOURCE: ESRI; Eastern Municipal Water District; Riverside County

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.13-3
City of San Jacinto Local Circulation System



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SOURCE: City of San Jacinto General Plan, 2006

EMWD San Jacinto Valley ERRP . 130547.05

Figure 3.13-5
City of San Jacinto's Bicycle Circulation System



3.14 Utilities and Service Systems

Introduction

This section addresses the potential impacts of the Proposed Program and Proposed Project to utilities and service systems. The section includes a description of the environmental setting to establish baseline conditions for utilities and service systems; a summary of the regulations related to utilities and service systems; and an evaluation of the Proposed Program and the Proposed Project's potential effects on utilities and service systems.

3.14.1 Environmental Setting

Regional Setting

The Proposed Program and Proposed Project are located within western Riverside County. Water supply in this region is limited by an arid climate, agricultural practices, dependence on low quality imported water, and population growth and its associated demand and development. Western Riverside County is sustained primarily by water imported from northern California and the Colorado River, and secondarily by local groundwater production. Recent legal decisions limited the amount of northern California and Colorado River supplies that can be delivered to southern California, rendering the region's imported water supplies less dependable (Riverside County, 2015).

Water storage to meet peak demand within the region is provided by multiple local water agencies within Riverside County, but long-term storage of large quantities of water is provided by MWD and DWR facilities. Currently, approximately 38 percent of existing storage capacity can be used to meet seasonal demand, while the remaining 62 percent is reserved for emergencies including severe droughts and natural disasters. Water budget estimates from the DWR California Water Plan conclude that in the South Coast region of California (defined as areas draining into the Pacific Ocean from Ventura County to the Mexican border), water demand will exceed supply in 2020 whether or not a drought condition exists. Therefore, management of the amount of water available and its quality is important to manage the gap between supply and demand (Riverside County, 2015).

Program Area Setting

Water Supply

Eastern Municipal Water District

The Proposed Program area is located entirely within EMWD's service area, which provides potable water and recycled water to 555 square miles of western Riverside County. The majority of EMWD's water supplies consist of imported water purchased through MWD from the SWP and the CRA. EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four Regional Water

Reclamation Facilities (RWRFs) and several storage ponds spread throughout EMWD’s service area that are connected through the recycled water system. As of 2014, EMWD used 100 percent of the recycled water it produced. Recycled water is sold to customers, discharged to Temescal Creek, or percolated and evaporated in storage ponds throughout the EMWD service area (EMWD, 2016).

Table 3.14-1 shows the existing and projected water demand in the EMWD service area. Demand projections are based on information about planned development and land use, and assume typical hydrologic conditions. **Table 3.14-2** shows the service area’s existing and projected water supply.

**TABLE 3.14-1
 EXISTING AND PROJECTED WATER DEMAND IN THE EMWD SERVICE AREA (AFY)**

	2015	2020	2025	2030	2035	2040
Potable and Raw Water Demand	100,705	151,000	165,600	180,600	195,200	209,300
Recycled Water Demand	45,385	46,901	53,100	55,200	57,400	58,900
Total Water Demand	146,090	197,901	218,700	235,800	252,600	268,200

SOURCE: EMWD, 2016

**TABLE 3.14-2
 EXISTING AND PROJECTED WATER SUPPLY IN THE EMWD SERVICE AREA (AFY)**

	2015	2020	2025	2030	2035	2040
Imported Water	78,165	131,697	143,197	158,197	172,797	186,897
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100
Recycled Water	45,385	46,901	53,100	55,200	57,400	58,900
Total Water Supply	146,090	197,901	218,700	235,800	252,600	268,200

SOURCE: EMWD, 2016

As shown in **Table 3.14-1**, demand for both potable and recycled water is expected to increase through 2040. **Table 3.14-2** demonstrates that although groundwater supply is projected to decrease in 2020 and remain constant through 2040, other potable water supply sources are anticipated to increase to match potable demand. Recycled water demand and supply would be equivalent. According to EMWD’s UWMP, EMWD plans to meet projected demand increases through a combination of local supply development and ongoing water conservation. Future projects to increase water supply within the EMWD service area include continued full utilization of recycled water, expansion of the desalter program, increasing local groundwater banking and developing additional regional water transfers and exchanges (EMWD, 2016).

Lake Hemet Municipal Water District

The LHMWD serves 12,700 acres in the northeasterly portion of the City of Hemet, a small southeast portion of the City of San Jacinto, and unincorporated parts in western Riverside County. LHMWD has three main sources of water supply: locally pumped groundwater from 13 domestic wells and 7 agricultural irrigation wells, water purchases from EMWD, and surface water diversions from the San Jacinto River system. LHMWD diverts flows in the San Jacinto River System that were either released from the Lake Hemet Reservoir or from two of its tributaries (Strawberry Creek and North Fork) for agricultural use or groundwater recharge (LHMWD, 2016).

City of San Jacinto Water Department

The City of San Jacinto Water Department supplies water to the urbanized area surrounding the City's downtown area (City of San Jacinto, 2006). The City of San Jacinto Water Department has two sources of water supply: groundwater from the San Jacinto Basin and treated imported water from EMWD. Historically, 100 percent of the City's water supply is from groundwater while treated imported water is only used for emergency purposes or to meet peak demands due to mechanical failure at one of the City's wells. The City has not purchased imported water from EMWD since 2008 (City of San Jacinto, 2016).

City of Hemet Water Department

The City of Hemet Water Department provides water service to residential and commercial customers in a 5.25-square mile service area, and obtains its principal water supply from groundwater in the Hemet South sub-basin and the San Jacinto Upper Pressure sub-basin of the San Jacinto Groundwater Basin. The City of Hemet Water Department maintains a connection with EMWD and has historically imported small quantities of potable water (City of Hemet, 2016).

Wastewater Treatment

EMWD is responsible for all wastewater collection and treatment in its service area through the use of its four RWRFs, which have recently completed expansions and produce tertiary effluent suitable for California Department of Health Services permitted uses including almost any use but human consumption (EMWD, 2016).

As shown in **Table 3.14-3**, the four RWQFs have a combined treatment capacity of 81,800 AFY, which after subtracting the total amount of wastewater EMWD treated in 2015, leaves a remaining capacity of 33,135 (EMWD, 2016). Wastewater generated in the program area is either treated at the San Jacinto RWRf or Perris Valley RWRf (City of San Jacinto, 2016; City of Hemet, 2016; LHMWD, 2016). The San Jacinto Valley and Perris Valley RWRFs use tertiary treatment, which is the highest level of wastewater treatment and removes bacteria, viruses and almost all suspended solids (EMWD, 2016).

**TABLE 3.14-3
 RWF TREATMENT CAPACITY AND 2015 CAPACITY UTILIZATION (AFY)**

Regional Water Reclamation Facility (RWF)	Treatment Capacity (AFY)
San Jacinto Valley	15,700
Moreno Valley	17,900
Temecula Valley	20,200
Perris Valley	28,000
Total Capacity	81,800
2015 Capacity Utilization	48,665
Remaining Capacity	33,135

SOURCE: EMWD, 2016

Stormwater

The entire Proposed Program area is located within the jurisdiction of the RCFCWCD. RCFCWCD operates a stormwater drainage system consisting of over 420 miles of major underground storm drains, open channels and levees, along with 40 dams and detention basins in Riverside County. In most cases, the RCFCWCD does not maintain storm drain inlets or pipes less than 36 inches in diameter. These inlets and smaller facilities are typically maintained by city street departments or the Riverside County Transportation Department (RCFCWCD, 2017).

Solid Waste Management

The two closest permitted active landfills to the program area are the Lamb Canyon Landfill, located at 16411 State Highway 79 in Beaumont, and the Badlands Landfill, located at 31125 Ironwood Avenue in Moreno Valley. **Table 3.14-4** lists the closure dates, daily permitted capacities, remaining permitted capacities, and proximity of the Proposed Program to the nearest Class III solid waste landfills.

**TABLE 3.14-4
 LANDFILLS IN PROXIMITY TO THE ALIGNMENT**

Facility Name	Closure Date	Daily Permitted Capacity (tons/day)	Remaining Permitted Capacity as of 2015 (cubic yards)	Approximate Distance from Program Area
Lamb Canyon Sanitary Landfill	04/30/2029	5,500	19,242,950	3.3 miles north
Badlands Sanitary Landfill	01/01/2022	4,800	15,748,799	10 miles northwest

*Max permitted daily throughput

SOURCE: CalRecycle 2017a; CalRecycle 2017b,

Project Area Setting

The Proposed Program area setting described above encompasses the Proposed Project area setting, which would occur primarily in the City of San Jacinto. The Proposed Project Mountain Avenue West facility, Well 201, Well 203, a portion of the proposed well collector pipeline and the majority of the alternate well water collector pipeline would be located within the EMWD service area. Well 202, and the Hewitt & Evans treatment/blending disinfection facility site would be located within the San Jacinto Water Department service area (City of San Jacinto, 2006).

3.14.2 Regulatory Setting

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (40 CFR, Part 258 Subtitle D) established minimum location standards for siting municipal solid waste landfills. In addition, because California laws and regulations governing the approval of solid waste landfills meet the requirements of Subtitle D, the EPA has delegated the enforcement responsibility to the State of California.

State

California State Assembly Bill 341

With the passage of AB 341, the Governor and the Legislature established a policy goal for the State that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. Since the passage of AB 939 in 1989, State diversion rates are now equivalent to 65 percent. The Statewide recycling rate is 50 percent, and the beverage container recycling rate is 80 percent. The State provided strategies to achieve its new 75 percent goal, including moving organics out of the landfill and expanding recycling/ manufacturing infrastructure. To achieve State strategies, the State recommended legislative and regulatory changes including mandatory organics recycling, solid waste facility inspections, and revising packaging. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost or anaerobic digestion before residual wastes are considered for energy recovery (CalRecycle, 2017c).

Local

General Waste Discharge Requirements for De Minimis Threats to Water Quality – Santa Ana Region

The General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality (Order No. R8-2015-0004) was issued by the SARWQCB for the Santa Ana Region. Discharges regulated under this De Minimis Permit include but are not limited to construction dewatering wastes; wastes associated with well installation, development, test pumping and purging; and discharges resulting from maintenance of potable water supply pipelines, tanks, and reservoirs. For a discharge to be acceptable, the De Minimis Permit requires discharges to satisfy specific effluent limitations pertaining to

concentrations of various constituents, pH levels, and oil and grease content. Discharges shall also not substantially affect the receiving waters into which they are deposited in various ways as specified by the De Minimis Permit, including violating water quality standards specified in the Basin Plan for the Santa Ana Region (see Section 3.9, Hydrology and Water Quality, for more information on the Basin Plan) (SARWQCB, 2015).

The De Minimis Permit requires submittal of a Notice of Intent (NOI) to the SARWQCB at least 45 days before the anticipated start of a new discharge. The SARWQCB will then issue a discharge authorization letter that includes a self-monitoring program for the proposed discharge. The SARWQCB must also be informed when coverage under the De Minimis Permit is no longer needed (SARWQCB, 2015).

Riverside County Liquid Waste Hauler Permit and Liquid Waste Vehicle Permit

To haul liquid waste (including portable toilet waste), businesses must obtain a Liquid Waste Hauler Permit County from the County. This requires completion of an application that details information on the business, disposal sites, and vehicles to be used (Riverside County, 2016). The County also requires businesses to obtain a Liquid Waste Vehicle Permit; the application must include material safety data sheets for all businesses authorized to provide and service portable toilets, along with a wastewater discharge permit from each wastewater treatment plant to which the business discharges liquid waste (Riverside County, 2017).

3.14.3 Impact Assessment

Thresholds of Significance

The following criteria from Appendix G of the *CEQA Guidelines* are used as thresholds of significance to determine the impacts of the Proposed Program and the Proposed Project as related to utilities and service systems. The Proposed Program and the Proposed Project would have a significant impact if it would:

1. Exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.
2. 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.
3. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
5. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
7. Comply with federal, state, and local statutes and regulations related to solid waste.

Impacts and Mitigation Measures

Wastewater Treatment Requirements

Impact UTIL-1: Implementation of the Proposed Program and the Proposed Project would not exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

During construction of all facilities associated with the Proposed Program, a minimal amount of wastewater would be generated by construction workers and collected by portable toilet facilities. All waste generated in portable toilets would be collected by a County-permitted portable toilet waste hauler and appropriately disposed of at one of the County identified liquid waste disposal stations. These waste disposal stations have been appropriately permitted by the RWQCB. During operation of the Proposed Program, the proposed facilities would convey and recharge imported water, and extract, treat, and convey groundwater for potable uses within the EMWD service area. Operation of the Proposed Program would not generate wastewater that would be conveyed to EMWD's RWRFs and thus would not exceed wastewater treatment requirements. There would be no impacts related to the exceedance of wastewater treatment requirements.

Impact Determination

The Proposed Program would not generate wastewater and thus would not exceed wastewater treatment requirements.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Similar to the Proposed Program, during construction of all facilities associated with the Proposed Project, a minimal amount of wastewater would be generated by construction workers and collected by portable toilet facilities. All waste generated in portable toilets would be collected by a County-permitted portable toilet waste hauler and appropriately disposed of at one of the County identified liquid waste disposal stations. These waste disposal stations have been appropriately permitted by the RWQCB. During operation of the Proposed Project, the proposed facilities would convey and recharge imported water, and extract, treat, and convey groundwater for potable uses within the EMWD service area. Operation of the Proposed Project would not generate wastewater that would be conveyed to EMWD's RWRFs and thus would not exceed wastewater treatment requirements. There would be no impacts related to the exceedance of wastewater treatment requirements

Impact Determination

The Proposed Project would not generate wastewater and thus would not exceed wastewater treatment requirements.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Water or Wastewater Treatment Facilities

Impact UTIL-2: Implementation of the Proposed Program and the Proposed Project would not 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.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program does not include construction of wastewater treatment facilities. As described in Chapter 2, implementation of the Proposed Program would result in construction and operation of water facilities, including treatment/blending and disinfection facilities that would treat groundwater extracted from a potable drinking-water aquifer. The potential impacts of constructing and operating such treatment facilities are evaluated throughout this Draft PEIR. No additional environmental effects would occur.

Impact Determination

As described in Chapter 2, the Proposed Program would result in construction and operation of water treatment facilities, the environmental effects of which are evaluated throughout this Draft PEIR. No other water or wastewater treatment facilities would be constructed.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Similar to the Proposed Program, the Proposed Project does not include construction of wastewater treatment facilities. As described in Chapter 2, implementation of the Proposed Project would result in construction and operation of water facilities, including treatment/blending and disinfection facilities at the Hewitt and Evans site that would treat groundwater extracted from a potable drinking-water aquifer. The potential impacts of

constructing and operating such treatment facilities are evaluated throughout this Draft PEIR. No additional environmental effects would occur.

Impact Determination

As described in Chapter 2, the Proposed Project would result in construction and operation of water treatment facilities, the environmental effects of which are evaluated throughout this Draft PEIR. No other water or wastewater treatment facilities would be constructed.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Stormwater Facilities

Impact UTIL-3: Implementation of the Proposed Program and the Proposed Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Program-Level Impacts

Recharge Facilities

The Proposed Program's four recharge facilities would include ponds constructed as open basins, which in addition to imported water, would infiltrate precipitation deposited within the ponds during storm events. During Proposed Program operation, the ponds would be surrounded by berms of sufficient height to support the anticipated water that would be discharged for recharge into the ponds. New stormwater drainage facilities would not be required to be constructed or expanded to accommodate overflow events. Overflow pipelines and/or structures would be used to transfer water between the ponds to alleviate any potential stormwater drainage overflow events. In the event that supply rates of raw water exceed infiltration rates, flow control valves would be adjusted to match the flow rate to the infiltration rate. Therefore, the Proposed Program would result in no impacts related to the construction or expansion of stormwater drainage facilities.

Monitoring, Extraction and Conveyance Facilities

The Proposed Program's conveyance facilities would operate belowground, and the footprints of monitoring and extraction facilities would be relatively small such that they would not introduce substantial impervious surfaces to the Program area. The proposed extraction wells and treatment/blending and disinfection facilities would be designed to ensure stormwater runoff from each site does not increase (see Section 3.9, Hydrology and Water Quality). As such, the Proposed Program would not require new or expanded stormwater drainage facilities. No impact would occur related to the construction or expansion of stormwater drainage facilities.

Impact Determination

None of the Proposed Program facilities would require construction or expansion of stormwater drainage facilities.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge Facilities

The proposed Mountain Avenue West recharge facility is designed to recharge imported water. In addition, the recharge ponds would also capture and infiltrate precipitation during storm events. The ponds at Mountain Avenue West would be surrounded by berms that are between 3 and 8 feet tall, and would be of sufficient height to support the anticipated water that would be discharged for recharge into the ponds. New stormwater drainage facilities would not be required to be constructed or expanded to accommodate overflow events. Multiple measures would be in place at Mountain Avenue West to prevent overflow when supply rates of raw water exceed infiltration rates. Flow control valves would be adjusted to match the flow rate to the infiltration rate and overflow structures would be used to transfer water between the ponds to alleviate any potential stormwater drainage overflow events. Therefore, the construction and operation of Mountain Avenue West would result in no impacts related to the construction or expansion of stormwater drainage facilities.

Monitoring, Extraction and Conveyance Facilities

The Proposed Project's conveyance facilities would operate belowground, and the footprints of monitoring and extraction facilities would be relatively small such that they would not introduce substantial impervious surfaces to the Project area. The three proposed extraction wells and treatment/blending and disinfection facilities at the Hewitt & Evans site would be designed to ensure stormwater runoff from each site does not increase (see Section 3.9, Hydrology and Water Quality). As such, the Proposed Project would not require new or expanded stormwater drainage facilities. No impact would occur related to the construction or expansion of stormwater drainage facilities.

Impact Determination

None of the Proposed Project facilities would require construction or expansion of stormwater drainage facilities.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Water Supplies/Entitlements

Impact UTIL-4: Implementation of the Proposed Program and the Proposed Project would not require new or expanded water entitlements.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Program facilities would require minimal water amounts during construction for purposes including dust control, concrete-mixing, and well drilling. New or expanded water supply entitlements would not be required during Proposed Program facility construction.

The Proposed Program facilities would recharge, monitor, extract and convey water within the Proposed Program area as part of a groundwater banking program. Unlike a residential, commercial or industrial development that requires water for uses such as drinking, plumbing or landscaping, the facilities would not inherently require a water demand to operate. The facilities would operate to achieve seasonal water banking, in which they would replenish the Sub-Basin with imported water during wet and average precipitation years and extract that water during the same or following year. The facilities would also perform extended water banking, which would occur during wetter-than-average years and involve replenishment of the Sub-Basin with imported water for extraction over the longer-term during conditions such as drought or emergency. The Proposed Program groundwater bank would have a maximum recharge capacity is expected to be up to 70,000 AFY, with a maximum extraction capacity of 30,000 AFY. Therefore, the Proposed Program facilities would capitalize on existing water supplies available to bank groundwater, and would not require expanded water supply entitlements. No impact would occur.

Impact Determination

The Proposed Program facilities would use existing water supply entitlements for purposes of recharge and groundwater banking. Recharge and groundwater banking would actually increase supplies. No new water supply entitlements would be required for Proposed Program operation.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

The Proposed Project facilities would require minimal water amounts during construction for purposes including dust control, concrete-mixing, and well drilling. New or expanded water supply entitlements would not be required during Proposed Project facility construction.

During operation of the Proposed Project, EMWD would be able to recharge an average of approximately 7,000 to 30,000 AFY when imported water supplies are available, and to deliver up to 7,000 AFY to its existing potable water system. Therefore, the Proposed Project facilities would operate with the flexibility to recharge and extract water that is available to EMWD through existing entitlements. The Proposed Project facilities would not require new water entitlements for their operation as would a residential, commercial or industrial development. No expanded water supply entitlements would be required. Therefore, no impact would occur.

Impact Determination

The Proposed Project facilities would use existing water supply entitlements for purposes of recharge and groundwater banking. No new water supply entitlements would be required to operation the Proposed Project.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Wastewater Treatment Facility Capacity

Impact UTIL-5: Implementation of the Proposed Program and the Proposed Project could result in determination by the wastewater treatment provider that it has adequate capacity to serve projected demand in addition to the provider's existing commitments.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As discussed previous under Impact UTIL-1, the Proposed Program facilities would generate minimal wastewater during construction from portable toilet waste, which would be collected by a County-permitted portable toilet waste hauler and appropriately disposed of at one of the County identified liquid waste disposal stations. Once operational, none of the Proposed Program facilities would generate wastewater; thus, there would be no additional wastewater demand for EMWD to consider for treatment at its RWRFs. Therefore, there would be no impact related to wastewater treatment capacity.

Impact Determination

EMWD is the wastewater treatment provider in the Program area. None of the Proposed Program facilities would generate wastewater requiring treatment at EMWD's RWRFs.

Program Mitigation Measures

None required.

Significance Conclusion

No Impact

Project-Level Impacts

As discussed previous under Impact UTIL-1, the Proposed Project facilities would generate minimal wastewater during construction from portable toilet waste, which would be collected by a County-permitted portable toilet waste hauler and appropriately disposed of at one of the County identified liquid waste disposal stations. Once operational, none of the Proposed Project facilities would generate wastewater; thus, there would be no additional wastewater demand for EMWD to consider for treatment at its RWRFs. Therefore, there would be no impact related to wastewater treatment capacity.

Impact Determination

EMWD is the wastewater treatment provider in the Project area. None of the Proposed Project facilities would generate wastewater requiring treatment at EMWD's RWRFs.

Mitigation Measures

None required.

Significance Conclusion

No Impact

Landfill Capacity

Impact UTIL-6: Implementation of the Proposed Program and the Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Construction of the Proposed Program facilities would generate waste that would require disposal at a landfill. EMWD and the construction contractor would be required to divert construction waste from landfills in accordance with CALGreen requirements. Further, the Lamb Canyon and Badlands sanitary landfills had 19,242,950 cubic yards and 15,748,799 cubic yards of remaining capacity as of 2015, respectively. The Lamb Canyon landfill is anticipated to close in 2029 and the Badlands landfill is expected to close in 2022. Therefore, the landfills nearest to the Proposed Program area have room to accommodate waste generated during Proposed Program facility construction through 2029. Therefore, substantial remaining landfill capacity combined with mandatory construction waste diversion requirements would result in less than significant impacts related to sufficient landfill capacity during construction of the Proposed Program facilities.

The Proposed Program monitoring and conveyance facilities would operate to monitor groundwater levels and convey water to various locations, respectfully. Therefore, these facilities would not generate solid waste during operation. Recharge facilities would include desilting ponds designed to remove naturally occurring sediment from imported water discharged to recharge ponds. The desilting ponds would be routinely cleared of sediment, and sediment would be disposed in a landfill; however, these sediment amounts would be minimal and accumulate

slowly. Approximately one truckload of sediment material every three to six months would require landfill disposal. Extraction facilities would include disinfection facilities to remove pathogenic microorganisms and, if necessary, treatment facilities to remove naturally occurring constituents like iron and manganese from extracted groundwater. These water treatment processes would produce minimal waste that would not need to be disposed of at landfills. As described above, the two landfills have substantial remaining capacity and are anticipated to sufficiently accommodate the waste associated with Proposed Program facility operation. Impacts would be less than significant.

Impact Determination

Construction and operation of the Proposed Program would generate solid waste that would require landfill disposal. Existing landfills have capacity to accept solid waste generated by the Proposed Program.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

Impacts associated with the Proposed Project would be similar to the Proposed Program. EMWD and the construction contractor would be required to divert construction waste from landfills in accordance with CALGreen requirements. Further, the remaining capacity of the Lamb Canyon and Badlands sanitary landfills as of 2015 indicates the landfills nearest to the Proposed Project area have room to accommodate the Proposed Project's construction waste. Therefore, substantial remaining landfill capacity combined with mandatory construction waste diversion requirements would result in less than significant impacts related to sufficient landfill capacity during construction of the Proposed Project facilities.

The Proposed Project monitoring and conveyance facilities would operate to monitor groundwater levels and convey water to various locations, respectfully. Therefore, these facilities would not generate solid waste during their operation. The Mountain Avenue West recharge facility would include a desilting pond designed to remove naturally occurring sediment from imported water prior to recharging it. This desilting pond would be routinely cleared of sediment, and sediment would be disposed in a landfill; however, these sediment amounts would be minimal and accumulate slowly. Approximately one truckload of sediment material every six months would require landfill disposal. Proposed Project extraction facilities would include disinfection facilities at Hewitt and Evans to remove pathogenic microorganisms and, if necessary, treatment facilities to remove naturally occurring constituents like iron and manganese from extracted groundwater. These water treatment processes would produce minimal waste that would not need to be disposed of at landfills. As described above, the remaining capacity estimates for the landfills nearest to the Proposed Program area indicate substantial capacity to accommodate waste associated with construction of the Proposed Project facilities. Therefore, the

Proposed Project facilities would have less than significant impacts related to sufficient landfill capacity during operation.

Impact Determination

Construction and operation of the Proposed Project would generate solid waste that would require landfill disposal. Existing landfills have capacity to accept solid waste generated by the Proposed Project.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Threshold UTIL-7. Solid Waste Regulations

Impact UTIL-7: Implementation of the Proposed Program and the Proposed Project could comply with federal, state, and local statutes and regulations related to solid waste.

Program-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As mentioned previously under Impact UTIL-6, EMWD and the construction contractor would be required to divert construction waste from landfills in accordance with CALGreen requirements. Lamb Canyon Landfill, for example, is a Class III landfill that accepts construction/demolition waste. During operation, federal and state regulations would dictate which landfill would be used for disposal of sediments from recharge facilities and solid waste from treatment/disinfection facilities. Lamb Canyon Landfill accepts industrial waste, contaminated soils, green materials, and sludge. Impacts related to compliance with all applicable solid waste regulations would be less than significant.

Impact Determination

Construction and operation of the Proposed Program would comply with federal and state regulations related to solid waste, which would determine the landfill to be used for disposal of construction debris, as well as waste from recharge basins maintenance and solid waste from operation of water treatment/disinfection facilities.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Recharge, Monitoring, Extraction and Conveyance Facilities

As mentioned previously under Impact UTIL-6, during construction of the Proposed Project, EMWD and the construction contractor would be required to divert construction waste from landfills in accordance with CALGreen requirements. Lamb Canyon Landfill, for example, is a Class III landfill that accepts construction/demolition waste. During operation, federal and state regulations would dictate which landfill would be used for disposal of sediments from recharge facilities at Mountain Avenue West and solid waste from treatment/disinfection facilities at Hewitt and Evans. Lamb Canyon Landfill accepts industrial waste, contaminated soils, green materials, and sludge. Impacts related to compliance with all applicable solid waste regulations would be less than significant.

Impact Determination

Construction and operation of the Proposed Project would comply with federal and state regulations related to solid waste, which would determine the landfill to be used for disposal of construction debris, as well as waste from maintenance of Mountain Avenue West recharge basins and solid waste from operation of water treatment/disinfection facilities at Hewitt and Evans.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

3.14.4 References

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CHAPTER 4

Cumulative Impacts

4.1 Introduction

CEQA requires that a Draft EIR assess the cumulative impacts of a project with respect to past, current, and probable future projects within the region. The *CEQA Guidelines* (Section 15355) define cumulative effects as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in environment which results from the incremental impact of the Proposed Program and the Proposed Project when added to other closely related and reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is given in Section 15130 of the *CEQA Guidelines*:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable", (i.e., the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects, including those outside the control of the lead agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.

This Draft EIR covers implementation of the Proposed Program, which would develop a groundwater water bank with total storage capacity of up to 90,000 AF, with an expected maximum recharge of up to 70,000 AFY. EMWD is proposing to implement the San Jacinto Valley Water Banking ERRP in phases; the Proposed Project would be the first installment of the Proposed Program, and would recharge an average of approximately 7,000 to 30,000 AFY. The analysis of cumulative effects in this Draft EIR focuses on the effects of concurrent construction and operation of the Proposed Program and Proposed Project with other spatially and temporally proximate projects as described below. As such, this cumulative analysis relies on a list of related projects that have the potential to contribute to cumulative impacts in the Proposed Program and Proposed Project areas.

4.2 Related Projects

Cumulative effects could result when considering the effects of the Proposed Program and Proposed Project in combination with the effects of other related projects in the area. For this analysis, other past, present, and reasonably-foreseeable future related projects have been identified below. More details as to the geographic and temporal scope used in generating this list of cumulative projects are included below.

4.2.1 Geographic Scope

Cumulative impacts were assessed for related projects within a similar geographic area. This geographic area may vary, depending on the environmental issue area discussed and the geographic extent of the potential impact. For example, the geographic area associated with construction noise impacts is typically limited to areas directly adjacent to construction sites, whereas, the geographic area that is affected by construction-related air emissions is the larger air basin. Construction impacts associated with increased noise, dust, erosion and access limitations tend to be localized but could be exacerbated if development of other improvement projects occurs within the same or adjacent locations as the Proposed Program and Proposed Project. **Table 4-1** summarizes the geographic scope of the analyses for cumulative impacts for each environmental resource area discussed in Chapter 3 of this Draft EIR.

Geographically, the Proposed Program is located in EMWD's service area within Riverside County, specifically in the cities of San Jacinto and Hemet as well as areas of unincorporated Riverside County. The Proposed Program overlies the San Jacinto Groundwater Basin within an incorporated area of EMWD's service area. The Proposed Project area is located within the City of San Jacinto and is roughly bounded by Main Street to the north, Mountain Avenue to the east, Esplanade Avenue to the south, and South Hewitt Street to the west. For the purposes of this analysis, projects were considered depending on the environmental resource being analyzed and the associated location compared to the Proposed Program and Proposed Project. **Figure 4-1** shows the locations of the cumulative projects within or the vicinity of the Proposed Program and Proposed Project area. **Table 4-2** includes a list of the cumulative projects considered in this analysis. Due to the large amount of development projects that are approved, planned, or under construction within and around the Proposed Program and Proposed Project areas, the following types of projects were excluded from this analysis: 1) projects which are currently undergoing environmental review; 2) projects which are relatively small in size (i.e., a residential project consisting of one dwelling unit or a commercial project consisting of one store); 3) projects that include a large number of units and the majority of those units have already been constructed; and 4) project which were originally approved at least ten years ago.

TABLE 4-1
GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Aesthetics	Foreground views immediately surrounding Proposed Program and Proposed Project components as well as the long distance viewshed of the San Jacinto Mountains.
Agriculture and Forestry Resources	All agricultural lands adjacent to the Proposed Program and Proposed Project components and any nearby agricultural lands which share the same water sources.
Air Quality	South Coast Air Basin
Biological Resources	Open-space areas within the cities of San Jacinto, Hemet, and portions of unincorporated Riverside County and surrounding environs that support native habitats and plant and wildlife species
Cultural Resources	Cities of Hemet and San Jacinto, portions of unincorporated Riverside County
Geology, Soils, and Seismicity	Individual Proposed Program and Proposed Project facility sites.
Greenhouse Gas Emissions and Energy	Global (GHG), service areas for energy providers within the Proposed Program and Proposed Project areas (energy)
Hazards and Hazardous Materials	The Proposed Program and Proposed Project facility locations, the immediate area surrounding these locations and the area within 0.25 mile of a school that would also be within 0.25 mile of a Proposed Program or Proposed Project facility.
Hydrology and Water Quality	Proposed Program and Proposed Project sites, downstream receiving waters of the Proposed Program and Proposed Project sites and the entire San Jacinto Groundwater Basin.
Land Use and Planning	Cities of Hemet and San Jacinto, portions of unincorporated Riverside County (specifically San Jacinto Valley Area Plan and Harvest Valley/ Winchester Area Plan).
Noise	Land adjacent to the Proposed Program and Proposed Project components and any adjacent or nearby noise sensitive receptors.
Public Services and Recreation	Cities of Hemet and San Jacinto, portions of unincorporated Riverside County.
Traffic and Transportation	Cities of Hemet and San Jacinto, portions of unincorporated Riverside County.
Utilities and Service Systems	Service areas of the Proposed Program and Proposed Project's utility providers: EMWD, Lake Hemet Municipal Water District, City of San Jacinto Water Department and the City of Hemet Water Department, Riverside County Flood Control and Water Conservation District, and the Lamb Canyon landfill and Badlands landfill.

**TABLE 4-2
RELATED PROJECTS FOR CUMULATIVE ANALYSIS**

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
City of San Jacinto						
1	City of San Jacinto	Santa Jacinto River Levee Stage 4 Corridor Expansion	Between the existing Corps' levee 9,500 feet upstream of State Street and a point about 8,200 feet downstream of Sanderson Avenue, a distance of about five miles	New river levee and associated improvements	Construction and subsequent maintenance of a new levee and associated improvements. The proposed project constitutes the expanded implementation of the 1975 Flood Control Master Plan for the Lower San Jacinto River Basin.	Approved 6/2/2015
2	EMWD	De Anza Sewer Force Main Project	Within paved portion of North Sanderson Avenue and paved entrance driveways from the De Anza Lift Station to the headworks of the San Jacinto Valley Regional Water Reclamation Facility	Wastewater infrastructure	Construction of 7,500 linear feet of a new 15-in diameter sewer force main entirely within the paved portion of N. Sanderson Ave and within paved entrance driveways from the De Anza Lift Station to the headworks of the San Jacinto Valley Regional Water Reclamation Facility in the City of San Jacinto.	Applied 10/26/17
3	City of San Jacinto	Site Plan & Design Review Case - SPDR-16-06 (So Cal Propane)	Greco Court & Grand Avenue	Bulk Propane Storage Facility	Develop two vacant, graded parcels totaling 1.5 acres for a propane utility company, So Cal Propane. This site, Greco Court, will be used as bulk propane storage. The project includes the installation of 12 - 30,000 gallon propane tanks, 28 K-rails for tank protection, a fueling station, tubular steel fencing along Greco Court and decorative boulders and rock base along the Greco Court frontage.	Approved 8/29/17
4	State Water Resources Control Board	TD Dartmouth 12kV Deteriorated Pole Replacement Project	Lake Park Drive and West Ramona Expressway	Distribution Pole Replacement	The project consists of replacing three deteriorated wooden distribution poles with in-kind wood poles. The project area includes a 25-foot-radius temporary construction work area around each pole required for excavation, foot traffic, and equipment staging for pole removal and replacement.	Approved 10/12/17
5	Riverside County	Lamb Canyon Landfill Waste Facility Permit Revision	Gilman Springs Road	Revision to Lamb Canyon Landfill Solid Waste Facility Permit No. 33-AA-0007 and Joint Technical Document No. 18	Proposed project modifies Lamb Canyon Landfill SWFP 33-AA-0007 to include the following landfill design and operational modifications, as identified in JTD No. 20: 1) Increase the size of the total permitted disturbance area from the current 580.5 acres to 703.4 acres; 2) Implement several drainage and access improvements throughout the site; 3) relocate the existing food waste composting facility; and 4) Implement additional bird abatement control measures.	Approved 9/19/17

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
6	EMWD	Ramona Expressway 15-inch Sewer Pipeline Extension	Public right-of-way along Ramona Expressway	Utility Infrastructure	Extension of the sewer system in Ramona Expressway to the existing crossing at the San Jacinto River where flows will be received into the District's sewer system. The project will be constructed within the public rights-of-way along Ramona Expressway from Vernon Avenue, continuing southeast toward Lake Park Drive, and connecting to an existing 8-inch diameter forcemain, owned by the District	Approved 6/6/17
7	Mt. San Jacinto Community College District	San Jacinto Campus Emergency Generator Project	1499 N. State Street	Utility Infrastructure	Construction and operation of a stationary emergency diesel generator at the San Jacinto Campus. The emergency generator is for use by Building 200 and will support the District technology serve room and building emergency center during power outages.	Approved 4/17/17
8	EMWD	Sodium Hypochlorite Conversion Project SJVRWRF	San Jacinto Valley Regional Water Reclamation Facility	Utility Infrastructure	Minor alterations to existing equipment, existing facilities and interior alterations to existing structures. The project would not result in increased capacity to existing facilities.	Approved 4/4/17
9	Caltrans	State Route 79 Realignment Project	18 miles of State Route 79 from Parkway to Gilman Springs Road in the Cities of San Jacinto and Hemet, and unincorporated Riverside County	Roadway Improvement	The SR 79 Realignment Project proposes to realign SR 79 approximately 18 miles from Domenigoni Parkway to Gilman Springs Road in the Cities of San Jacinto and Hemet, and unincorporated Riverside County. The project would be divided limited-access expressway with four travel lanes (two lanes in each direction). Access would be limited to on- and off-ramps at specified locations. Almost all of the realignment would be new construction in areas where no highway currently exists. The realigned SR 79 would alleviate the existing circuitous route through the downtown areas of Hemet and San Jacinto and result in a more direct north south route through the San Jacinto Valley for regional motorists. Construction is anticipated to begin in 2017.	Approved 1/26/17
10	EMWD	Demolition of Lab Building at the San Jacinto Valley Regional Water Reclamation Facility	San Jacinto Valley Regional Water Reclamation Facility	Demolition	Removal of an accessory structure, formerly used as a laboratory, at their San Jacinto Valley Regional Water Reclamation Facility. Completion of an industrial Hygiene Report determined that asbestos and lead containing materials were found in or on the structure.	Approved 5/12/16
11	EMWD	Sanderson Lift Station Pump Electrification Project	San Jacinto Valley Regional Water Reclamation Facility	Facility Upgrades	Conversion of the internal combustion engine drive equipment to electric motor-drive equipment at the Sanderson Lift Station.	Approved 3/28/16

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
12	Metropolitan Water District of Southern California	Lakeview Pipeline Repair Project	Lakeview Avenue, Ramona Expressway, and Warren Road	Pipeline Alignment	The proposed project would reline the existing Lakeview Pipeline with a steel pipe liner. To gain access to the inside of the LVP and install the liner, access sites would be established at a max of 23 locations along the LVP alignment. The project would also install an approximately 1,000 lf pipeline interconnection between the LVP and the Perris Bypass Pipeline at Metropolitan's Lake Perris Pressure Control Structure Facility.	Approved 12/14/15
13	City of San Jacinto	San Jacinto Valley Master Plan and San Jacinto Regional Area Drainage Plan Amendment	San Jacinto River to the N. Meridian St to the E, Florida Ave, Warren Road	Drainage Plan Amendment	The project requires rescinding the 1982 San Jacinto Area Master Drainage Plan and the 1985 Northwest Hemet Master Drainage Plan; and would incorporate additional areas located to the north and west of the existing plans. The project consists of a conceptual drainage plan used to guide future construction drainage facilities comprised of open channels, underground storm drains and detention basins.	Approved 10/14/15
14	City of San Jacinto	Recorded Tract Map (TR) 32352	Ramona Expressway and Main Street	Residential Development	Residential development consisting of 178 lots, where 24 lots have been constructed to date.	Under Construction
15	City of San Jacinto	Recorded Tract Map (TR) 31886	Ramona Expressway and Potter Road	Residential Development	Residential development consisting of 44 lots	Approved
16	City of San Jacinto	Recorded Tract Map (TR) 31886	Ramona Expressway and Potter Rd	Residential Development	Residential development consisting of 120 lots, where 5 lots have been constructed to date and 6 are under construction.	Under Construction
17	City of San Jacinto	Recorded Tract Map (TR) 34586	Kirby St and north of Esplanade Ave	Residential Development	Residential development consisting of 34 lots, where 4 lots have been constructed to date and 18 are under construction.	Under Construction
18	City of San Jacinto	Recorded Tract Map (TR) 32352	Sanderson Ave & Seventh Street	Residential Development	Residential development consisting of 47 lots, where 14 lots have been constructed to date.	Under Construction
19	City of San Jacinto	Recorded Tract Map (TR) 22665	7 th St & Pine Ave	Residential Development	Residential development consisting of 147 lots, where 7 lots have been constructed to date.	Under Construction
20	City of San Jacinto	Recorded Tract Map (TR) 30036 (SP 1-01)	Warren Rd & Cottonwood Ave	Residential Development	Residential development consisting of 104 lots.	Approved.
21	City of San Jacinto	Recorded Tract Map (TR) 30597	7 th St and Cawston Ext.	Residential Development	Residential development consisting of 116 lots, where 33 lots have been constructed to date	Under construction.
22	City of San Jacinto	Recorded Tract Map (TR) 31037	Bet De Anza & Ramona Expressway	Residential Development	Residential development consisting of 129 lots.	Approved.
23	City of San Jacinto	Recorded Tract Map (TR) 31037	Bet De Anza & Ramona NW of Potter	Residential Development	Residential development consisting of 88 lots, where 14 lots have been constructed to date.	Under Construction
24	City of San Jacinto	Recorded Tract Map (TR) 32053	Ramona Expressway and Main St	Residential Development	Residential development consisting of 178 lots, where 24 lots have been constructed to date.	Under Construction

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
City of Hemet						
25	Fish & Wildlife Conservation Board	Western Multi-Species Habitat Conservation Plan (2015) – McLaughlin; Western Multi-Species Habitat Conservation Plan (2014/2015) – Bautista; Western Multi-Species Habitat Conservation Plan (2013) – Kaelin; Riverside MSCHP (2014) - Lloyd	City of Hemet	Expansion of Western Riverside MSHCP	The project involves a proposed sub-grants of federal funds to the Western Riverside County Regional Authority and a Wildlife Conservation Board grant to assist in the acquisition of habitat for the protection of threatened and endangered species included within the Western Riverside MSHCP; and to expand regional wildlife habitat corridors and linkages.	Approved 2/24/17
26	Riverside County Airport Land Use Commission	Hemet-Ryan Airport Land Use Compatibility Plan (Hemet ALUCP)	W. Stetson Ave and Walden Weaver Rd	ALUCP	Adoption of an ALUCP that would be applicable to the environs of Hemet-Ryan Airport. The proposed ALUCP includes "Additional Compatibility Policies" tailored specifically to the Airport's land use environs and reflects the Commission's efforts to develop an ALUCP that fully satisfies the objectives of the State Aeronautics Act and addresses local concerns. The ALUCP establishes policies for determining the consistency of future, proposed development projects within the Hemet-Ryan Airport Influence Area with the objective of protecting public health, safety, and welfare, as set forth in the State Aeronautics Act.	Approved 2/17/17
27	Riverside County Flood Control and Water Conservation	Bautista Creek Recharge Basin Expansion Project	Ramona Expressway and Cedar Ave	Water Infrastructure	The District, in partnership with the Lake Hemet Municipal Water District, is proposing to design, construct, operate and maintain the Bautista Recharge Basin expansion project. The recharge project is being designed to promote infiltration and increase recharge in the Hemet-San Jacinto Valley groundwater basin areas. The project includes construction of 6 earthen infiltration basins that will allow stormwater and surplus water to pond until it infiltrates into the ground.	Approved 12/27/16
28	City of Hemet	Chrysler, Dodge, Jeep Dealership (SDR 17-005)	SEC of Warren Rd and Auto Boulevard in the Hemet Auto Mall	Commercial	New car dealership	Under construction
29	City of Hemet	First Certified Collision Center (SDR 17-004)	3800 Wentworth Drive	Industrial Facility	Expansion and remodel of the existing industrial facility	Approved on 8/17/17

4. Cumulative Impacts

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
30	City of Hemet	Zanderson Plaza (TTM37196) (CUP16-006)	Sanderson Ave and Menlo Ave.	Commercial Center	Neighborhood commercial center with a gas station, convenience store, restaurants, retail uses	Approved on 8/22/2017.
31	City of Hemet	The Shops at the Crossroads (CUP17-002)	NEC Sanderson Ave and Florida Ave.	Commercial	Demolition and new construction of commercial use	Approved on 6/6/2017.
32	City of Hemet	KPC Towne Center (SDR15-004)	2171 W. Florida Ave.	Shopping Center	Remodel of existing 124,877 vacant building and new construction of 39,223 sf for commercial shopping center. Completed: 110,100 sf.	Approved by PC 12/15/15, Phase 1 constructed and open with Burlington, Sprouts and Ulta as major tenants, as well as office space. Phase 2: Additional 39,736 sf retail is in plan check.
33	City of Hemet	Paso Robles Tank (SDR17-007)	3883 Wentworth Dr.	Office Building	Two new modular office buildings at existing industrial site.	Under Construction.
34	City of Hemet	All For Show (CUP17-008)	267 Harvard St.	Automotive	Automotive shop for aftermarket installations.	Approved on 3/21/2017.
35	City of Hemet	AAL Management (CUP16-007)	720 W. Florida Ave.	Commercial/Office	Construction of new commercial/office center.	Approved by PC 11-1-2016. Construction plans approved 4/18/2017.
36	City of Hemet	Coramdeo Court (TTM37087)	North side of Fruitvale Ave, west of Palm Ave, east of Lyon Ave. APNs 444370023, -026	Residential	Single family residential subdivision into 20,000 custom lots.	Approved by PC 8/1/2017.
37	City of Hemet	Rancho Diamante Page/Strata BP, LLC TTM 35393	SEC of Warren Road and Mustang Way	Residential	Single family residential subdivision of 440 single family lots and 1.17-acre park	Substantial Conformance Map approved 8/01/17
38	City of Hemet	Pension del Sol (SDR 14-002) (EOT16-005)	South side of Latham Ave, east of Lyon Ave, west of Elk St. APN 422060046.	Residential	Senior housing apartment complex.	Approved by PC on 11/4/2014; 3-year extension of time approved by PC on 9/6/2016 to 11/4/2019.
39	City of Hemet	Tres Cerritos (SP90-009) (SPA06-001) (TTM36759)	NWC Cawston Ave and Devonshire Ave.	Residential	Residential community	SP and TTM 36759 (conveyance map for East Tres Cerritos) approved by PC on 2/15/15 and recorded on 12/6/2016.
40	City of Hemet	Peppertree (SP01-003) (TTM29843) (SDR06-002 -006)	West side of Cawston Ave between Menlo Ave and Fruitvale Ave.	Residential	Senior Residential community.	456 units approved. 98 units under construction.

Project No.	Lead Agency	Name	Location	Project Type	Project Description	Status
41	City of Hemet	Sanderson Square (SP05-003)	East side of Sanderson Ave between Acacia Ave and Stetson Ave. APNs 456030036, -038, -039, -042.	Commercial	Commercial and business park center.	Proposed in SP: 995,153 sf commercial; 734,984 sf manufacturing.
42	City of Hemet	Florida Promenade (SP06-004) (SPA09-001)	NEC Florida Ave and Myers St	Commercial	Commercial Center. Approved for 200,000 sf of retail space.	Completed: 125,748 sf. Several retail uses are in plan check.
43	City of Hemet	Stetson Plaza (SP07-004)	NWC Sanderson Ave and Stetson Ave. APN 456050044	Commercial	Shopping center.	SP and TPM approved.
44	City of Hemet	Ramona Creek (SP12-001) (TTM36510)	NWC Florida Ave and Myers St.	Residential	Mixed use Residential & Commercial master planned community.	SP adopted on 6/10/14. EOT16-004 extended the expiration date for TTM 36510 (conveyance map) to 7/24/2018.

SOURCE: City of Hemet, 2017; City of San Jacinto, 2017; OPR, 2017.

4.2.2 Temporal Scope

In addition to the geographic scope, cumulative impacts must also consider the temporal scope of other projects relative to the proposed project. Schedule is particularly relevant to the consideration of cumulative construction-related impacts, since construction impacts tend to be relatively short-term. EMWD is proposing to implement the Proposed Program in phases; the Proposed Project would be the first installment of the Proposed Program. Implementation of the Proposed Project is expected to occur in a roughly three-year timeframe, starting as early as in 2018 and ending in 2021. The Proposed Program would be developed in future phases over the next 20 to 30 years. The Notice of Preparation of the Proposed Program and Proposed Project was released in May 2015, which established the baseline year for this environmental document. Therefore, the temporal scope for selecting related projects was defined as any project that was completed no earlier than May 2015, any project currently under construction, and all large-scale future projects that would likely be constructed over the next 30 years (the Proposed Program planning horizon). It should be noted that construction schedules are often broadly estimated and can be subject to change due to schedule changes or other unknown factors. Therefore, the analysis of cumulative impacts assumes that all related projects could be on-going simultaneously with any of the Proposed Program or Proposed Project facilities.

4.3 Impacts and Mitigation Measures

Aesthetics

Impact CUM 4-1: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative long-term impacts to aesthetics.

Program-Level Impacts

The geographic scope for potential cumulative impacts to aesthetics includes foreground views immediately surrounding Proposed Program components as well as the long distance viewshed of the San Jacinto Mountains to the northeast of the cities of Hemet and San Jacinto. In the valley areas, such as the vicinity of the Proposed Program, the texture of landscape features such as built elements are noticeable and appear prominent depending on the vantage point. The Proposed Program area includes the City of San Jacinto, City of Hemet, and unincorporated Riverside County, which includes built-up areas as well as undeveloped areas. The prominent scenic resource within the Proposed Program's vicinity is the foothills of the San Jacinto Mountains which can be seen to the north, east, and south of the Proposed Program area. As described in Section 3.1 *Aesthetics*, components such as pipelines would be constructed belowground and would have no long-term visual impacts. Construction of all aboveground facilities including the recharge basins, monitoring facilities, extraction facilities, treatment/blending and disinfection facilities, and pump stations would result in a temporary visual impact to the character of the Proposed Program sites. Once in operation, the proposed monitoring facilities, extraction facilities (including well houses), treatment/blending and disinfection facilities, and pumping stations would be constructed in single story units dispersed amongst vacant land and residential communities and would match the surrounding architectural structures. The proposed recharge basins would add new structures in vacant lands, however the structures would not be taller than

existing structures in neighboring parcels and the addition of amenities and landscaping would reduce the visual impact to less than significant.

When combined, certain projects in the cumulative scenario listed above (**Table 4-2**) have the potential to affect key views and sensitive aesthetic resources in the geographic scope. Since the only aboveground facilities constructed as part of the Proposed Program are the recharge facilities, treatment/blending and disinfections facilities, well houses, and pump stations, the majority of cumulative aesthetic impacts are confined to the eastern portion of San Jacinto where these facilities would be constructed. The projects that could combine with these Proposed Program facilities to impact views of the San Jacinto Mountains and the associated visual character are those on the eastern edge of San Jacinto. In particular, these projects include Project 14 and 24, which are residential subdivisions consisting of 178 lots in the eastern portion of San Jacinto as shown on **Figure 4-1**. The large-scale nature of these residential developments in undeveloped areas would be visible to affected viewers in the geographic scope, specifically when driving or walking down Main Street, Ramona Expressway, and Mountain Avenue. Additionally, Project 4 consists of distribution pole replacements adjacent to the Mountain Avenue North facilities which would not impact scenic views of the San Jacinto Mountains since existing distribution poles are part of baseline conditions. Depending on the project element and viewing location, mitigating landscape elements, and other factors, such as the presence of vegetation screening could minimize the actual visibility. Given the pace and extent of planned development within the San Jacinto and Hemet area within the last 20-30 years, these visual changes would not result in a significant cumulative visual impact, as they would be constructed to be generally two-story homes with a low profile and would blend into the surrounding landscape. For these reasons, the combined visual effects from Projects 4, 14 and 24 within the geographic scope of the visual analysis would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would contribute incrementally to the cumulative impacts on aesthetic resources. For some of the program components, such as the recharge basins, treatment/blending and disinfection facilities, and pump houses constructed in currently undeveloped areas, the Proposed Program would represent a permanent incremental change to visual character. Mitigation Measures AES-PMM-1 and AES-PMM-2 include design and lighting requirements that would ensure all aboveground facilities blend into the surrounding neighborhoods and that construction-related or permanent lighting does not introduce new sources of light or glare that affect nighttime skies. Additionally, the height of proposed facilities would not exceed one story. These measures and the height of Proposed Program facilities would reduce the Proposed Program's contribution to significant cumulative aesthetic impacts. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Program's incremental contribution to aesthetic impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measure AES-PMM-1 and AES-PMM-2.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

Given the fact that the aboveground facilities proposed as part of the Proposed Project are located in the eastern portion of San Jacinto, the Project-related impacts and geographic scope of the cumulative analysis are the same for the Proposed Project as the Proposed Program described above. The Proposed Project requires implementation of Mitigation Measures AES-MM-1 and AES-MM-2, which are the same as those required for the Proposed Project. When considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Project's incremental contribution to aesthetic impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measure AES-MM-1 and Mitigation Measure AES-MM-2.

Significance Conclusion

Less than Significant with Mitigation

Agriculture and Forestry Resources

Impact CUM 4-2: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope would not result in cumulative long-term impacts to agriculture and forestry resources.

Program-Level Impacts

The geographic scope for potential cumulative impacts related to agriculture and forestry resources includes all agricultural lands adjacent to the Proposed Program components and any nearby agricultural lands which share the same water sources. The Proposed Program area covers a large area within the City of Hemet, City of San Jacinto, and unincorporated Riverside County. It is comprised of mostly Urban and Built-up Land while there are some parcels that are designated as irrigated important farmland located within the central, western, and southeastern portions of the Proposed Program area. As described in Section 3.2, *Agriculture and Forestry Resources*, the Proposed Program components such as the recharge facilities, monitoring facilities, and extraction facilities would be located on lands designated as Other Lands or Urban Built-up Land. The Mountain Avenue West and South recharge facilities and associated monitoring facilities and extraction Well 202 would be located on Farmland of Local Importance. Portions of Prime Farmland exist within the area in which the Proposed Program extractions wells would be located. The potential impact of future wells on Prime Farmland were evaluated using the LESA model and determined to be less than significant. All conveyance facilities such as pipelines would be constructed within public rights-of-way and would not permanently alter any agricultural capacity of the overlying land. Similarly, forest land would not be impacted by the Proposed Program facilities.

When combined, projects in the cumulative scenario listed above (**Table 4-2**) have the potential to affect agricultural resources in the geographic scope. The majority of projects in the cumulative scenario would not be located on farmland designated as Prime Farmland or Farmland of Statewide Importance designated by the FMMP (see **Figure 3.2-1**). However, some projects such as Projects 12, 37, and 40 could be located on farmland, and could potentially affect land use designations that may directly convert agricultural land to non-agricultural uses. If avoidance of agricultural land is incorporated in the planning process, any impact related to agricultural resources would be reduced. Given the spread of the projects and the fact that there are minimal agriculture resources present in the Proposed Program area, the combined agricultural effects from the projects, within the geographic scope of the agricultural analysis, particularly Projects 12, 37, and 40, would not be considered cumulatively significant.

The related projects within the geographic scope would not have cumulatively considerable impacts to agriculture. The Proposed Program also would result in less than significant impacts to agriculture. As such, when the Proposed Program is considered together with the related projects, the impacts to agriculture would not be cumulatively considerable. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

The Proposed Project impacts and geographic scope of the cumulative analysis are the same for the Proposed Project as the Proposed Program described above. The combined effects of the related projects to agriculture would not be cumulatively considerable. The Proposed Project would result in fewer potential impacts to agriculture than the Proposed Program because none of the components would be located on Prime Farmland. The proposed Mountain Avenue West recharge facility and extraction Well 202 would be located on Farmland of Local Importance. However, the Proposed Project components would not implement any facilities within agricultural land that is designated as Prime Farmland, Farmland of Statewide Importance or Unique Farmland. Additionally, the Proposed Project would not be built on land designated as Williamson Act contracts or land zoned as forest land. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Project's incremental contribution to agriculture would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Air Quality

Please refer to Section 3.3 Air Quality, Impact AQ-3, the analysis of cumulative air quality impacts.

Biological Resources

Impact CUM 4-3: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short- and long-term impacts to biological resources.

Program-Level Impacts

The geographic scope for potential cumulative impacts to biological resources includes the open-space areas within the cities of San Jacinto, Hemet, portions of unincorporated Riverside County, and surrounding environs that support native habitats and plant and wildlife species. Regional geographic features surrounding the area include the San Jacinto Mountains to the east and the Lakeview Mountains to the northwest. The Proposed Program is located within the San Jacinto Valley adjacent to and west of the San Jacinto River. As described in Section 3.4, *Biological Resources*, habitat exists in the Proposed Program area for sensitive species such as Stephens' kangaroo rat, burrowing owl, Los Angeles pocket mouse, and California horned lark. One special-status wildlife species, the San Bernardino kangaroo rat, is considered present as a result of focused habitat assessment surveys conducted on the proposed Mountain Avenue South recharge site that identified sign of active use. One special-status plant species, Munz's onion, was determined to have a medium potential to occur within the southwestern portion of the Proposed Program where the proposed 48-inch potable water pipeline travels through an undeveloped portion of land. The Proposed Program facilities are adjacent to the San Jacinto River which is itself a jurisdictional resource and functions as a wildlife movement corridor for wildlife moving through the region, particularly from the Lakeview Mountains to the northwest to the San Jacinto Mountains to the east. No sensitive natural communities occur in the Proposed Program area.

Development in the Proposed Program area has substantially altered native habitats and adversely affected native plant and wildlife. Historic agricultural use and the expansion of urban areas in the region have resulted in the loss of open space and the degradation of natural areas that historically supported populations of unique or rare species and habitats. The majority of projects listed in **Table 4-2** are located in areas that are already substantially developed, or the sites have previously been altered due to grading or agricultural practices, and would not contribute significantly to direct impacts to biological resources. Any of the residential or commercial developments in undeveloped areas could potential result in the loss of natural habitat and could directly and indirectly impact plant and wildlife species. Residential projects 14 and 24 would be located adjacent to the Mountain Avenue North recharge facility along the San Jacinto River and could result in impacts to special-status species in that portion of the Proposed Program area. However, project design features and mitigation measures would likely reduce these impacts and

it would not be considered cumulatively significant. Project 25 is the expansion of the MSHCP, which would assist in the acquisition of habitat for the protection of threatened and endangered species included within the Western Riverside MSHCP; and to expand regional wildlife habitat corridors and linkages. This project would increase the amount of habitat available for threatened species and wildlife linkages in the San Jacinto Valley, which would be a cumulative benefit to the region. For these reasons, the combined biological resources effects from projects within the geographic scope of would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program could contribute incrementally to the cumulative impacts on biological resources. Impacts to sensitive species resulting from constriction of Mountain Avenue North could interact with impacts to Projects 14 and 24, which could act together to create a significant biological impact. However, implementation of Mitigation Measures PMM-BIO-1 through PMM-BIO-5 would reduce the Proposed Program's contribution to special-status species to a less than significant level through focused surveys and trapping efforts, preconstruction surveys, and BMPs. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Program's incremental contribution to biological resources impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measures PMM-BIO-1 through PMM-BIO-5.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

The geographic scope for potential cumulative impacts to biological resources includes the open-space areas within the cities of San Jacinto and surrounding environs that support native habitats and plant and wildlife species. The Proposed Project is located within the San Jacinto Valley adjacent to and west of the San Jacinto River. As described in Section 3.4, *Biological Resources*, construction of the proposed extraction Wells 201, 202, and 203, the treatment/blending and disinfection facilities at the Hewitt and Evans treatment/blending and disinfection facility, and all pipelines, may result in impacts to coastal whiptail, coast horned lizard, burrowing owl, California horned lark, and San Diego black-tailed jackrabbit and nesting birds in general should they be determined to be present. The Mountain Avenue West recharge facility is located in close proximity to the San Jacinto River which is itself a jurisdictional resource and functions as a wildlife movement corridor for wildlife moving through the region. No sensitive natural communities occur in the Proposed Project area.

None of the projects listed in **Table 4-2** are located in the vicinity of the Proposed Project features and therefore would not combine together to create a cumulative impact. Further, Project 25 is the expansion of the MSHCP, which would assist in the acquisition of habitat for the protection of threatened and endangered species included within the Western Riverside MSHCP; and to expand regional wildlife habitat corridors and linkages. This project would increase the

amount of habitat available for threatened species and wildlife linkages in the San Jacinto Valley, which would be a cumulative benefit to the region. For these reasons, the combined biological resources effects from projects within the geographic scope would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Project would not contribute incrementally to the cumulative impacts on biological resources. All impacts to sensitive species would be reduced with implementation of Mitigation Measures MM-BIO-1 through MM-BIO-3, which would require focused surveys and trapping efforts, preconstruction surveys, and BMPs. Therefore, when considered together with the cumulative scenario, the Proposed Project's incremental contribution to biological resources impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM-BIO-1 through MM-BIO-3.

Significance Conclusion

Less than Significant with Mitigation

Cultural Resources

Impact CUM 4-4: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative long-term impacts to cultural resources.

Program-Level Impacts

The geographic scope for potential cumulative impacts to cultural resources comprises the cities of Hemet and San Jacinto, as well as unincorporated portions of Riverside County. The Proposed Program area is located primarily within the cities of Hemet and San Jacinto, with the proposed pipeline alignments constructed in existing road ROWs, and the above ground components being constructed on EMWD-owned parcels adjacent to residential areas and bounding the San Jacinto River. As described in Section 3.5, *Cultural Resources*, twenty-seven cultural resources were identified within or immediately adjacent to (within 100 feet of) the Proposed Program area, including one prehistoric isolate, one historic-period archaeological site, and 25 historic-period built resources. Seven of these resources have been evaluated as ineligible for the NRHP, CRHR, or local listing and are not considered historical resources under CEQA; five have previously been listed in the NRHP or CRHR, or found eligible for listing in the NRHP, CRHR, or local listing, and are considered historical resources under CEQA. The remaining 15 unevaluated resources are considered potential historical resources under CEQA. In addition, there exists the potential for previously unknown archeological and paleontological resources to underlie the Proposed Program components.

All of the projects within the geographic scope of this cumulative impacts analysis (Projects 1-44) include varying degrees of ground disturbing activities, and, therefore, have the potential to impact cultural resources that qualify as historical and/or unique archaeological resources, as well as human remains. These projects also have the potential to impact paleontological resources and/or unique geologic features. It is assumed that the cultural and paleontological resources within this geographic scope would be similar to those in the Proposed Program area. It is also expected that these projects would be or have been subject to analysis and review under CEQA, and that the potential effects to historical resources would be mitigated. For these reasons, the combined cultural resources effects from Projects 1-44 within the geographic scope of the cultural resources analysis would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would contribute incrementally to the cumulative impacts on cultural resources. Although implementation of the Proposed Program has the potential to impact previously documented historic-period built resources that may qualify as historical resources pursuant to CEQA, Mitigation Measures CUL-PMM-1 and CUL-PMM-2 would involve preparation of a Historic Resources Assessment and a Phase I Archaeological Resources Assessment that would identify historical and unique archaeological resources that could be impacted by the Proposed Program and develop treatment for significant resources, which would reduce impacts to a less than significant level. Furthermore, Proposed Program implementation has the potential to impact paleontological resources and unique geologic features. Implementation of Mitigation Measures CUL-PMM-3 and CUL-PMM-4, which provide for retention of a Qualified Paleontologist, paleontological resources sensitivity training, paleontological monitoring, and treatment protocols for unanticipated paleontological discoveries, would ensure that impacts are reduced to a less than significant level. While no known human remains have been identified in the Proposed Program area as a result of the cultural resources assessment, any ground disturbing activity has the ability to disturb human remains. In the event that human remains are encountered during Proposed Program implementation, Mitigation Measure CUL-PMM-5 would ensure that the remains are treated in accordance with relevant state laws and that impacts would be reduced to a less than significant level. It is assumed that any other projects in the geographic scope of analysis (such as the projects listed in **Table 4-2**) would also follow state law and have similar mitigation. Therefore, implementation of these mitigation measures would ensure that the Proposed Program would not contribute to a cumulative impact on cultural resources. As a result, cumulative impacts would not be cumulatively considerable. Impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measures CUL-PMM-1 through CUL-PMM-5.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

The geographic scope for potential cumulative impacts to cultural resources comprises the EMWD service area which includes the City of San Jacinto. The Proposed Project area is located within the City of San Jacinto, with the pipeline alignments being constructed in existing road

ROWs, and the above ground components being constructed on EMWD-owned parcels adjacent to residential areas and bounding the San Jacinto River. As described in Section 3.5, *Cultural Resources*, four cultural resources have been documented within and immediately adjacent to (within 100 feet of) the Proposed Project area, including three historic-period built resources and one historic-period archaeological site. The three historic-period built resources are ineligible for listing in the NRHP, CRHR, or local designation and are not considered historical resources under CEQA. The unevaluated history-period built resource is located within the Mountain Avenue West recharge basin, but outside the construction footprint and will not be impacted by the Proposed Project. In addition, given the proximity of the San Jacinto River, which would have served as a water source and provided abundant natural resources to Native America inhabitants in prehistoric/ethnohistoric times, the area would have been an attractive resource procurement and habitation area. The area was also one of the earliest settled areas in the region and there could be cultural remains related to historical occupation of the area, such as those associated with the establishment of Old Town San Jacinto, the first trading post, and Hewitt's boarding house (later the Palma Hotel and Riverside County Hospital) within the Hewitt and Evans treatment/blending and disinfection facility, as well as archaeological deposits associated with the vernacular wood frame house constructed in 1920 in the Mountain Avenue West recharge basin. Furthermore, there exists the possibility that the Proposed Project components are underlain by paleontological resources and/or unique geological features.

All of the projects within the geographic scope of this cumulative impacts analysis (Projects 1-44) include varying degrees of ground disturbing activities, and, therefore, have the potential to impact cultural resources that qualify as historical and/or unique archaeological resources, as well as human remains. These projects also have the potential to impact paleontological resources and/or unique geologic features. It is assumed that the cultural and paleontological resources within this geographic scope would be similar to those in the Proposed Program area. It is also expected that these projects would be or have been subject to analysis and review under CEQA, and that the potential affects to historical resources would be mitigated.

When added to the cumulative scenario described above, the effects of the Proposed Project implementation have the potential to cause impacts to cultural resources. Mitigation Measures CUL-MM-1 through CUL-MM-4 would involve: sensitivity training; development of a CRMMP to guide monitoring of ground disturbing activity, treatment of unanticipated discoveries, and Native American input on resources that are Native American in origin; archaeological monitoring of all Project-related ground disturbance, and protocols to follow in the event archaeological resources are encountered during construction. These measures would reduce impacts to a less than significant level. Furthermore, Proposed Project implementation has the potential to impact paleontological resources and/or unique geological features that may underlie the Proposed Project area. Implementation of Mitigation Measure CUL-MM-5 through CUL-MM-7, which provide for retention of a Qualified Paleontologist, paleontological resources sensitivity training, paleontological monitoring, and treatment protocols for unanticipated paleontological discoveries, would ensure that impacts are reduced to a less than significant level. While no known human remains have been identified in the Proposed Project area as a result of the cultural resources assessment, any ground disturbing activity has the ability to disturb human remains. In the event that human remains are encountered during Proposed Project implementation,

Mitigation Measure CUL-MM-8 would ensure that the remains are treated in accordance with relevant state laws and that impacts would be reduced to a less than significant level. It is assumed that any other projects in the geographic scope of analysis (such as the projects listed in **Table 4-2**) would also follow state law and have similar mitigation. Therefore, implementation of these mitigation measures would ensure that the Proposed Project would not contribute to a cumulative impact on cultural resources. As a result, cumulative impacts would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures CUL-MM-1 through CUL-MM-8.

Significance Conclusion

Less than Significant with Mitigation

Geology, Soils, and Seismicity

Impact CUM 4-5: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to geology, soils, and seismicity.

Program-Level Impacts

The geographic scope for potential geology-related impacts includes the individual Proposed Program facility sites. The Proposed Program area is underlain by weathered granitic bedrock of variable thickness overlain by alluvial deposits at lower elevations left by stream and slope wash. A majority of the Proposed Program area is generally flat and composed of varying degrees of sandy to silty loam soils. Alquist-Priolo Earthquake Fault Zones pass through the Proposed Program area, including the San Jacinto fault (Casa Loma Segment and Claremont Segment). The Proposed Program areas contain areas of shallow groundwater with high liquefaction potential. Landslide and subsidence risk areas exist in the Proposed Project area. As described in Section 3.6, *Geology, Soils, and Seismicity*, the extraction and conveyance facilities are located in an area generally characterized with high liquefaction potential due to the potential for shallow groundwater. The entire Proposed Program area is subject to groundshaking given the presence of the San Jacinto Fault. Construction of the proposed recharge and conveyance facilities could result in soil erosion and topsoil loss. Operation of the proposed recharge facilities would involve routine removal and stockpiling of sediment which could be subject to erosion. Subsidence could occur naturally based on geological movement of the San Jacinto fault, and/or become exacerbated by the extraction of groundwater that is proposed by the Program. The Proposed Program would not involve septic tank construction or use.

Projects in the cumulative scenario listed above (**Table 4-2**) have the potential to be affected by the geology, soils, and seismicity of the geographic scope, and could be affected by seismicity in the geographic scope. In particular, this includes Projects 3 and 19 which are located within an Alquist-Priolo Fault Zones and overlap the San Jacinto Fault. Project 3 involves construction of a bulk propane storage facility (12 30,000-gallon propane tanks) and Project 19 is a 147-lot

residential development. Although these two projects would be located within an active fault zone, they do not directly overlap Proposed Program facilities. Further, the impacts associated with geology, soils and seismicity are site-specific and only affect the site itself and adjacent areas. The combined geologic effects from Projects 3 and 19 would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would not contribute incrementally to the cumulative impacts related to geology and soils. Implementation of the Proposed Program would not affect the geology of other project sites and vice versa. The Proposed Program recharge facilities could be affected by liquefaction or soil instability. Erosion could also occur during proposed recharge facility operation from soil stockpiles and during monitoring and extraction facility construction from ground disturbance. Mitigation Measure GEO-PMM-1 would reduce impacts to recharge facilities related to liquefaction and instability. Implementation of BMPs would help reduce impacts related to erosion by requiring inactive stockpiles at recharge facilities to be secure and requiring implementation of minimum BMPs during monitoring and extraction facility construction designed to reduce erosion and sedimentation. Mitigation Measure GEO-PMM-2 would prevent subsidence from occurring in cases where low groundwater levels are identified. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Program's incremental contribution to geology impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measures GEO-PMM 1 and GEO-PMM-2.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

The geographic scope for potential geology-related impacts includes the individual Proposed Project facility sites. None of the proposed Project facilities would be located in an Alquist-Priolo fault zone; however, Project facilities and surrounding areas would be subject to groundshaking given the presence of the San Jacinto Fault. All proposed Project facility sites would have low landslide risk and related landslide impacts since the sites are relatively flat and surrounded by development. The extraction and conveyance facilities are located in an area generally characterized with high liquefaction potential due to the potential for shallow groundwater. The Proposed Project would not involve septic tank construction or use.

None of the projects in the cumulative scenario listed above (**Table 4-2**) have the potential to be affected by the geology, soils, and seismicity of the geographic scope. The impacts associated with geology, soils and seismicity are site-specific and only affect the site itself and adjacent areas; as such impacts associated with geology, soils and seismicity for related projects would not be considered cumulatively significant. Therefore, if there are no related projects to consider

together with the Proposed Project, the incremental impacts of the Proposed Project associated with the geology, soils, and seismicity also would not be cumulatively considerable.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Greenhouse Gas Emissions and Energy

Impact CUM 4-6: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the Climate Change scope could result in cumulative long-term impacts to GHG emissions and energy.

Program-Level Impacts

The geographic scope for greenhouse gas emissions is global. The geographic scope for energy includes the service areas for the energy providers within the Proposed Program area. Please refer to Section 3.7, *Greenhouse Gas Emissions and Energy*, for a cumulative analysis of GHG impacts, which are by definition cumulative. Regarding energy usage, the Proposed Program would result in minimal demand for gasoline and diesel resources relative to the State's annual fuel usage for construction.

When combined, all of the projects identified within **Table 4-2** could contribute to the geographic scope for energy. All of the projects in the geographic scope would require energy for construction and/or operation, except for Project 25 which is an expansion of the MSHCP. For these reasons, the combined effects from all projects within the geographic scope related to energy would be cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would not contribute incrementally to cumulative impacts on energy. Although the Proposed Program would involve the use of increased electricity and fuel during construction and operation, the amounts would be accommodated by existing service providers and would result in a minimal increase in gas and diesel demand compared to the State's annual fuel usage program. The Proposed Program would be consistent with State and federal energy standards and would not result in wasteful, inefficient, and unnecessary consumption of energy or transportation fuel. Therefore, impacts would not be cumulatively considerable. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

Because the geographic scope, summary of impacts, and cumulative project scenario is the same as the Proposed Program, the analysis for the Proposed Program is the same as the Proposed Project above.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Hazards and Hazardous Materials

Impact CUM 4-7: Concurrent construction of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term impacts to hazards and hazardous materials.

Program-Level Impacts

The geographic scope for potential hazard and hazardous material-related impacts includes the Proposed Program facility locations, the immediate area surrounding these locations and the area within 0.25 mile of a school that would also be within 0.25 mile of a Proposed Program facility. Although there are some hazardous material sites (both LUST sites and non-LUST sites) and very high fire hazard severity zones in the Proposed Program area, none are located within or adjacent to Proposed Program locations. A section of Proposed Program conveyance facilities would be located within the Hemet Ryan Airport boundary. Seven schools are located within 0.25 mile of proposed Program facility locations, including San Jacinto Valley Academy, Mountain View High School, Jose Antonio Estudillo Elementary School, Rancho Viejo Middle School, Cawston Elementary School, Bautista Creek Elementary School, and Hyatt Preschool. Emergency response plans are in effect for all of the jurisdictions in which the proposed Program facilities are located. As described in Section 4.8, *Hazards and Hazardous Materials*, compliance with applicable hazardous material laws and regulations, implementation of a SWPPP during construction, and implementation of a HMBP during operation would reduce potential impacts related to the transport, use and disposal of hazardous materials, as well as the accidental release of hazardous materials resulting from the Proposed Program. During construction, the Proposed Program would comply with all pertinent hazardous waste regulations to avoid potential hazardous material releases that could be harmful to nearby schools. The Proposed Program would not result in any impacts related to location on a hazardous materials site. The Proposed Program would comply with FAA review requirements to allow for construction of the proposed 48-inch potable pipeline within the Hemet-Ryan Airport boundary; however, construction and operation of the pipeline are anticipated to have minimal impacts on airport operation since it would require little ground disturbance and operate belowground. Construction of the proposed Program facilities would occur within or adjacent to roadways, which could affect ingress and egress such that an emergency response plans are impacted.

Projects in the cumulative scenario listed above (**Table 4-2**) have the potential to be affected by hazards and hazardous materials within the geographic scope. Projects that would be located directly adjacent to the Proposed Program facilities and could result in cumulative hazards impacts include projects 4, 12, 14, 18, 19, 21, 24, 27, 28, 39, and 40. Similar to the Proposed Program, construction of these projects in the cumulative scenario would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials. Also similarly, these projects would be required to comply with applicable federal, State and local regulations regarding the handling, storage, transportation, and disposal of hazardous materials. Given the urban nature of the Proposed Program area, construction of most projects, especially pipelines, have the potential to require roadway closures or block roadways and/or driveways. Given the likely staggered construction of the projects in the cumulative scenario and their substantial distances from each other, potential roadway closures would not result in a significantly interfere with emergency response plans. Thus, the combined potential hazardous effects from the aforementioned projects within the geographic scope of the hazards and hazardous materials analysis would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would contribute incrementally to the cumulative impacts related to hazards and hazardous materials. Construction of some of the Proposed Program facilities would require lane closures and could block roadway or driveway access. Mitigation Measures HAZ-PMM-1 would require timely notification of local emergency responders regarding any planned lane closures or blocked access to roadways or driveways. This mitigation measure would ensure that Proposed Program facilities do not significantly interfere with an existing emergency response plan and would reduce the Proposed Program's contribution to significant cumulative hazards impacts. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Program's incremental contribution to hazards and hazardous material-related impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measure HAZ-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

The geographic scope for potential hazard and hazardous material-related impacts includes the Proposed Project facility locations, the immediate area surrounding these locations and the area within 0.25 mile of a school that would also be within 0.25 mile of the Proposed Project facility. Although there are some hazardous material sites (both LUST sites and non-LUST sites) and very high fire hazard severity zones in the Proposed Project area, none are located within or adjacent to Proposed Project facilities. None of the Proposed Project conveyance facilities would be located within the Hemet Ryan Airport boundary. Some schools are located within 0.25 mile of proposed Program facility locations. These schools include Jose Antonio Estudillo Elementary

School and Hyatt Preschool. Emergency response plans are in effect for San Jacinto, where proposed Program facilities are located. As described in Section 4.8, *Hazards and Hazardous Materials*, compliance with applicable hazardous material laws and regulations, implementation of a SWPPP during construction, and implementation of a HMBP during operation would reduce potential impacts related to the transport, use and disposal of hazardous materials, as well as the accidental release of a hazardous materials resulting from the Proposed Project. During construction, the Proposed Project would comply with all pertinent hazardous waste regulations to avoid potential hazardous material releases that could be harmful to nearby schools. The project would not result in any impacts related to location on a hazardous materials site or within an airport influence area. Construction of the Proposed Project facilities would occur within or adjacent to roadways, which could affect ingress and egress such that an emergency response plans are impacted.

Several of the projects in the cumulative scenario listed above (**Table 4-2**) have the potential to be affected by hazards and hazardous materials within the geographic scope of the Proposed Project. Projects that would be located directly adjacent to the Proposed Project facilities and could result in cumulative hazards impacts include projects 4, 14, and 24. Similar to the Proposed Project, construction of these projects in the cumulative scenario would temporarily require the transport, use, and disposal of hazardous materials including gasoline, diesel fuel, hydraulic fluids, paint, and other similarly related materials. Also similarly, these projects would be required to comply with applicable federal, State and local regulations regarding the handling, storage, transportation, and disposal of hazardous materials. Thus, the combined potential hazardous effects from the aforementioned projects within the geographic scope of the hazards and hazardous materials analysis would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Project would contribute incrementally to the cumulative impacts related to hazards and hazardous materials. Construction of some of the Proposed Project facilities would require lane closures and could block roadway or driveway access. Mitigation Measures HAZ-MM-1 would require notification of local emergency responders regarding any planned lane closures or blocked access to roadways or driveways. This mitigation measure would ensure that Proposed Project facilities do not significantly interfere with an existing emergency response plan and would reduce the Proposed Project's contribution to significant cumulative hazards impacts. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Project's incremental contribution to hazards and hazardous material-related impacts would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measure HAZ-MM-1.

Significance Conclusion

Less than Significant with Mitigation

Hydrology and Water Quality

Impact CUM 4-8: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to hydrology and water quality.

Program-Level Impacts

The geographic scope for potential cumulative impacts to hydrology and water quality includes Proposed Program sites, downstream receiving waters of the Proposed Program sites and the San Jacinto Groundwater Basin. The Proposed Program is located in the San Jacinto River Watershed which is a tributary to the Santa Ana River and encompasses approximately 780 square miles on the western flanks of the San Jacinto Mountains. The San Jacinto River is formed at the west base of the San Jacinto Mountains by the confluence of its North and South forks. The San Jacinto Groundwater Basin consists primarily of alluvial and fluvial sedimentary deposits containing coarse-grained sand and gravel deposits as well as finer-grained silt and clay layers. The basin is essentially closed, without significant groundwater inflow or outflow to or from other groundwater basins. Groundwater recharge could cause localized mounding of the groundwater table in the area of the recharge basins, which could adversely affect neighboring land uses if shallow groundwater levels come close to ground surface. Groundwater pumping would not result in impacts to groundwater levels with appropriate groundwater monitoring mechanisms.

When combined, all of the projects in the cumulative scenario listed above (**Table 4-2**) have the potential to affect hydrology and water quality in the geographic scope. Projects 1 through 44 would be located in the same watershed/groundwater basin as the Proposed Program facilities. Construction and operation of these projects could introduce sediment and other pollutants to surface waters or groundwater and impact water quality, or disrupt the existing drainage and flood patterns in the Proposed Program area, causing damage to structures or people. However, all the projects would be required to meet water quality measures contained in federal, state, and regional requirements including the MS4 permit which addresses water quality on a regional basis. The MS4 permit requires all permittees to implement a Water Quality Management Plan that includes post-construction BMP requirements as well as compliance with TMDLs and waste load allocations for Lake Elsinore and Canyon Lake. Projects would also be required to obtain an NPDES Construction General Permit. Adherence to these regionally based water quality measures are developed on a watershed basis to ensure that individual projects cannot combine with others to become cumulatively considerable. The cumulative projects include some development projects which would likely result in increased water supply demands that could adversely affect groundwater levels if groundwater is pumped to meet demand. Project 27, the Bautista Creek Restoration project, would benefit the water tables in the groundwater basin by importing high quality surface water into the underlying groundwater basin. The combined effects from the construction of all projects within the geographic scope related to water quality, drainage, and groundwater would not be considered cumulatively significant. In fact, benefits to the groundwater basin levels would result from implementation of Project 27.

The Proposed Program, when considered with the other cumulative projects in the San Jacinto River Watershed, could result in potentially significant cumulative impacts to water quality from changes in drainage patterns or changes to underlying groundwater levels. Construction of the

Proposed Program would result in increased erosion potential from exposed soil areas, which can contribute to sediment-laden runoff into local drainage courses. Erosion can be destructive to the immediate area and sedimentation can clog downstream waterways or otherwise adversely affect water quality. However, all construction associated with the Proposed Program would meet federal, State, and local permit requirements, especially the MS4 permit and NPDES Construction General Permit. As a groundwater banking program, the Proposed Program requires recharge prior to extraction such that there would be no element of the Program to lower the existing groundwater level. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Program's incremental contribution to hydrology and water quality would not be cumulatively considerable. Additionally, the Proposed Program would act to offset impacts to groundwater recharge and water supplies through the recharge facilities, which would increase the cumulative static level of groundwater in the Basin.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

The geographic scope for potential cumulative impacts to hydrology and water quality includes Proposed Project sites, downstream receiving waters of the Proposed Program sites and the entire San Jacinto Groundwater Basin. The hydrologic setting and summary of impacts is the same as the Proposed Program.

When combined, some of the projects in the cumulative scenario listed above (**Table 4-2**) have the potential to affect hydrology and water quality in the geographic scope. Projects 4, 6, 14, 24, and 27 would be located in the same watershed/groundwater basin as the Proposed Project facilities. Construction and operation of these projects could introduce sediment and other pollutants to surface waters or groundwater and impact water quality, or disrupt the existing drainage and flood patterns in the Proposed Project area, causing damage to structures or people. However, all the projects would be required to meet water quality measures contained in federal, state, and regional requirements including the MS4 permit which addresses water quality on a regional basis. The MS4 permit requires all permittees to implement a Water Quality Management Plan that includes post-construction BMP requirements as well as compliance with TMDLs and waste load allocations for Lake Elsinore and Canyon Lake. Projects would also be required to obtain an NPDES Construction General Permit. Adherence to these regionally based water quality measures are developed on a watershed basis to ensure that individual projects cannot combine with others to become cumulatively considerable. The cumulative projects include some development projects which would likely result in increased water supply demands that could adversely affect groundwater levels. Project 27, the Bautista Creek Restoration project, would benefit the water tables in the groundwater basin by importing high quality surface water into the underlying groundwater basin. The combined effects from the construction of all projects within the geographic scope related to water quality, drainage, and groundwater would not be

considered cumulatively significant. In fact, benefits to the groundwater basin levels would result from implementation of Project 27.

The Proposed Project, when considered with the other cumulative projects in the San Jacinto River Watershed, could result in potentially significant cumulative impacts to water quality from changes in drainage patterns or changes to underlying groundwater levels. Construction of the Proposed Project would result in increased erosion potential from exposed soil areas, which can contribute to sediment-laden runoff into local drainage courses. Erosion can be destructive to the immediate area and sedimentation can clog downstream waterways or otherwise adversely affect water quality. However, all construction associated with the Proposed Program would meet federal, State, and local permit requirements, especially the MS4 permit and NPDES Construction General Permit. As a groundwater banking program, the Proposed Project requires recharge prior to extraction such that there would be no element of the Project that would lower the existing groundwater level. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Project's incremental contribution to hydrology and water quality would not be cumulatively considerable. Additionally, the Proposed Project would act to offset impacts to groundwater recharge and water supplies through the recharge facilities, which would increase the cumulative static level of groundwater in the Basin.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Land Use and Planning

Impact CUM 4-9: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to land use and planning.

Program-Level Impacts

The geographic scope for potential cumulative impacts to land use and planning includes the cities of Hemet and San Jacinto and the surrounding portions of unincorporated Riverside County, specifically the areas included in the San Jacinto Valley and Harvest Valley/Winchester Area Plans. Land use designations within the Proposed Program area include various types and densities of residential uses, commercial uses, mixed-use, rural community and residential uses, industrial uses, public institutional uses, agriculture uses, and open space. Zoning designations within the geographic scope include, but are not limited to, rural residential areas, agricultural designations, general commercial designations, residential designations, Specific Plan designations, manufacturing designations, public institutional, and open space recreation. As discussed in Section 3.10, *Land Use and Planning*, the majority of the Proposed Program facilities would be installed underground, which would not create a barrier or physically divide an established community. The Proposed Program aboveground components may conflict with the

urban character of the surrounding communities. In regards to land use compatibility, the Proposed Program facilities are considered public utilities, which are exempt from the provisions of the Cities' Development Codes and Zoning Ordinances. Further, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, implementation of the Proposed Program facilities would not conflict with existing land uses and zoning designations.

As shown in **Table 4-2**, 44 projects are proposed for development within the Proposed Program area. The projects primarily include residential and commercial projects along with utility and infrastructure projects. As dictated by the jurisdictions' General Plans and Zoning Ordinances, the residential and commercial projects would be developed within areas of the cities of Hemet and San Jacinto and the surrounding areas of Riverside County meant for these types of uses. The geographic scope has pockets of urban development along with rural areas, where the underlying land uses are already established and connected with surrounding land uses. Project 9 consists of the realignment of SR 79, which does have the potential to physically divide established communities within the geographic scope as the new freeway alignment could be shifted into an adjacent land use causing the division of existing uses, which could cause a significant impact. However, all cumulative projects in the geographic scope would be required to be consistent with the existing General Plan land use designations and applicable Zoning Ordinance designations established by each applicable jurisdiction. Each jurisdiction would review each cumulative project as part of the development review process to ensure consistency with the policies of its General Plan and Zoning Ordinances unless there is a proposed land use policy amendment to the General Plan and/or Zoning Ordinance with the project application. At the time that an amendment to a land use policy to the General Plan and/or Zoning Ordinance is submitted, the jurisdiction would need to evaluate if the proposed change to the land use policy would result in environmental impacts. As a result of adherence to these regulations, the combined effects from the construction of projects within the geographic scope related to land use plans, policies, or regulations would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would not contribute incrementally to the cumulative impacts on land use and recreation. Development of the Proposed Program facilities has no potential to create a barrier or physically divide an established community and would not result in a combined cumulative effect with Project 9. To avoid conflict with neighboring land uses, the Proposed Program aboveground facilities would be integrated into the existing urban character of the surrounding community through building design and with landscaping features, as required by Mitigation Measure AES-PMM-1, to ensure compatibility with the visual character of the surrounding land uses. Moreover, aboveground facilities would be designed to be consistent with the general building style of the surrounding area to ensure that the facilities blend into the existing character of the area, as required by mitigation measure AES-PMM-1, and require all new light sources to be shielded and oriented downwards to minimize light spillover on adjacent uses, as required by mitigation measure AES-PMM-2. Further, the purpose of the Proposed Program is to improve water reliability, and as a result, the Proposed Program itself would not cause land use conflicts but would instead support land use and planning within the region. Therefore, when considered in

addition to the other projects in the cumulative scenario, the Proposed Program's contribution to land use and planning would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measures AES-PMM-1 and AES-PMM-2.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

The geographic scope for potential cumulative impacts to land use and planning includes the City of San Jacinto. Land use designations within the Proposed Project area include various types and densities of residential uses, public institutional, community commercial, and park uses. Zoning designations within the geographic scope include residential, commercial, public institutional, and open space recreational. As discussed in Section 3.10, *Land Use and Planning*, the majority of the Proposed Project facilities would be installed underground, which would not create a barrier or physically divide an established community. The Proposed Project aboveground components may conflict with the urban character of the surrounding communities. In regards to land use compatibility, the Proposed Project facilities are considered public utilities, which are exempt from the provisions of the Cities' Development Codes and Zoning Ordinances. Furthermore, per Government Code Section 53091, building ordinances of local cities or counties do not apply to the location or construction of facilities for the projection, generation, storage, treatment, or transmission of water or wastewater. As such, implementation of the Proposed Project facilities would not conflict with existing land uses and zoning designations.

As shown in **Table 4-2**, 24 projects are proposed for development within the city of San Jacinto. The projects include residential uses along with utility and infrastructure projects. As dictated by the City's General Plan and Zoning Ordinance, the residential projects would be developed within areas of the city of San Jacinto meant for these types of uses. The geographic scope has pockets of urban development along with rural areas, where the underlying land uses are already established and connected with surrounding land uses. Project 9 consists of the realignment of SR 79, which does have the potential to physically divide established communities within the geographic scope as the new freeway alignment could be shifted into an adjacent land use causing the division of existing uses, which could cause a significant impact. However, all cumulative projects in the geographic scope would be required to be consistent with the existing General Plan land use designations and applicable Zoning Ordinance designations established by the City of San Jacinto. The City of San Jacinto would review each cumulative project as part of the development review process to ensure consistency with the policies of its General Plan and Zoning Ordinances unless there is a proposed land use policy amendment to the General Plan and/or Zoning Ordinance with the project application. At the time that an amendment to a land use policy to the General Plan and/or Zoning Ordinance is submitted, the City of San Jacinto would need to evaluate if the proposed change to the land use policy would result in environmental impacts. As a result of adherence to these regulations, the combined effects from

the construction of projects within the geographic scope related to land use plans, policies, or regulations would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Project would not contribute incrementally to the cumulative impacts on land use and recreation. Development of the Proposed Project facilities has no potential to create a barrier or physically divide an established community and are located far enough away from Project 9 that combined cumulative effects would not occur. To avoid conflict with neighboring land uses, the Proposed Project aboveground facilities would be integrated into the existing urban character of the surrounding community through building design and with landscaping features, as required by Mitigation Measure AES-MM-1, to ensure compatibility with the visual character of the surrounding land uses. Moreover, aboveground facilities would be designed to be consistent with the general building style of the surrounding area to ensure that the facilities blend into the existing character of the area, as required by mitigation measure AES-MM-1, and require all new light sources to be shielded and oriented downwards to minimize light spillover on adjacent uses, as required by mitigation measure AES-MM-2. The Mountain Avenue West site would include public amenities, which would serve the surrounding residential uses with new recreational uses and landscaping and would be compatible with the trails and pedestrian facilities currently in the surrounding area. Therefore, when considered in addition to the other projects in the cumulative scenario, the Proposed Project's contribution to land use and planning would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures AES-MM-1 and AES-MM-2.

Significance Conclusion

Less than Significant with Mitigation

Noise

Impact CUM 4-10: Concurrent construction of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term impacts to noise.

Program-Level Impacts

The geographic scope for potential cumulative impacts related to noise includes land adjacent to the Proposed Program components and any adjacent or nearby noise sensitive receptors.

Generally, noise impacts are limited to the area directly surrounding the noise source, as noise attenuates with distance at a higher rate in proximity to the source, and only has the potential to combine with other noise sources occurring simultaneously in the immediate vicinity. The Proposed Program area is located within the Cities of Hemet and San Jacinto, and portions of unincorporated Riverside County. As described in Section 4.11, *Noise*, the construction of monitoring and extraction wells would require 24/7 well drilling for 1 to 2 weeks each,

potentially in close proximity to residential areas. Additionally, operation of new facilities would generate new noises at the pump station, treatment/blending and disinfection facilities, and extraction wells. Construction of the Proposed Program facilities could result in temporary and permanent increases in ambient noise to nearby sensitive receptors. Neither construction nor operation of the Proposed Program would include any components that would generate substantial vibration. None of the Proposed Program facilities would impact the AIA of the Hemet-Ryan Airport.

Projects in the cumulative scenario listed above (**Table 4-2**) could generate noise that would affect temporarily existing ambient noise conditions in the region. Construction noise would be localized, affecting areas in the immediate vicinity of construction sites. Specifically, construction of Projects 14 and 24 which are residential development projects could occur adjacent to the Mountain Avenue North recharge basin. Projects 18, 19, 21, 28, 39, and 40 would occur adjacent to conveyance facilities and could combine together to create a significant noise impact. Additionally, the location of all extraction wells are not yet known; depending on the locations chosen, cumulatively considerable impacts could occur when combined with other projects in close proximity to wells such as 4, 12, 13, 24, and 27. As a result, the combined effects of the projects in the geographic scope for noise would be cumulatively significant.

When considered with cumulative projects describe above, the noise effects of the Proposed Program could contribute incrementally to cumulative impacts related to noise. While Proposed Program construction of extraction and monitoring wells would occur outside of the allowable construction hours of the municipal code, impacts would be reduced with implementation of Mitigation Measure NOI-PMM-1 and NOI-PMM-2. Nevertheless, Proposed Program construction occurring outside of the allowable construction hours, in combination with construction of Projects 4, 12, 13, 14, 21, 24, 27, 28, 39, and 40, which are located in immediate proximity to the Proposed Program sites and could occur outside of the allowable construction hours, could combine together to cumulatively substantially increase the noise environment in the Proposed Program area outside of the allowable hours of construction. Additionally, Proposed Program construction would generate noise levels which would result in a substantial increase in temporary and permanent ambient noise levels at residences. Depending on the location chosen of future projects implemented as part of the Proposed Program, cumulative projects 4, 12, 13, 24, and 27 could be located within approximately ¼ mile of a planned Proposed Program extraction well, which if constructed simultaneously, could further increase ambient noise levels at nearby residences. Mitigation Measure NOI-PMM-2 would reduce impacts to temporary ambient noise levels; however, impacts may not be reduced to a less than significant level even after implementation of Mitigation Measure NOI-PMM-2, resulting in a potentially significant impact. Therefore, the Proposed Program construction occurring in combination with other cumulative project construction occurring in immediate proximity to the Proposed Program sites, could combine together to cumulatively substantially increase the temporary ambient noise environment in the Proposed Program area. Proposed Program construction would be a potentially cumulatively considerable noise impact. Even after implementation of mitigation, impacts could be potentially significant. It should be noted that the identification of a potentially significant program-level impact in this Draft EIR does not preclude the finding of future less than significant impacts for individual Program components. Subsequent project-specific

environmental analysis would be conducted in accordance with CEQA to determine as Program components are designed and built.

Program Mitigation Measures

Implement Mitigation Measure NOI-PMM-1 and NOI-PMM-2.

Significance Conclusion

Potentially Significant

Project-Level Impacts

The geographic scope for potential cumulative impacts related to noise includes land adjacent to the Proposed Project components and any adjacent or nearby noise sensitive receptors. As described above, noise impacts are limited to the area directly surrounding the noise source, as noise attenuates with distance at a higher rate in proximity to the source, and only has the potential to combine with other noise sources occurring simultaneously in the immediate vicinity. The Proposed Project area is located within the City of San Jacinto. As described in Section 4.11, *Noise*, the construction of monitoring and extraction wells would require 24/7 well drilling for up to 2 weeks in close proximity to residential areas. Additionally, new potential noise sources may occur during operation of the Hewitt and Evans treatment/blending and disinfection facility and extraction wells. Construction of the Proposed Project facilities could result in temporary and permanent increases in ambient noise to nearby sensitive receptors. Neither construction nor operation of the Proposed Project would include any components that would generate substantial vibration. None of the Proposed Project facilities would occur near a public use airport.

None of the cumulative projects listed in **Table 4-2** would be located near any of the Proposed Project facilities, as shown on **Figure 4-1**. As a result, the combined effects from the construction or operation of projects within the geographic scope related to noise would not be considered cumulatively significant. Therefore, if there are no related projects to consider together with the Proposed Project, the incremental impacts of the Proposed Project to noise would not be cumulatively considerable.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant



Public Services and Recreation

Impact CUM 4-11: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope would not result in cumulative short-term and long-term impacts to public services and recreation.

Program-Level Impacts

The geographic scope for public services is the cities of Hemet, San Jacinto and portions of unincorporated Riverside County, and associated fire and police protection, schools, hospitals, parks and recreational facilities that constitute public services in the area. The Proposed Program would construct and operate recharge, monitoring and extraction, and conveyance facilities as shown on **Figure 2-2**. As described in Section 3.12, *Public Services and Recreation*, implementation of the Proposed Program would not involve construction or operation of new residential or commercial uses, where these uses could directly or indirectly generate population growth within the Proposed Program area. As such, the Proposed Program would not increase the need for fire or police protection services or increase the usage of schools, libraries, hospitals, parks or recreational facilities.

When combined, projects in the cumulative scenario listed above (**Table 4-2**) have the potential to increase demand and usage of public services and recreational facilities in the geographic scope. Development of residential uses, such as Projects 14 through 24, 36 through 40, and 44 within the Proposed Program area would introduce expanded residential opportunities in the area which could generate population growth, in turn increasing the need and usage of fire and police protection, schools, hospitals, parks and recreational facilities. Development of commercial uses, such as Projects 28, 30-35, and 41-43, would not increase the need for additional schools, hospital, parks, and recreational facilities, but would still require additional fire and police protection services to ensure the safety of the facilities. As a result, the combined effects from the construction or operation of projects within the geographic scope related to public services and recreation would be considered cumulatively significant.

When added to the cumulative scenario described above, the Proposed Program would not contribute incrementally to cumulative impacts related to public services and recreation. Because the Proposed Program would not involve construction or operation of new residential or commercial uses and would not increase the need or usage of public services and recreational facilities, the Proposed Program's contribution to cumulative impacts to public services and recreational facilities would not be cumulatively considerable. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

The geographic scope for public services is the city of San Jacinto and associated fire and police protection, schools, hospitals, parks and recreational facilities. The Proposed Project would construct and operate recharge, monitoring and extraction, and conveyance facilities within the city of San Jacinto, as shown on **Figure 2-3**. As described in Section 3.12, *Public Services and Recreation*, implementation of the Proposed Project would not involve construction or operation of new residential or commercial uses, where these uses could directly or indirectly generate population growth within the city of San Jacinto. As such, the Proposed Project would not generate population growth in the city of San Jacinto and therefore would not increase the need for fire or police protection services or increase the usage of schools, libraries, hospitals, parks or recreational facilities. Furthermore, the Proposed Project would include the construction and operation of public amenities, which consist of, but are not limited to, a decomposed granite walking path for public use, water efficient landscaping with irrigation, and educational signage at the Mountain Avenue West site, as shown in **Figure 2-7**. The walking path implemented at the Mountain Avenue West site would be a new recreational path within the City of San Jacinto and would provide new recreational opportunities for local residents. The environmental effects of constructing these new public amenities have been considered throughout this Draft EIR as part of the Mountain Avenue West recharge facilities. Therefore, development of the Proposed Project would not cause an adverse effect on public services within the city of San Jacinto.

When combined, projects in the cumulative scenario listed above in **Table 4-2** have the potential to increase demand and usage of public services and recreational facilities in the city of San Jacinto. Development of Projects 14 and 24 which are residential developments within the Proposed Project area would generate population growth, which in turn would increase the need and usage of fire and police protection, schools, hospitals, parks and recreational facilities. However, these two projects alone would not result in a significant cumulative impact to public services and recreational facilities.

When added to the cumulative scenario described above, the Proposed Project would not contribute incrementally to cumulative impacts related to public services and recreation. Because the Proposed Project would not involve construction or operation of new residential or commercial uses and would not increase the need or usage of public services and recreational facilities, the Proposed Project's contribution to cumulative impacts to public services and recreational facilities would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Traffic and Transportation

Impact CUM 4-12: Concurrent construction of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term impacts to traffic and transportation.

Program-Level Impacts

The geographic scope for potential cumulative impacts to traffic and transportation is the regional and local roadways within the cities of Hemet and San Jacinto and the surrounding portions of unincorporated Riverside County. This includes public rights-of-way and bike paths. The geographic scope includes regional roadways, consisting of SR 79, SR 74, and Ramona Expressway, and the local roadways within the cities of Hemet and San Jacinto which pass through the Proposed Program area. Additionally, a networks of bicycle lanes extends throughout the geographic scope and provide travel corridors for alternative transportation and pedestrians. Because the Proposed Program would develop recharge, monitoring and extraction, and conveyance facilities, many of these features would affect or intersect with the local and regional transportation networks. As discussed in Section 3.13, *Traffic and Transportation*, construction activities would generate additional truck and vehicle trips on the regional and local roadways, which could result in slightly increased delay times on roadways. Additionally, construction of Proposed Program conveyance facilities would occur within rights-of-way which would temporarily impede traffic flow through road closures. With required lane closures, construction of the Proposed Program facilities could delay emergency vehicle response times or otherwise disrupt delivery of emergency services that use the regional and local roadways potentially impacted by the Proposed Program. Furthermore, regarding public transit and bicycle transportation, construction of the Proposed Program facilities could also disrupt the existing RTA public transit routes and could result in bicycle lane closures within the Proposed Program area.

Similar to the Proposed Program, the projects listed in **Table 4-2** would also have the capability to generate additional truck and vehicle trips on the regional and local circulation systems within the geographic scope. The amount of traffic which could be generated depends on the type and size of the project. Residential Projects 14-24, 36-40, and 44, and especially large-scale residential projects such as Project 36 (20,000 custom lots), would consistently contribute very large amounts of additional vehicles to the regional and local circulation systems while smaller commercial projects, such as Projects 28, 30-35, and 41-43, would generate high amounts of traffic only during peak times during the day and on weekends. Given the different types and size of the projects included in the cumulative scenario, it is reasonable to assume that when considering the amounts of additional truck and vehicle trips generated by all of the cumulative projects during construction and operation, a potentially significant cumulative impact could occur to the local and regional circulation systems. In addition, with the contribution of additional trips added by each project, existing transit routes could experience increased congestion and slower overall travel times. Furthermore, infrastructure projects, such as Project 2, 6, and 12, would also involve the installation of pipelines within public rights-of-way, which would require partial or full lane closures. In combination, projects that involve lane closures could also result in a significant cumulative impact if multiple projects required simultaneous lane closures, which

would adversely affect traffic volume levels resulting in increased congestion, and could restrict or block emergency responders, transit routes, and bicycle lanes within the Proposed Program area. As a result, the combined effects from the construction or operation of projects within the geographic scope related to traffic and transportation would be considered cumulatively significant.

When added to the cumulative scenario described above, construction and operation of the Proposed Program would not substantially increase traffic volumes within the geographic scope. While the Proposed Program would temporarily generate additional truck and vehicle trips within the regional and local circulation systems during construction of the Proposed Program facilities, traffic levels would not substantially increase and would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. Although operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would occur on a limited number of days throughout the year. Since the number of truck trips would be minimal during operation of the Proposed Program, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation to decrease. Additionally, the Proposed Program would be required to implement Mitigation Measure TRAF-PMM-1 that requires the preparation and implementation of a Traffic Control Plan, which would reduce all effects to the regional and local circulation system, including existing transit routes, bicycle lanes, and emergency response access, during lane closures to a less than significant level. Therefore, the Proposed Program's contribution to cumulative impacts to traffic and transportation would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Program Mitigation Measures

Implement Mitigation Measure TRAF-PMM-1.

Significance Conclusion

Less than Significant with Mitigation

Project-Level Impacts

The geographic scope for potential cumulative impacts to traffic and transportation is the regional circulation system and local roadways within the city of San Jacinto. This includes public rights-of-way and bike paths. The geographic scope includes regional roadways, consisting of SR 79, SR 74, Ramona Expressway, and the local roadways within the city of San Jacinto which pass through the Proposed Project area. The primary local roadways which serve the Proposed Project area include Esplanade Avenue, San Jacinto Avenue, 7th Street, Mountain Avenue, Main Street, Hewitt Avenue, and Commonwealth Avenue. Additionally, a network of bicycle lanes extends throughout the geographic scope and provides travel corridors for alternative transportation and pedestrians, as shown on **Figures 3.13-4** and **3.13-5**. Because the Proposed Project includes recharge and monitoring facilities at the Mountain Avenue West site, 3 extraction wells with block wall pump buildings and the associated Hewitt and Evans treatment/blending and disinfection facility, and construct additional conveyance pipelines within the city of San Jacinto, some of these features would affect or intersect with the local and regional transportation

networks. As discussed in Section 3.13, *Traffic and Transportation*, construction activities would generate additional truck and vehicle trips on the regional and local roadways, which could result in slightly increased delay times on roadways. However, construction trucks would primarily use designated construction routes through the city of San Jacinto, which include the Ramona Expressway, SR-79, Esplanade Avenue, Hewitt Street, Mountain Avenue, and Commonwealth Avenue Florida Avenue. Additionally, construction of Proposed Project conveyance facilities, would occur within rights-of-way which would temporarily impede traffic flow through road closures. With required lane closures, construction of the Proposed Project facilities could delay emergency vehicle response times or otherwise disrupt delivery of emergency services that use the regional and local roadways potentially impacted by the Proposed Project. Furthermore, regarding public transit and bicycle transportation, construction of the Proposed Project facilities could also disrupt the existing RTA public transit routes and could result in bicycle lane closures within the city of San Jacinto.

Similar to the Proposed Project, the projects listed in **Table 4-2** would also have the capability to generate additional truck and vehicle trips on the regional and local circulation systems within the geographic scope. The amount of traffic that could be generated depends on the type and size of the project. Large residential projects, such as Projects 14 and 24, would consistently contribute very large amounts of additional vehicles to the regional and local circulation systems. Given the different types and size of the projects included in the cumulative scenario, it is reasonable to assume that when considering the amounts of additional truck and vehicle trips generated by all of the cumulative projects during construction and operation, a potentially significant cumulative impact could occur to the local and regional circulation systems. In addition, with the contribution of additional trips added by each project, existing transit routes could experience increased congestion and slower overall travel times. Furthermore, infrastructure projects, such as Projects 6 and 12 would involve the installation of pipelines within long portions of public rights-of-way, which would require partial or full lane closures. In combination, projects that involve lane closures could also result in a significant cumulative impact if multiple projects required simultaneous lane closures, which would adversely affect traffic volume levels resulting in increased congestion, and could restrict or block emergency responders, transit routes, and bicycle lanes within the Proposed Project area. As a result, the combined effects from the construction or operation of projects within the geographic scope related to traffic and transportation would be considered cumulatively significant.

When added to the cumulative scenario described above, construction and operation of the Proposed Project would not substantially increase traffic volumes within the Proposed Project's geographic scope. While the Proposed Project would temporarily generate additional truck and vehicle trips within the regional and local circulation systems during construction of the Proposed Project facilities, traffic levels would not substantially increase and would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. Although operational activities would generate additional truck trips on the surrounding local and regional circulation system, the number of truck trips during operation would be minimal and would occur on a limited number of days throughout the year. Since the number of truck trips would be minimal during operation of the Proposed Project, the effects on the surrounding circulation system would be negligible and would not cause existing roadway levels of operation

to decrease. Additionally, the Proposed Project would be required to implement Mitigation Measure TRAF-MM-1 to reduce all effects to the regional and local circulation system, including existing transit routes, bicycle lanes, and emergency response access, during lane closures to the lowest extent feasible. Therefore, the Proposed Project's contribution to cumulative impacts to traffic and transportation would not be cumulatively considerable. With implementation of mitigation measures, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure TRAF-MM-1.

Significance Conclusion

Less than Significant with Mitigation

Utilities and Service Systems

Impact CUM 4-13: Concurrent construction and operation of the Proposed Program, Proposed Project, and related projects in the geographic scope could result in cumulative short-term and long-term impacts to utilities and service systems.

Program-Level Impacts

The geographic scope for potential cumulative impacts to utilities includes the service areas of the Proposed Program's utility providers: EMWD, Lake Hemet Municipal Water District, City of San Jacinto Water Department and the City of Hemet Water Department for water and wastewater services. The Riverside County Flood Control and Water Conservation District maintains stormwater facilities in the Proposed Program area, and the Lamb Canyon landfill and Badlands landfill accept solid waste from the Proposed Program area. As discussed in Section 3.14, *Utilities and Service Systems*, the Proposed Program would not require treatment of wastewater, and would thus not result in significant impacts related to an exceedance of wastewater treatment requirements or wastewater treatment facility capacity. The Proposed Program itself involves construction of water treatment facilities, the impacts of which have been analyzed throughout the Draft EIR. The Proposed Program would not involve construction of wastewater treatment or stormwater drainage facilities and would have no related impacts. The Proposed Program would help to increase existing groundwater supplies, and as a water supply infrastructure project would not generate a water demand. The Proposed Program facilities would generate some solid waste during operation and since landfills would continue to operate and have remaining capacities, no significant impacts to solid waste would occur.

When combined, projects in the cumulative scenario have the potential to affect utility services in the Proposed Program area. This includes all residential, industrial, utility, and commercial projects located within the service areas of the water providers described above (Projects 1-44), which together would likely replace large areas of pervious surfaces with impervious surfaces, require substantial amounts of water to operate, increase wastewater treatment demand, and increase solid waste demand. A reduction in impervious surfaces could result in impacts to groundwater recharge and require construction of new stormwater drainage facilities. Increases in

water demand could result in impacts to groundwater supplies and water supply entitlements. Further, wastewater and solid waste generated from these new developments could exceed wastewater treatment facility and landfill capacities. Developments qualifying as new development or redevelopment would be required to infiltrate stormwater runoff onsite to the maximum extent possible per water quality regulations, thereby reducing impacts on groundwater recharge from development. Any storm drain construction as part of these developments would be analyzed for impacts under their environmental review. Development would be required to secure an agreement from a wastewater treatment provider ensuring available capacity for its anticipated wastewater generation. Nearby landfills have substantial remaining capacity to accommodate solid waste through 2029. Therefore, the cumulative scenario would not be cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Program would not contribute incrementally to the cumulative impacts on utilities. The Proposed Program would result in less than significant or no impact to utilities without requiring mitigation. Additionally, the proposed Program would act to offset impacts to groundwater recharge and water supplies through its groundwater recharge facilities which would increase the static level of groundwater in the Basin. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Program's incremental contribution to utilities impacts would not be cumulatively considerable. Impacts would be less than significant.

Program Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Project-Level Impacts

The geographic scope for potential cumulative impacts to utilities includes the service areas of the Proposed Project's utility providers: EMWD, the City of San Jacinto Water Department, the Riverside County Flood Control and Water Conservation District, the Lamb Canyon landfill and Badlands landfill. As discussed in Section 3.14, *Utilities and Service Systems*, the Proposed Project would not require treatment of wastewater, and would thus not result in significant impacts related to an exceedance of wastewater treatment requirements or wastewater treatment facility capacity. The Proposed Project itself involves construction of water treatment facilities, the impacts of which have been analyzed throughout the Draft EIR. The Proposed Project would not involve construction of wastewater treatment or stormwater drainage facilities and would have no related impacts. The Proposed Project would help to increase existing groundwater supplies, and as a water supply infrastructure project would not generate a water demand. The Proposed Project facilities would generate some solid waste during operation and since landfills would continue to operate and have remaining capacities, no significant impacts to solid waste would occur.

When combined, projects in the cumulative scenario have the potential to affect utility services in the Proposed Project area. This includes Projects 4, 6, 14, 24, and 27, which together would likely

replace moderate areas of pervious surfaces with impervious surfaces, require modest amounts of water to operate, increase wastewater treatment demand, and increase solid waste demand. A reduction in impervious surfaces could result in impacts to groundwater recharge and require construction of new stormwater drainage facilities. Increases in water demand could result in impacts to groundwater supplies and water supply entitlements. Wastewater and solid waste generated from these new developments would likely not exceed wastewater treatment facility and landfill capacities. Developments qualifying as new development or redevelopment would be required to infiltrate stormwater runoff onsite to the maximum extent possible per water quality regulations, thereby reducing impacts on groundwater recharge from development. Any storm drain construction as part of these developments would be analyzed for impacts under their environmental review. Development would be required to secure an agreement from a wastewater treatment provider ensuring available capacity for its anticipated wastewater generation. Therefore, the cumulative scenario would not be cumulatively significant.

When added to the cumulative scenario described above, the effects of the Proposed Project would not contribute incrementally to the cumulative impacts on utilities. The Proposed Project would result in less than significant or no impact to utilities without requiring mitigation. Additionally, the Proposed Project would act to offset impacts to groundwater recharge and water supplies through recharge at the Mountain Avenue West recharge facility, which would increase the static level of groundwater in the Basin. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Proposed Project's incremental contribution to utilities impacts would not be cumulatively considerable. Impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than Significant

Cumulative Impact Summary

The majority of impacts associated with Proposed Program and Proposed Project implementation would not be cumulatively considerable and would be able to be reduced to less than significant levels with mitigation, with the exception of noise and air quality. As explained in this chapter, the future projects to be implemented as part of the Proposed Program could be located near sensitive receptors, such that temporary construction-related noise, when considered together with construction noise from other related projects, could result in cumulatively considerable increases in ambient noise levels. Future CEQA would identify whether these cumulative noise impacts are significant and unavoidable. For a discussion of cumulative impacts to air quality, please see Section 3.3

References – Cumulative Impacts

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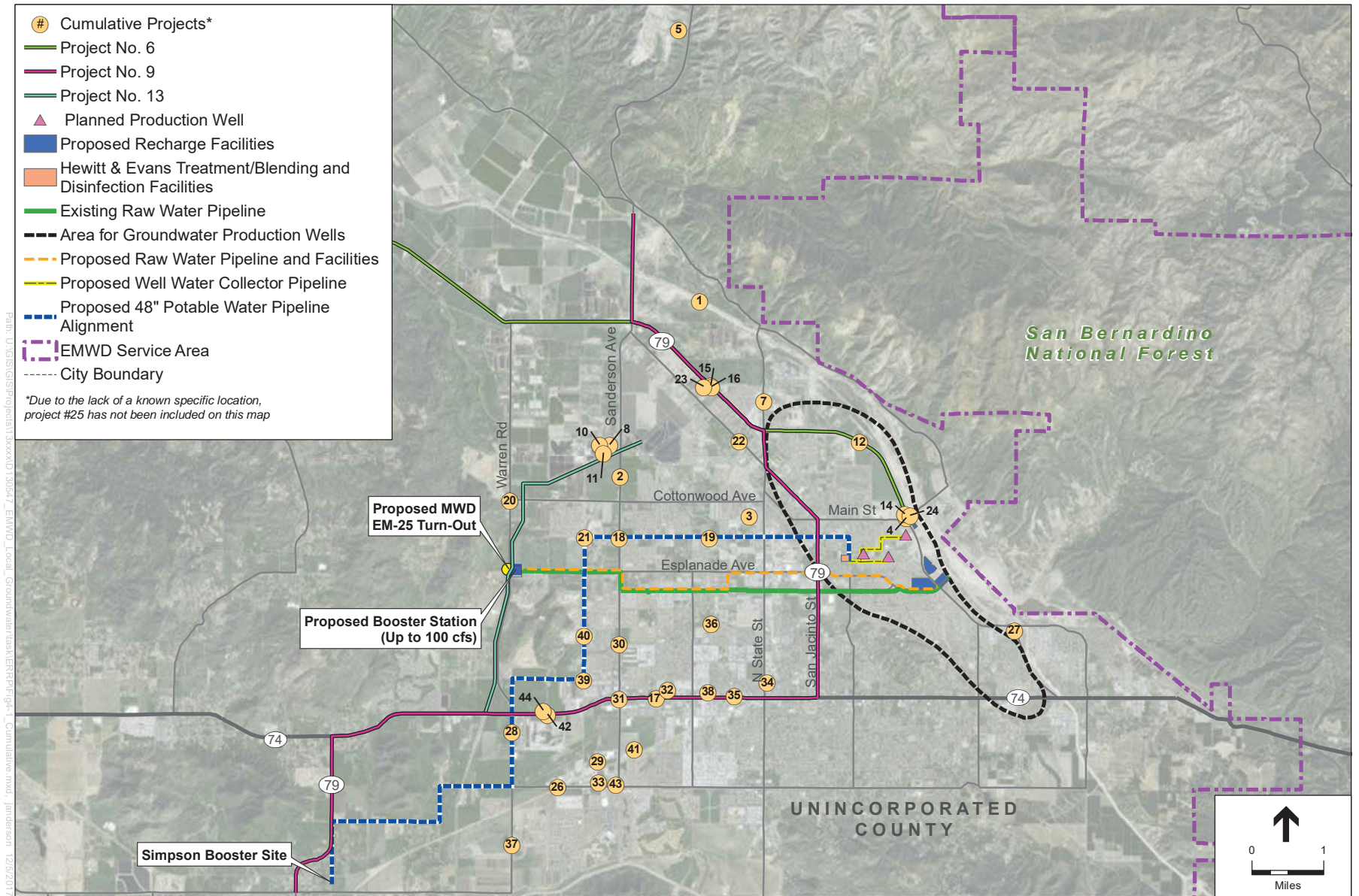
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SOURCE: ESRI; Eastern Municipal Water District EMWD San Jacinto Valley ERRP . 130547.05
Figure 4-1
Cumulative Projects

CHAPTER 5

Growth Inducement

5.1 Introduction

CEQA Guidelines (Section 15126.2(d)) require that a Draft EIR include a discussion regarding the potential for project-related growth inducing impacts. The CEQA Guidelines provide the following guidance for the discussion and consideration of growth-inducing impacts:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth inducement potential. An example of a project that is directly growth-inducing is one that involves construction of new housing. An example of an indirectly growth-inducing project is one that require a substantial permanent or temporary new employment demand that would then stimulate the need for additional housing and services. A project would also indirectly induce growth if it would remove an obstacle to additional growth and development, including a constraint on a required public service.

Water supply availability and service is one of the chief, though not the only, public services needed to support development. Implementation of Proposed Program would develop a groundwater water bank with total storage capacity of up to 90,000 AF, with an expected maximum recharge of up to 70,000 AFY. The maximum extraction capacity of the Proposed Program would be approximately 30,000 AFY. EMWD is proposing to implement the Proposed Program in phases; the Proposed Project would be the first installment of the Proposed Program, and would recharge an average of approximately 7,000 to 30,000 AFY. Implementation of the Proposed Program would also include development of recharge facilities, extraction and monitoring wells, treatment/blending and disinfection facilities, potable and raw water transmission pipelines, well water collector pipelines, laterals from the raw water pipeline to the recharge sites, and other conveyance facilities and appurtenances required to support the Proposed Program through 2045. As such, implementation of the Proposed Program would help

to increase water supply availability and reliability within the EMWD service area. The Proposed Program does not create a new water supply source, but rather is a storage project that uses available space in the groundwater basin to store imported water for use either seasonally or as a long-term drought-resilient supply. Such storage would make more water available within EMWD's service area relative to current conditions; thus the Proposed Program could be considered to remove an obstacle to further development and population growth (as projected by local planning documents) within EMWD's service area through 2040. While available water supply would play a role in supporting project growth in the EMWD service area, it would not be the only impetus to such growth. Other factors, including general plans and policies, the availability of wastewater disposal capacity, public schools, transportation services, and other important public infrastructure, also influence business and residential or population growth. Economic factors, in particular, greatly affect development rates and locations.

5.2 Methodology

In accordance with the CEQA Guidelines, implementation of the Proposed Program, including the Proposed Project, could have an indirect growth inducement potential. As indicated in the *CEQA Guidelines* excerpt above, growth inducement itself is not necessarily an adverse impact. Rather, it is the potential consequences of growth, the secondary effects of growth, which may result in environmental impacts. Potential secondary effects of growth include increased demand on other public services; increased traffic and noise; degradation of air quality; loss of plant and animal habitats; and the conversion of agriculture and open space to developed uses. Growth inducement may result in adverse impacts if the growth is not consistent with local land use plans and growth management plans and policies for the area; this "disorderly" growth could indirectly result in additional adverse environmental impacts. Thus, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

This section analyzes the nature and extent of growth inducement potential for the Proposed Program, including the Proposed Project. The analysis includes an assessment of existing and projected population levels, and existing and projected water supply and demand, as well as a discussion of conformance with pertinent general plans. Growth inducement potential is then assessed.

5.3 Project Area Population and Water Demand Projections

5.3.1 Population Projections

Southern California Association of Governments Population Projections

The Proposed Program area is located entirely within EMWD's service area within the cities of Hemet and San Jacinto and portions of unincorporated Riverside County. Each city's adopted General Plan guides the type and location of land uses and the intensity of development in response to projected population growth and associated housing needs. Each jurisdiction has

assessed the growth-related impacts associated with planned land use and build-out scenarios allowed under their General Plans.

The Proposed Program and the EMWD service area are located within the jurisdiction of the SCAG. SCAG consists of local governments from Orange, Ventura, San Bernardino, Los Angeles, Riverside, and Imperial Counties. One of SCAG's primary functions is to forecast population, housing, and employment growth for each region, subregion, and city within its jurisdiction. SCAG recently adopted the 2016-2040 RTP/SCS which acts as a long-term planning and management plan for the regional transportation system, providing mitigation measures to off-set the impacts of projected growth. According to the SCAG Profile of the Unincorporated Area of Riverside County, the population of unincorporated Riverside was 370,124 people in 2014, which represents approximately 16 percent of the total population of Riverside County (SCAG, 2015). From 2000 to 2014, the population of unincorporated Riverside County decreased by 50,597 people from 420,712 people to 370,124 people (SCAG, 2015). The population growth rate for unincorporated Riverside County from 2000 to 2014 was -12 percent, which was drastically lower compared to the Riverside County's growth of 49.4 percent over the same time period (SCAG, 2015).

SCAG and Department of Finance (DOF) population estimates are enumerated in **Table 5-1** for the cities of Hemet and San Jacinto and unincorporated Riverside County beginning with the base year 2015 and SCAG forecasting 2020, 2035, 2040. As shown in **Table 5-1**, the populations of the cities of Hemet and San Jacinto and unincorporated Riverside County are all anticipated to increase through 2040. The City of San Jacinto is expected to experience the greatest amount of growth through 2040 with an estimated growth rate of 73.8 percent, while unincorporated Riverside County is expected to experience the lowest rate of growth at 34.9 percent over the same time period.

Eastern Municipal Water District's 2015 Urban Management Plan Projections

EMWD provides potable water and recycled water to a large portion of western Riverside County. EMWD's primary service area covers approximately 555 square miles and includes the cities of Hemet, San Jacinto, Menifee, Moreno Valley, Murrieta, Perris, and Temecula and portions of unincorporated Riverside County, which include the communities of Homeland, Lakeview, Nuevo, Quail Valley, Romoland, Valle Vista, and Winchester (EMWD, 2017). EMWD's service area includes both the retail service area which represents the area directly served by EMWD's distribution system and the wholesale area which represents the areas served by agencies which buy water from EMWD. In 2015, EMWD served a retail area consisting of 546,146 people and a wholesale area consisting of 215,075 people, for a total service area population of 761,221 people (EMWD, 2016).

Population projections for the EMWD service area were obtained from the EMWD's 2015 UWMP. UWMPs are prepared by California's urban water suppliers to support long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 AF of water annually or serves more than 3,000 connections is required to assess the reliability of its water sources over

a 20-year planning horizon considering normal, dry, and multiple dry years. This assessment is to be included in its UWMP, which are to be prepared every five years and submitted to the DWR for consistency review under the Urban Water Management Planning Act. The UWMP takes into account the projected population growth for the water supplier's service area when determining future available water supply and future anticipated water demand.

As stated in EMWD's 2015 UWMP, the population of EMWD's service area has grown rapidly, from 342,655 people in 1990 to 761,221 people in 2015 (EMWD, 2016). As shown in **Table 5-1**, EMWD's service area is anticipated to continue to experience steady growth from 2015 through 2040 with an anticipated growth rate of approximately 67 percent. The 2015 UWMP population projections for 2020-2040 were estimated using EMWD's Database of Proposed Projects and the SWRCB estimated population (EMWD, 2016).

**TABLE 5-1
POPULATION PROJECTIONS**

	2015	2020	2025	2030	2035	2040	% Change 2015-2040
City of Hemet	82,118	83,400	--	--	110,300	126,500	54.0%
City of San Jacinto	45,977	50,300	--	--	99,100	79,900	73.8%
Unincorporated Riverside County	370,124*	471,500	--	--	710,600	499,200	34.9%
EMWD Service Area	761,221	856,500	967,100	1,075,200	1,178,600	1,274,600	67.4%

*2015 population estimates were not available so 2014 estimates were used as a proxy.

SOURCE: U.S. Census Bureau, 2015a; U.S. Census Bureau, 2015b; SCAG, 2012; SCAG, 2015; SCAG, 2016; EMWD, 2016.

5.3.2 Water Supply and Demand

EMWD is one of 29 water agencies that have an SWP Water Supply Contract with DWR. The majority of EMWD's water supplies consist of imported water purchased through MWD from the SWP and the CRA. The availability of these imported supplies is dependent on the amount of precipitation in the watershed, the amount of that precipitation that runs off into the watershed, water use by others in the watershed and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that is available for the SWP. EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. EMWD owns and operates two desalination plants that convert brackish groundwater from the West San Jacinto Basin into potable water. EMWD also owns, operates, and maintains its own recycled water system that consists of four RWRFs and several storage ponds spread throughout EMWD's service area that are connected through the recycled water system (EMWD, 2016).

Water demand and supply projections for the EMWD service area were obtained from EMWD's 2015 UWMP. Water demand and supply projections for the service area, including retail and

wholesale, are provided in **Table 5-2**. As shown in **Table 5-2**, total water demand and supply for the service area through 2040 is estimated at 268,200 AFY (EMWD, 2016).

Since 2015, imported water accounted for approximately 54 percent of the EMWD's water supply consisting of 78,165 AFY. As shown in **Table 5-2**, by 2040 imported water is anticipated to account for approximately 70 percent of EMWD's water supply consisting of 186,897 AFY, which represents an increase of 140 percent by the year 2040. Over the same period, water demand within the EMWD service area is projected to increase from 100,705 AFY to 209,300 AFY, which is an anticipated increase of 108 percent. With the expected demand for potable water increasing significantly over the next 30 years, EMWD would continue to rely heavily on the use of imported water to be able to meet demand within the service area.

TABLE 5-2
EMWD CURRENT AND PROJECTED WATER SUPPLY AND DEMAND
(AFY)

Source	2015	2020	2025	2030	2035	2040
Water Demand						
Potable and Raw Water Demand	100,705	151,000	165,6000	180,600	195,200	209,300
Recycled Water Demand	45,1385	46,901	53,100	55,200	57,400	58,900
Water Supply						
Imported Water	78,165	131,697	143,197	158,197	172,797	186,897
Groundwater	15,252	12,303	12,303	12,303	12,303	12,303
Desalinated Groundwater	7,288	7,000	10,100	10,100	10,100	10,100
Recycled Water	45,385	46,901	53,100	55,200	57,400	58,900
Total Demand	146,090	197,901	218,700	235,800	252,600	268,200
Total Supply	146,090	197,901	218,700	235,800	252,600	268,200

SOURCE: EMWD, 2016

As a way to maintain and increase the supply of imported water, the 2015 UWMP states that increased amounts of imported water supply would be purchased from MWD and through transfers and exchanges with other agencies. One of these transfer and exchange projects is the Santa Ana River Conservation & Conjunctive Use Program (SARCCUP), which is a watershed-scale project to store imported water during wet years in order to help meet dry-year demands. As a member agency¹, EMWD would receive 12,000 AFY of new dry-year yield which would add to EMWD's imported water supply portfolio through year 2040. This would be done through a series of transfers and exchanges between the member agencies. The San Jacinto Valley Water Banking ERRP – Phase 1 Project proposed as part of the Program would be constructed as EMWD's contribution to the SARCCUP. **[Note to EMWD: Please confirm how we should**

¹ Member agencies include: EMWD, Inland Empire Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District.

reference SARCCUP and whether revisions should be made given the status of the project (SARCCUP mentioned in UWMP)]

EMWD's 2015 UWMP accounted for the development of the San Jacinto Valley Water Banking ERRP as a future means to increase conjunctive use and facilitate groundwater banking within its future groundwater supply projections. The Proposed Program's stated goal is to overcome up to three years of MWD cutbacks during drought years through the conjunctive use of groundwater (EMWD, 2016). The Proposed Program would assist in the storage of imported water with the use of the proposed recharge facilities during wet years, which would increase groundwater supplies within the San Jacinto Groundwater Basin for use during dry years as an adjunct source of potable water to imported water supplies. Implementation of the Proposed Program would give EMWD more reassurance that groundwater supplies could be more reliably available during normal and dry years when imported water supply is less abundant to meet the demands within its service area.

In addition, **Table 5-2** also indicates that groundwater supplies are forecasted to decrease by 19 percent by the year 2040. The 2015 UMWP indicates this is because EMWD continues to implement various plans and programs to prevent continued overdraft of the San Jacinto Groundwater Basin. EMWD has recognized and foresees sustained limitations of native groundwater production and has developed alternatives to assure groundwater supply reliability. For example, EMWD has implemented an IRRP, filtration plants to treat and deliver imported water to areas dependent on groundwater, and recycled water use for irrigation of landscape and agriculture. The Proposed Program would work as a compliment to these existing programs and measures to help further increase the reliability of groundwater supplies and storage of imported water. Finally, both desalinated groundwater and recycled water supplies are anticipated to increase into the year 2040, with a projected increase of 39 and 30 percent, respectively.

5.4 Growth Inducement Potential

Implementation of the Proposed Program and Proposed Project would not have a direct growth inducement effect, as it does not propose development of new housing that would attract additional population to the area. Further, implementation of the Proposed Program and Proposed Project would not result in substantial permanent employment that could indirectly induce population growth. Although construction activities would create some short-term construction employment opportunities over the duration of activities through 2045, the amount of opportunities created would not require persons outside of the existing cities of Hemet and San Jacinto's or unincorporated Riverside County's work force. The range of operational employees identified by EMWD to operate facilities like the treatment/blending and disinfection facilities, wells, and recharge facilities is 2 to 3 employees and would be able to be accommodated by the existing work force.

The objectives of the Proposed Program include increasing the water supply reliability during droughts and emergencies; overcoming water shortages of up to 15 percent for up to three consecutive drought years during a regional water allocation cutback; increasing the amount of groundwater that can be pumped seasonally through recharge and storage of imported water; and

increasing static groundwater levels through 2040. The Proposed Program expects to achieve these goals by implementing the Proposed Program in phases in order to enhance current and future water supplies by recharging imported water into the local groundwater basin. However, while the Proposed Program would increase the reliability of future water supplies within EMWD's service area and could also be made available to EMWD's sub-agencies or other regional water agencies through an exchange, with no physical export of local supplies. Implementation of the Proposed Program would not create a new or expanded water supply that could create an indirect growth inducement potential. Although the Proposed Program includes construction and operation of treatment/blending and disinfection facilities, the water to be treated was originally imported water through the SWP and therefore does not represent a new supply.

The local jurisdictions that govern land use and development within the Proposed Program area include the City of Hemet, City of San Jacinto, and areas of unincorporated Riverside County. These jurisdictions' adopted General Plan documents guide the type, location, and level of land use and development within each respective jurisdiction (see Section 3.10 for land use goals and policies). All of these jurisdictions have assessed the growth-related impacts associated with planned land use and growth allowed under their General Plans and the CEQA EIRs they have prepared for those plans. In addition, SCAG, the regional authority charged with providing a framework for coordination of orderly regional growth and development, prepared the Regional Comprehensive Plan (RCP) (SCAG, 2008), which combines regional planning efforts into a single focused document. The RCP addresses growth management as well as several core elements including housing, transportation, air quality, and water. The principal objectives of the RCP are to coordinate regional and local decisions with respect to future growth and development and to minimize future environmental impacts. SCAG has also prepared the 2016-2040 RTP/SCS (SCAG, 2016). The RTP acts as a long-term planning and management plan for the regional transportation system, providing mitigation measures to off-set the impacts of growth projected in the RCP. The Final RTP/SCS Program EIR identifies significant unavoidable impacts in a number of issue areas, and concludes that when population and employment growth is held constant, many adverse environmental impacts will be significant and unavoidable regardless of whether the RTP is approved (SCAG, 2015).

EMWD does not have the authority to make land use decisions to halt or alter growth and development patterns or approvals, nor does it have the authority to address many of the potentially significant, secondary effects of planned growth. Authority to implement those measures lies with City of Hemet, City of San Jacinto, and other jurisdictions within EMWD's service area including unincorporated Riverside County. However, EMWD does have the authority to take actions and implement projects to help mitigate the secondary effects of growth on water resources and water supply services within the service area.

While the Proposed Program would provide future water system infrastructure within EMWD's service area, the components to be constructed as part of the Proposed Program would support planned population growth that has been identified within the service area. The Proposed Program would not create a new water supply that would induce future growth. Rather, as a groundwater reliability program, the Proposed Program would accommodate the population

growth already planned by SCAG and EMWD within the service area such that water infrastructure reliability would not be an impediment to already-planned growth. Additionally, the Proposed Program facilities would be implemented in phases. The Proposed Project is the first phase and includes construction of Mountain Avenue West and associated extraction, treatment, monitoring, and conveyance facilities followed by those at Mountain Avenue East, North, and South. EMWD initially plans to use existing raw water and potable water conveyance facilities and only contract new ones when the additional capacity is needed. Extraction facilities would be constructed as the recharge facilities are built out, and would be supported by additional monitoring and treatment facilities as needed. As a result, the Proposed Program neither supports nor encourages growth within the EMWD service area to a greater degree than presently estimated by the City of Hemet, City of San Jacinto, unincorporated Riverside County, and SCAG as described above, as land use agencies with jurisdiction over the Proposed Program area. The Proposed Program would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.

5.5 References

- Eastern Municipal Water District (EMWD), 2016. *Eastern Municipal Water District 2015 Final Urban Water Management Plan*. <https://www.emwd.org/home/showdocument?id=1506>. Accessed November 16, 2017.
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- U.S. Census Bureau, 2015a. *American Fact Finder – Total Population for City of Hemet*. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_B01003&prodType=table. Accessed November 16, 2017.
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CHAPTER 6

Alternatives Analysis

6.1 Overview of Alternatives Analysis

CEQA requires that a Draft EIR describe and evaluate a reasonable range of feasible alternatives to a project, or to the location of a project, that would attain most of the project objectives and avoid or substantially lessen significant project impacts. The alternatives analysis must also include the “No Project Alternative” as a point of comparison. The No Project Alternative includes existing conditions and reasonably foreseeable future conditions that would exist if the project were not approved (*CEQA Guidelines* Section 15126(d)). The environmental impacts associated with the alternatives are evaluated relative to the impacts associated with the Proposed Program.

CEQA Guidelines (§15126.6) set forth the following criteria for alternatives:

- **Identifying Alternatives.** The range of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that may be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. The specific alternative of ‘no project’ shall also be evaluated along with its impact.
- **Range of Alternatives.** An EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster informed decision-making and public participation. The “rule of reason” governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice.
- **Evaluation of Alternatives.** EIRs are required to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. Matrices may be used to display the major characteristics of each alternative and significant environmental effects of each alternative to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed but in less detail than the significant effects of the project.

6.1.1 Project Objectives

The objectives of the Proposed Program and Proposed Program are as follows:

- Increase water supply reliability during droughts and emergencies.
- Overcome water shortages of up to 15 percent for up to three consecutive drought years during a regional water allocation cutback.
- Increase the amount of groundwater that can be pumped seasonally through recharge and storage of imported water.

6.1.2 Potentially Significant Impacts of the Proposed Program

Chapter 3 of this Draft EIR identifies potential impacts associated with the Proposed Program for each environmental issue area in Appendix F and Appendix G of the *CEQA Guidelines*, including the Proposed Program components analyzed at the program-level and Proposed Project components analyzed at the project-level. Chapters 4 and 5 address cumulative impacts and those anticipated related to growth-inducement. Mitigation measures were identified to reduce the majority of impacts to a less than significant level. Significant and unavoidable impacts were found for temporary construction-related air emissions and temporary construction-related noise for the Proposed Project. Potentially significant impacts would result from construction-related air emissions and temporary construction-related noise for the Proposed Program. A summary of the significance of the greatest impacts for each environmental resource analyzed in Chapters 3 and 4 is presented in **Table 6-1**. Specific impacts and all mitigation measures are provided in **Table ES-1** in the Executive Summary of this Draft EIR.

**TABLE 6-1
SUMMARY OF PROPOSED PROGRAM IMPACT ANALYSIS**

Environmental Resource	Proposed Program Significance Determination	Proposed Project Significance Determination
Aesthetics	LSM	LSM
Agriculture and Forestry Resources	LTS	LTS
Air Quality	PS	SU
Biological Resources	LSM	LSM
Cultural Resources	LSM	LSM
Geology, Soils, Seismicity	LSM	LSM
Greenhouse Gas Emissions and Energy	LTS	LTS
Hazards and Hazardous Materials	LSM	LSM
Hydrology and Water Quality	LSM	LSM
Land Use	LTS	LTS
Noise	PS	SU
Public Services and Recreation	LTS	LTS
Traffic and Transportation	LSM	LSM
Utilities	LTS	LTS

LTS = Less than Significant
 LSM = Less than Significant with Mitigation
 PS = Potentially Significant
 SU = Significant and Unavoidable

SOURCE: ESA, 2018.

6.2 Alternatives to the Proposed Program

6.2.1 Alternatives Considered but Rejected

This section identifies other project alternatives that were considered but rejected from further consideration. CEQA Guidelines Section 15126(c) says that a lead agency should identify any alternatives considered by the lead agency but rejected.

Stormwater Recharge Alternative

In addition to use of imported water for groundwater recharge, EMWD considered including stormwater as a recharge supply for the Mountain Avenue recharge facilities. The stormwater would be captured from the Meridian Channel, tributary to the San Jacinto River, which would then be delivered by pipelines to the Mountain Avenue recharge facilities. Use of stormwater would require the need for EMWD to secure additional water supply from Riverside County Flood Control and Water Conservation District facilities.

The Stormwater Recharge Alternative would consist of a diversion structure, pipeline up to 24 inches in diameter, de-sedimentation holding basin, and flow control structure to direct flow to the recharge basin(s) or discharge to a lower point of the Meridian Channel. EMWD considered two options to convey stormwater from the Meridian Channel to the Mountain Avenue recharge basins. The first option would connect to the channel at the southwest corner of EMWD's Well No. 28 site, extend to Mountain Avenue continuing northwesterly to the proposed Mountain Avenue West recharge facility. The second option would connect to the channel near the intersection of Meridian Street and Washington Avenue and continue northwesterly along Meridian Street to the proposed Mountain Avenue West recharge facility.

The Stormwater Recharge Alternative would involve additional impacts to biological resources and water quality due to diversion of water from the river and increased use of vacant land used by sensitive biological species. EMWD determined that the construction of stormwater capture facilities was not cost-effective and this option was no longer pursued by EMWD. For these reasons, the Stormwater Recharge Alternative was rejected from further consideration in this EIR. However, if stormwater capture facilities become feasible and are pursued in the future, separate environmental documentation shall be prepared at that time.

Recharge Basin Alternative

EMWD prepared a Groundwater Banking Feasibility Study in 2013 that identified potential alternative recharge sites located within boundaries of the Sub-Basin of the San Jacinto Groundwater Basin (RMC, 2013). The San Jacinto River runs from south to north along the eastern boundary of this Sub-Basin. Due to coarser soil material found in the vicinity of the river and in the southern parts of the Sub-Basin, recharge basins are more suitable for recharge along that portion of the river than other areas of the Upper Pressure Sub-Basin.

EMWD identified three combinations of parcels (groups) along the San Jacinto River and assessed each group for recharge amount and associated capital costs. Groups A and B are comprised of recharge facilities in locations ultimately chosen by EMWD for the Proposed

Program. Mountain Avenue West and South are located within Group A and Mountain Avenue North and East are located in Group B. Group C is located farther southeast at the intersection of Soboba Street and Ramona Expressway in the southeastern portion of San Jacinto and the northeastern portion of Hemet. The recharge basins in Group C form the basis of this Recharge Basin Alternative. This alternative assumes that the recharge basins in Group C would replace those included in Group B (Mountain Avenue North and East).

The Recharge Basin Alternative would replace recharge facilities at Mountain Avenue North and East. However, because the Recharge Basin Alternative would be located approximately 1 mile southeast of the other recharge facilities, more infrastructure, including additional linear feet of raw water pipelines, would be required to connect the Recharge Basin Alternative with facilities located in central San Jacinto. As a result, additional construction-related impacts to air quality, noise, and traffic would result given a longer period of time required to construct a longer pipeline from implementation of the Recharge Basin Alternative.

The Recharge Basin Alternative provides several operational constraints for EMWD. The total recharge capacity would be 8,600 AFY, which, when compared to the recharge basins in Group A that total 25,700 AFY, would not provide as much recharged water potential. However, the total recharge capacity of the Recharge Basin Alternative at 8,600 AFY is similar to Group B at 9,200 AFY, which was ultimately chosen as the Mountain Avenue North and East recharge locations by EMWD. Furthermore, the Recharge Basin Alternative would result in an average percolation rate of 0.5 foot/day whereas the other recharge basins would result in approximately 1 foot/day. For these reasons, in order to maximize the ability to meet project objectives, EMWD chose the Group A and Group B locations, and the Recharge Basin Alternative was rejected from further consideration.

6.2.2 No Project Alternative

According to Section 15126.6(e) of the *CEQA Guidelines*, discussion of the No Project Alternative must include a description of existing conditions and reasonably-foreseeable future conditions that would exist if the project were not approved. Under the No Project Alternative, EMWD would not construct groundwater banking facilities and associated monitoring, extraction, and conveyance facilities proposed under the Proposed Program. The vacant land proposed for recharge basins, wells, and treatment facilities would remain undeveloped. The additional seasonal and extended water banking of up to 90,000 AFY would not occur, which would result in reduced capacity to augment the recharge, storage, and extraction capacities of EMWD's existing groundwater production system. The benefits of the Proposed Program, which include improved groundwater quality and reduced water salinity, higher groundwater levels and lower pumping costs, increased groundwater availability, and drought-resilient supply reliability, would not occur. Additionally, the water that would have been stored in the groundwater basin as a result of the Proposed Program would not be available for use during an emergency or drought situation in future years.

Ability to Meet Project Objectives

The No Project Alternative would meet none of the project objectives. Without the Proposed Program, water supply reliability would not be increased during droughts and emergencies, water shortages of up to 15 percent would not be overcome, the amount of groundwater available for pumping would not be increased, and static groundwater levels would not be improved.

Impact Analysis

Aesthetics

The introduction of new facilities associated with the Proposed Program would not occur under this alternative. The No Project Alternative thus would have no potential to impact scenic vistas or the visual character of the Proposed Program area. While the visual effects of the Proposed Program were determined to be potentially significant, the impacts to visual character would be mitigated to a less than significant level through design and would pose no long-term aesthetic impacts. Thus, the No Project Alternative would result in similar aesthetic impacts when compared to the Proposed Program.

Air Quality

The No Project Alternative would not involve any construction activities or operation of any Proposed Program facilities, and would therefore not generate emissions that could impact air quality. The Proposed Program would result in potentially significant construction-related air quality impacts due to emissions of DPM. The Proposed Project would result in significant and unavoidable impacts due to emissions of DPM. As such, the No Project Alternative would result in fewer air quality impacts when compared to the Proposed Program.

Biological Resources

The No Project Alternative would not involve any construction activities or operation of any Proposed Program facilities, and would therefore not alter the existing site conditions at the vacant recharge, extraction and monitoring sites. The Proposed Program has the potential to impact sensitive species and their habitat, which would be reduced with implementation of mitigation measures. However, the No Project Alternative would completely avoid potential impacts to sensitive species such as San Bernardino kangaroo rat at the Mountain Avenue South site. Therefore, the No Project Alternative would result in fewer potential biological resource impacts than the Proposed Program.

Cultural Resources

The No Project Alternative would not involve any construction activities or operation of any Proposed Program facilities, and would therefore not result ground disturbance that would disrupt and affect archaeological, historic, paleontological resources, or human remains. The Proposed Program would involve substantial grading and excavation that could significantly impact cultural resources, particularly at the Hewitt and Evans site and Mountain Avenue South. Therefore, the No Project Alternative would result in fewer impacts to cultural resources than the Proposed Program.

Geology and Soils

The No Project Alternative would not involve construction activities or operation of any Proposed Program facilities. As a result, geologic impacts related to ground shaking and soil erosion would not occur to any people or structures. While the geologic effects of the Proposed Program were determined to be potentially significant, the impacts to ground shaking and soil erosion would be mitigated to a less than significant level through geotechnical design requirements and mitigation measures, and would pose no long-term geologic impacts when implemented. Thus, the No Project Alternative would result in similar geological and soil impacts when compared to the Proposed Program.

Greenhouse Gas Emissions and Energy

The No Project Alternative would not involve an increase in greenhouse gas emissions from existing conditions because no infrastructure would be constructed. The Proposed Program would result in greenhouse gas emissions but not at significant levels, and as such, the No Project Alternative would result in fewer greenhouse gas emissions impacts when compared to the Proposed Program.

Hazards and Hazardous Materials

No new facilities would be constructed or operated under the No Project Alternative. While the Proposed Program would involve routine transport and use of potentially hazardous materials, compliance with existing State regulations would reduce any impacts. The No Project Alternative would not involve transport of potentially hazardous fuels and lubricants or use of hazardous materials such as chlorine and chloramine. As a result, the No Project Alternative would result in fewer impacts to hazards and hazardous materials when compared to the Proposed Program.

Hydrology and Water Quality

One of the benefits of the Proposed Program would be the projected increase in static groundwater levels due to recharge activities. The No Project Alternative would not involve these groundwater recharge activities, and therefore benefits to static groundwater levels would not occur. Under the Proposed Program, construction of new facilities would involve ground-disturbing activities that would impact surface water quality due to polluted runoff from construction sites. Such potential impacts would be mitigated with implementation of required regulatory requirements such as SWPPPs and BMPs. However, the No Project Alternative would not involve ground-disturbing activities and would not have the potential for such water quality impacts. As a result, the No Project Alternative would result in greater hydrology and water quality impacts when compared to the Proposed Program because static groundwater levels would not be improved.

Land Use and Planning

The No Project Alternative would not result in construction activities or operation of any Proposed Program facilities. While the Proposed Program would involve construction of aboveground facilities, they would consist of recharge facilities, wells, and treatment facilities that would be constructed in existing vacant land and therefore would not divide and established community or conflict with land use policy. The No Project Alternative would involve no

facilities and would therefore not be able to divide an established community or conflict with any land use policy. As a result, impacts to land use would be similar under the No Project Alternative when compared to the Proposed Program.

Noise and Vibration

The No Project Alternative would not involve activities that would generate noise. The Proposed Program would result in potentially significant temporary impacts to sensitive receptors and ambient noise levels during construction. The Proposed Project would result in significant and unavoidable temporary impacts to sensitive receptors and ambient noise levels during construction. As a result, the No Project Alternative would not alter the existing condition and would have fewer noise impacts than the Proposed Program.

Public Services and Recreation

The No Project Alternative would not result in construction activities or operation of any Proposed Program facilities. Similar to the Proposed Program, the No Project Alternative would not directly induce substantial population growth, therefore additional fire or police protection, schools, or parks would not be required to accommodate additional population. As a result, impacts to public services would be similar under the No Project Alternative when compared to the Proposed Program.

Transportation and Traffic

The No Project Alternative would not result in construction activities or operation of any Proposed Program facilities. The Proposed Program would result in temporary impacts to traffic and circulation patterns due to construction of pipelines within rights-of-way and adjacent to city streets. All Proposed Program impacts would be temporary and would be reduced to less than significant levels with implementation of mitigation measures such as a Traffic Control Plan. However, due to the temporary impact to traffic and circulation as a result of the Proposed Program, the No Project Alternative would result in fewer impacts.

Utilities and Service Systems

The No Project Alternative would not result in any new facilities that would require additional use of utilities or services currently provided in the Proposed Program area. The Proposed Program would not place new demands on existing utilities, including water or wastewater, stormwater, or landfills, and impacts were determined to be less than significant. As a result, impacts to public services would be similar under the No Project Alternative when compared to the Proposed Program.

6.3 Environmentally Superior Alternative

As stated above, the No Project Alternative would avoid many of the environmental impacts of the Proposed Program but would not meet any of the project objectives. CEQA requires that a Draft EIR identify the environmentally superior alternative of a project other than the No Project Alternative (*CEQA Guidelines* Section 15126.6(e)(2)). One of the primary purposes of the alternatives analysis is to identify project alternatives that may avoid or substantially lessen significant project impacts (*CEQA Guidelines* Section 15126.6). Potentially significant impacts

would result from construction-related air emissions and temporary construction-related noise for the Proposed Program. Significant and unavoidable impacts were found for construction-related air emissions and temporary construction-related noise for the Proposed Project.

CEQA requires that a Draft EIR shall assess the No Project Alternative. Because the No Project Alternative does not include construction or operation or any facilities, it results in fewer environmental impacts as identified in **Table 6-2**. A comparison of the Proposed Program to the No Project Alternative presents a tradeoff between achieving project objectives and impacting the environment. The No Project Alternative would avoid all the environmental impacts of the Proposed Program but would not meet any of the project objectives. The No Project Alternative also would forego any environmental benefits to the Sub-Basin, such as improving the static groundwater levels from recharge activities.

CEQA requires that an EIR identify the environmentally superior alternative of a project other than the No Project Alternative (*CEQA Guidelines* Section 15126.6(e)(2)). Although the No Project Alternative would result in fewer environmental impacts than the Proposed Program and the Proposed Project, both Program and Project would benefit the Sub-Basin through recharge and storage and enhance water supply reliability for EMWD. For this reason, the Proposed Program is considered the environmentally superior alternative.

TABLE 6-2
SUMMARY OF ALTERNATIVES ANALYSIS
RELATIVE IMPACTS AS COMPARED TO THE PROPOSED PROGRAM

Environmental Resource	Proposed Program	Proposed Project	No Project Alternative
Meets All Project Objectives?	Yes	Yes	No
Environmental Impacts			
Aesthetics	LSM	LSM	0
Agriculture and Forestry Resources	LTS	LTS	-
Air Quality	PS	SU	-
Biological Resources	LSM	LSM	-
Cultural Resources	LSM	LSM	-
Geology, Soils, Seismicity	LSM	LSM	0
Greenhouse Gas Emissions and Energy	LTS	LTS	-
Hazards and Hazardous Materials	LSM	LSM	-
Hydrology and Water Quality	LSM	LSM	+
Land Use	LTS	LTS	0
Noise	PS	SU	-
Public Services and Recreation	LTS	LTS	0
Traffic and Transportation	LSM	LSM	-
Utilities	LTS	LTS	0

LTS = Less than Significant
 LSM = Less than Significant with Mitigation
 PS = Potentially Significant
 SU = Significant and Unavoidable
 + = more severe/more intense
 - = less severe/less intense
 0 = no change

SOURCE: ESA, 2018.

6.4 References

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CHAPTER 7

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