Draft Program EIR for the

Lakeland Village MDP



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TABLE OF CONTENTS

Section **Page No.**

ACRONYMS AND ABBREVIATIONS **ACR-1**

EXECUTIVE SUMMARY **ES-1**

ES-1.1 Introduction ES-1
ES-1.2 Document Purpose ES-1
ES-1.3 Project Location ES-1
ES-1.4 Project Description ES-2
ES-1.4.1 Project Objectives ES-43
ES-1.4.2 Other Public Agencies Who May Use This CEQA Document or Issue Permits for Portions of the MDP Facilities ES-43
ES-1.5 Summary of Environmental Impacts ES-44
ES-1.6 Areas of Controversy/Issues to Be Resolved ES-71
ES-1.7 Summary of Project Alternatives ES-71
ES-1.8 References ES-76

1.0 INTRODUCTION **1.0-1**

1.1 Purpose and Scope 1.0-1
1.2 Compliance with CEQA 1.0-1
1.2.1 Format 1.0-1
1.2.2 Environmental Procedures 1.0-2
1.2.3 Project Baseline 1.0-4
1.2.4 NOP Comment Letters 1.0-5
1.3 References 1.0-5

2.0 EFFECTS FOUND NOT TO BE SIGNIFICANT **2.0-1**

2.1 Effects Found Not to Be Significant during Preparation of the Notice of Preparation 2.0-1
2.2 Effects Found Not to Be Significant as Part of the PEIR Process 2.0-1
2.3 Effects Found to Be Less Than Significant with Mitigation Measures Incorporated 2.0-2
2.4 Effects Found to Be Significant Even with Mitigation Measures Incorporated 2.0-3
2.5 References 2.0-3

3.0 PROJECT DESCRIPTION **3.0-1**

3.1 Project Location 3.0-1
3.2 Background and Project Description 3.0-1
3.3 Project Objectives 3.0-30
3.4 Other Public Agencies Who May Use This CEQA Document or Issue Permits for Portions of the MDP Facilities 3.0-30

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

4.0 ANALYSIS OF ENVIRONMENTAL ISSUES 4.0-1
4.1 Aesthetics 4.1-1
4.1.1 Setting and Project Baseline 4.1-1
4.1.2 Related Regulations 4.1-1
4.1.3 Comments Received in Response to the Notice of Preparation 4.1-4
4.1.4 Significance Threshold Criteria 4.1-4
4.1.5 Environmental Impacts Before Mitigation 4.1-5
4.1.6 Mitigation Measures 4.1-9
4.1.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.1-9
4.1.8 References 4.1-9
4.2 Air Quality 4.2-1
4.2.1 Setting and Project Baseline 4.2-1
4.2.2 Related Regulations 4.2-8
4.2.3 Comments Received in Response to the Notice of Preparation 4.2-11
4.2.4 Significance Threshold Criteria 4.2-11
4.2.5 Environmental Impacts Before Mitigation 4.2-14
4.2.6 Mitigation Measures 4.2-25
4.2.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.2-25
4.2.8 References 4.2-26
4.3 Biological Resources 4.3-1
4.3.1 Setting and Project Baseline 4.3-1
4.3.2 Related Regulations 4.3-19
4.3.3 Comments Received in Response to the Notice of Preparation 4.3-25
4.3.4 Significance Threshold Criteria 4.3-25
4.3.5 Environmental Impacts Before Mitigation 4.3-26
4.3.6 Mitigation Measures 4.3-43
4.3.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.3-46
4.3.8 References 4.3-46
4.4 Cultural Resources 4.4-1
4.4.1 Setting and Project Baseline 4.4-1
4.4.2 Related Regulations 4.4-5

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

4.4.3 Comments Received in Response to the Notice of Preparation 4.4-10
4.4.4 Significance Threshold Criteria 4.4-10
4.4.5 Environmental Impacts Before Mitigation 4.4-10
4.4.6 Mitigation Measures 4.4-13
4.4.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.4-17
4.4.8 References 4.4-17
4.5 Geology and Soils 4.5-1
4.5.1 Setting and Project Baseline 4.5-1
4.5.2 Related Regulations 4.5-3
4.5.3 Comments Received in Response to the Notice of Preparation 4.5-5
4.5.4 Significance Threshold Criteria 4.5-5
4.5.5 Environmental Impacts Before Mitigation 4.5-5
4.5.6 Mitigation Measures 4.5-8
4.5.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.5-10
4.5.8 References 4.5-10
4.6 Greenhouse Gas Emissions 4.6-1
4.6.1 Setting and Project Baseline 4.6-1
4.6.2 Related Regulations 4.6-3
4.6.3 Comments Received in Response to the Notice of Preparation 4.6-8
4.6.4 Significance Threshold Criteria 4.6-8
4.6.5 Environmental Impacts Before Mitigation 4.6-11
4.6.6 Mitigation Measures 4.6-15
4.6.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.6-15
4.6.8 References 4.6-15
4.7 Hazards and Hazardous Materials 4.7-1
4.7.1 Setting and Project Baseline 4.7-1
4.7.2 Related Regulations 4.7-3
4.7.3 Comments Received in Response to the Notice of Preparation 4.7-8
4.7.4 Significance Threshold Criteria 4.7-8
4.7.5 Environmental Impacts Before Mitigation 4.7-9
4.7.6 Mitigation Measures 4.7-10

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

4.7.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.7-11
4.7.8 References 4.7-11
4.8 Hydrology and Water Quality 4.8-1
4.8.1 Setting and Project Baseline 4.8-1
4.8.2 Related Regulations 4.8-6
4.8.3 Comments Received in Response to the Notice of Preparation 4.8-13
4.8.4 Significance Threshold Criteria 4.8-13
4.8.5 Environmental Impacts Before Mitigation 4.8-14
4.8.6 Mitigation Measures 4.8-24
4.8.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.8-25
4.8.8 References 4.8-25
4.9 Noise 4.9-1
4.9.1 Setting and Project Baseline 4.9-1
4.9.2 Related Regulations 4.9-5
4.9.3 Comments Received in Response to the Notice of Preparation 4.9-9
4.9.4 Significance Threshold Criteria 4.9-9
4.9.5 Environmental Impacts Before Mitigation 4.9-9
4.9.6 Mitigation Measures 4.9-12
4.9.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.9-13
4.9.8 References 4.9-13
4.10 Transportation and Traffic 4.10-1
4.10.1 Setting and Project Baseline 4.10-1
4.10.2 Related Regulations 4.10-2
4.10.3 Comments Received in Response to the Notice of Preparation 4.10-4
4.10.4 Significance Threshold Criteria 4.10-4
4.10.5 Environmental Impacts Before Mitigation 4.10-4
4.10.6 Mitigation Measures 4.10-7
4.10.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.10-8
4.10.8 References 4.10-8

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

4.11 Utilities and Service Systems 4.11-1
4.11.1 Setting and Project Baseline 4.11-1
4.11.2 Related Regulations 4.11-2
4.11.3 Comments Received in Response to the Notice of Preparation 4.11-4
4.11.4 Significance Threshold Criteria 4.11-4
4.11.5 Environmental Impacts Before Mitigation 4.11-5
4.11.6 Mitigation Measures 4.11-6
4.11.7 Summary of Environmental Effects After Mitigation Measures Are Implemented 4.11-6
4.11.8 References 4.11-6

5.0 CONSISTENCY WITH REGIONAL PLANS 5.0-1

6.0 MANDATORY CEQA TOPICS 6.0-1
6.1 Significant Unavoidable Environmental Effects 6.0-1
6.2 Irreversible Environmental Effects 6.0-2

7.0 CUMULATIVE IMPACT ANALYSIS 7.0-11
7.1 Cumulative Forecasting Methodology 7.0-1
7.2 Cumulative Analysis Setting 7.0-2
7.3 Assessment of Cumulative Impacts 7.0-2
7.3.1 Aesthetics 7.0-2
7.3.2 Air Quality 7.0-3
7.3.3 Biological Resources 7.0-6
7.3.4 Cultural Resources 7.0-10
7.3.5 Geology and Soils 7.0-12
7.3.6 Greenhouse Gas Emissions 7.0-14
7.3.7 Hazards and Hazardous Materials 7.0-15
7.3.8 Hydrology and Water Quality 7.0-17
7.3.9 Noise 7.0-20
7.3.10 Traffic 7.0-22
7.3.11 Utilities and Service Systems 7.0-24

8.0 ALTERNATIVES TO THE PROPOSED PROJECT 8.0-1
8.1 Alternatives Considered but Rejected by the Lead Agency 8.0-2
8.2 Description and Evaluation of Alternatives 8.0-2
8.2.1 Proposed Project – Lakeland Village Master Drainage Plan 8.0-3
8.2.2 Alternative 1 – No Project 8.0-3

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

8.2.3 Alternative 2 – Upsizing Facilities 8.0-3
8.2.4 Alternative 3 – Debris Basin plus Floodplain Buyout 8.0-4
8.3 Evaluation of Alternatives....8.0-4
8.4 Environmentally Superior Alternative.... 8.0-30

9.0 GROWTH-INDUCING IMPACTS....9.0-1
9.1 References....9.0-2

10.0 LIST OF PREPARERS....10.0-1

APPENDICES

A Initial Study, Distribution List, Notice of Preparation, and Notice of Preparation Comment Letters
B Environmental Constraints Analysis
C CalEEMod Data
D Seismic and Geological Hazards Review

TABLE OF CONTENTS (CONTINUED)

Page No.

FIGURES

ES-1 Regional Map ES-77
ES-2 Vicinity Map ES-79
ES-3a Proposed MDP Facilities (Left) ES-81
ES-3b Proposed MDP Facilities (Right) ES-83
3.0-1 Regional Map 3.0-33
3.0-2 Vicinity Map 3.0-35
3.0-3a Proposed MDP Facilities (Left) 3.0-37
3.0-3b Proposed MDP Facilities (Right) 3.0-39
4.1-1 Simulation Photo Key Map 4.1-11
4.1-2 View 1 – Line A Debris Basin 4.1-13
4.1-3 View 2 – Line A Debris Basin 4.1-15
4.1-4 View 3 – Line B Water Quality Basin 4.1-17
4.1-5 View 4 – Line B Water Quality Basin 4.1-19
4.1-6 View 5 – Line B Debris Basin 4.1-21
4.1-7 View 6 – Line B Debris Basin 4.1-23
4.1-8 View 7 – Lakeland Village Debris Basin 4.1-25
4.1-9 View 8 – Lakeland Village Debris Basin 4.1-27
4.1-10 View 9 – Line I Debris Basin 4.1-29
4.1-11 View 10 – Line I Debris Basin 4.1-31
4.3-1 Lakeland Village MDP Boundary 4.3-47
4.3-2 Vegetation Map 4.3-49
4.3-3 MSHCP Criteria Area 4.3-51
4.3-4a Narrow Endemic Plants Survey Area (NEPSSA) Survey Area (Left) 4.3-53
4.3-4b Narrow Endemic Plants Survey Area (NEPSSA) Survey Area (Right) 4.3-55
4.3-5a Criteria Area Species Survey Area (CASSA) Survey Area (Left) 4.3-57
4.3-5b Criteria Area Species Survey Area (CASSA) Survey Area (Right) 4.3-59
4.3-6a Burrowing Owl (BUOW) Survey Area (Left) 4.3-61
4.3-6b Burrowing Owl (BUOW) Survey Area (Right) 4.3-63
4.3-7a Vegetated Riparian Habitats (Left) 4.3-65
4.3-7b Vegetated Riparian Habitats (Right) 4.3-67
4.4-1 Paleontological Resources 4.4-19
4.5-1 Fault Hazard 4.5-13
4.5-2 Regional Geology 4.5-15

TABLE OF CONTENTS (CONTINUED)

Page No.

4.5-3 Liquefaction Hazard....4.5-17
4.7-1a Existing Hazardous Sites (Left)....4.7-13
4.7-1b Existing Hazardous Sites (Right)....4.7-15
4.8-1 Groundwater Basin and 100-Year Floodplain....4.8-27
8.0-1a Alternative 1 – No Project (Left)....8.0-31
8.0-1b Alternative 1 – No Project (Right....8.0-33
8.0-2a Alternative 2 – Upsizing Facilities (Left)....8.0-35
8.0-2b Alternative 2 – Upsizing Facilities (Right)....8.0-37
8.0-3a Alternative 3 – Debris Basin Plus Floodplain Buyout (Left)....8.0-39
8.0-3b Alternative 3 – Debris Basin Plus Floodplain Buyout (Right)....8.0-41

TABLES

ES-1 Summary of MDP Facilities....ES-6
ES-2 Detailed Project Description....ES-7
ES-3 Summary of Environmental Impacts and Mitigation Measures....ES-45
ES-4 Comparison of Alternatives....ES-73
3.0-1 Summary of MDP Facilities....3.0-5
3.0-2 Detailed Project Description....3.0-7
4.2-1 SCAB Attainment Classification....4.2-6
4.2-2 Ambient Air Quality Data (parts per million unless otherwise indicated)....4.2-7
4.2-3 Frequency of Air Quality Standard Violations....4.2-7
4.2-4 Ambient Air Quality Standards....4.2-9
4.2-5 SCAQMD Air Quality Significance Thresholds....4.2-12
4.2-6 Localized Significance Thresholds for Source-Receptor Area 25....4.2-14
4.2-7 Estimated Maximum Daily Construction Emissions (2013) (pounds/day unmitigated)....4.2-17
4.2-8 Debris Basin Localized Significance Thresholds Analysis for Construction Emissions....4.2-22
4.2-9 Water Quality Basin Localized Significance Thresholds Analysis for Construction Emissions....4.2-22
4.2-10 Storm Drain Localized Significance Thresholds Analysis for Construction Emissions....4.2-23
4.2-11 Concrete Rectangular Channel Localized Significance Thresholds Analysis for Construction Emissions....4.2-24
4.3-1 Existing On-Site Vegetation Communities and Land Covers....4.3-2

TABLE OF CONTENTS (CONTINUED)

Page No.

4.3-2 Existing On-Site Plant Species 4.3-3
4.3-3 Existing On-Site Wildlife Species 4.3-3
4.3-4 MDP Facilities Relationship to MSHCP Requirements 4.3-7
4.3-5 MDP Facilities Requiring Jurisdictional Delineation 4.3-18
4.6-1 Greenhouse Gas Sources in California 4.6-3
4.6-2 Estimated Annual Construction Greenhouse Gas Emissions (2013) 4.6-12
4.7-1 Existing Hazardous Sites 4.7-2
4.8-1 Beneficial Uses for Receiving Waters in Proximity to the Project 4.8-4
4.8-2 Lake Elsinore TMDL Numeric Targets 4.8-5
4.8-3 Nutrient TMDLs and Compliance Dates for Lake Elsinore 4.8-6
4.8-4 Debris Basins within the MDP under California Division of Safety of Dams Jurisdiction 4.8-23
4.9-1 Noise Definitions 4.9-1
4.9-2 Common Noise Sources and Noise Levels 4.9-3
4.9-3 Stationary Source Land Use Noise Standards 4.9-6
4.9-4 City of Lake Elsinore Construction Noise Limits 4.9-8
5.0-1 Consistency with Regional Plans 5.0-1
8.0-1 Summary of Comparison of Alternatives Impacts 8.0-5
8.0-2 Evaluation of Project Alternatives and Project Objectives 8.0-24

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AQMP	Air Quality Management Plan
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CAFE	corporate average fuel economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CASSA	Criteria Area Species Survey Area
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CNEL	community equivalent noise level
CNRP	Comprehensive Nutrient Reduction Plan
CO	carbon monoxide
CO_2E	carbon dioxide equivalent
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DBESP	Determination of Biologically Equivalent or Superior Preservation
DHS	Department for Health Services
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
ECA	Environmental Constraints Analysis
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
EVMWD	Elsinore Valley Municipal Water District
FEMA	Federal Emergency Management Agency
GP	general plan
GWP	global warming potential
H_2O	water vapor
HFC	hydrofluorocarbon

HSWA	Hazardous and Solid Waste Amendments Act
IS	Initial Study
L_{dn}	day-night average level
L_{eq}	equivalent energy level
LST	localized significance threshold
MBTA	Migratory Bird Treaty Act
MDP	Lakeland Village Master Drainage Plan
MMT	million metric ton
mpg	miles per gallon
mph	miles per hour
MS4	municipal separate storm sewer system
MSHCP	Multiple Species Habitat Conservation Plan
MT	metric ton
Mw	Maximum Earthquake Magnitude
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPSSA	Narrow Endemic Plant Species Survey Area
NF_3	nitrogen trifluoride
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PEIR	Program Environmental Impact Report
PFC	perfluorocarbon
PM_{10}	inhalable particulate matter
$PM_{2.5}$	fine particulate matter
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act

SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SHMA	Seismic Hazards Mapping Act
SO_2	sulfur dioxide
SO_x	sulfur oxides
TAC	toxic air contaminant
TMDL	total maximum daily load
UST	underground storage tank
VOC	volatile organic compound
WDR	Waste Discharge Requirement
WQ Basin	Water Quality Basin

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EXECUTIVE SUMMARY

ES-1.1 Introduction

The Riverside County Flood Control and Water Conservation District (District) proposes to prepare a Program Environmental Impact Report (PEIR) for the implementation of the Lakeland Village Master Drainage Plan (MDP). Implementation of the MDP consists of three separate components: administration of the MDP, future construction of the MDP facilities, and future operations and maintenance of the MDP facilities. Implementation of the MDP is hereinafter referred to as the Project.

ES-1.2 Document Purpose

The Draft PEIR has been prepared by the District, as the lead agency, to inform decision makers and the public of the potential significant environmental effects associated with the Project. This Draft PEIR has been prepared in accordance with the California Environmental Quality Act of 1970 (CEQA; California Public Resources Code, Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines) published by the Public Resources Agency of the State of California (14 CCR 15000 et seq.).

This Draft PEIR provides a programmatic level analysis for the Project as described in Section 3.0 of this Draft PEIR. Pursuant to Section 15168 of the CEQA Guidelines, a programmatic-level environmental analysis will enable the District to examine the overall effects of the Project and adopt the Project. Following this approach, when future individual MDP facilities are proposed, the District or any other jurisdiction having approval related to the MDP facility (i.e., County of Riverside, City of Lake Elsinore, or City of Wildomar) will be required to examine each facility on its own merits and prepare a facility-specific environmental document, such as an initial study (IS) leading to a negative declaration, mitigated negative declaration, supplemental environmental impact report (EIR), or subsequent EIR. Pursuant to Section 15168(c)(2) of the CEQA Guidelines, if the District or any other jurisdiction having approval related to the MDP facility finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the responsible agency can approve the activity as being within the scope of the Project covered by the PEIR, and no new environmental document would be required. Since many of the MDP facilities may be designed and/or constructed as part of private development projects processed by the County of Riverside, City of Lake Elsinore, or City of Wildomar, the facility-specific analysis may be included as part of the environmental documentation and CEQA process for a development project.

ES-1.3 Project Location

The Project is located within Lakeland Village, in the City of Lake Elsinore, City of Wildomar, and unincorporated Riverside County, California (see Figure ES-1, Regional Map). The Project area, which

encompasses approximately 13 square miles, is generally bounded by Lake Elsinore to the north, the ridgeline of the Santa Ana Mountains to the south, Bryant Street and Sheila Lane to the east, and Riverside Drive to the west (see Figure ES-2, Vicinity Map).

The Project study area encompasses 16 separate watersheds. These watersheds are characteristically steep with high debris production potential. Runoff originating from these watersheds generally flows northeasterly, across Grand Avenue (the community's principal thoroughfare) and into Lake Elsinore. Existing land use within the study area is predominantly residential or vacant open space. The majority of the existing developments are located within the northerly portion of the study area.

The Project may be found within Township 6 South, Ranges 4 and 5 West, Sections 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, and 36 of the Alberhill, Elsinore, Sitton Peak, and Wildomar 7.5 Series U.S. Geological Survey (USGS) Topographic Quadrangle Maps.

ES-1.4 Project Description

Background

Since the 1980s, all flooding concerns and complaints received from Lakeland Village residents have been documented by District staff. Over the years, various concerns and complaints have been received from local residents through phone calls, letters to the District, community meetings, and the District's annual budget hearing process. The concerns discussed below are representative of those concerns expressed by the residents.

Most of the existing properties located in the Lakeland Village area were subdivided as far back as the early 1900s, long before the Subdivision Map Act granted local agencies the authority to regulate and control the design of subdivisions to protect public health and safety. Consequently, most subdivisions within the Lakeland Village community were developed without consideration of the area's significant flood hazards and without adequate flood protection and drainage infrastructure in place.

Within the Lakeland Village area, the Federal Emergency Management Agency (FEMA) has designated and mapped four separate Special Flood Hazard Areas (SFHAs). These SFHAs indicate areas that are especially prone to flood hazards (i.e., subject to a 1% annual chance of being flooded). The SFHAs are located in the general vicinity of Gregory Place, Baldwin Boulevard, Maiden Lane, and Santa Rosa Drive (located in watersheds D, H, L, and M, respectively). There are approximately 210 existing structures located within the SHFAs. These structures are subject to high flood hazards and are typically subject to mandatory purchase of flood insurance under the provisions of the National Flood Insurance Program.

Grand Avenue is the major thoroughfare into and out of the Lakeland Village community and provides access to the adjacent Cities of Lake Elsinore and Wildomar. Stormwater runoff from each of the 16 watersheds must cross Grand Avenue on its way to Lake Elsinore. In general, Grand Avenue lacks

adequate drainage improvements (road culverts) to convey significant stormwater flows. Therefore, vehicular travel along Grand Avenue during storm events is a major concern for the Lakeland Village residents. In a large storm event, Grand Avenue would likely become impassable, rendering the area inaccessible and isolated.

Project Baseline

Existing drainage facilities that currently provide some level of flood protection within the study area are as follows: Lime Street Channel, Ortega Channel Lateral A-1, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco–Bryant Street Storm Drain and Debris Basin. These facilities constitute the physical baseline condition of the Project area.

The watersheds in the Lakeland Village area are considered to have high debris production potential and the area has historically experienced excess debris deposition. When fires occur within the steep canyons, vegetation is destroyed, which leaves the soil more susceptible to erosion. During high intensity rainfall events, the debris originating from fires, along with eroded sediment, is swiftly carried downstream towards Lake Elsinore. This combination of debris and stormwater runoff is referred to as "bulked flow" and includes sand, silt, and vegetative debris from the Santa Ana Mountains. As the bulked flow drains to Lake Elsinore, debris is deposited in the flatter areas, causing severe property damage. Additionally, the excess debris and sediment that eventually flows into Lake Elsinore may contribute to water quality degradation of the lake.

Debris from the nearby Santa Ana Mountains also creates a major problem for the existing Ortega Channel/Storm Drain. A portion of this facility is constructed on a very mild slope in which the bulked flow moves slowly and sediment tends to settle out. As the sediment accumulates inside the storm drain, the blockage reduces the hydraulic capacity of the facility and makes it susceptible to overflow. To ensure adequate capacity of the channel at all times, frequent routine maintenance is required, which over time has become costly.

Lastly, Lake Elsinore is currently listed as a 303(d) impaired water body. The Santa Ana Regional Water Quality Control Board (RWQCB) has identified nutrients, specifically nitrogen and phosphorous, as the principal cause of impairment. Very few, if any, of the existing developments within the Lakeland Village area were required to implement water quality best management practices (BMPs) as a condition of their development. Thus, "first flush" events typically collect and carry trash, dirt, and other pollutants directly to the lake. Addressing the area's urban runoff will help to improve the existing water quality of Lake Elsinore. For purposes of the analysis in the Draft PEIR, the existing drainage facilities and setting described above as they exist at the time of the release of the Notice of Preparation (NOP) is

considered part of the baseline physical condition by which the District determines whether an impact is considered to be significant (in accordance with Section 15125(a) of the CEQA Guidelines).

The CEQA analysis of a master drainage plan is more complex than the typical project because master drainage plans have a variety of purposes that are implemented over time; in fact, some parts of the plan could be implemented many years in the future or not at all, which makes the use of a PEIR for the CEQA analysis appropriate.

Administration of the MDP

The first component of the Project being analyzed in this Draft PEIR consists of the preparation of and, ultimately, the adoption of the Project and its use as a long-range planning document. The MDP will be a guide for the alignment, type, size, and cost of major existing and proposed facilities (MDP facilities) (see Tables ES-1 and ES-2) within the watershed to address the current and future drainage needs of Lakeland Village and the surrounding area. The drainage boundary of the Project is drawn to include all of the watershed area that contributes to the drainage problems in the community. The MDP facilities would contain the 100-year flood discharge.

The MDP has a variety of planning uses. The MDP will not only be relied upon by the County of Riverside as it reviews and approves existing and proposed development in the Lakeland Village area, but if adopted, it can be used by the Cities of Lake Elsinore and Wildomar as they review and approve new development. New development may be required to construct MDP facilities or set aside rights-of-way for the future construction of the facilities. The local jurisdictions can also use the MDP to identify MDP facilities and costs for inclusion in capital improvement programs. Finally, the local jurisdictions can use the MDP for long-range planning of other public infrastructure projects like roads or utility pipelines.

Future Construction of the MDP Facilities

The second component of the Project being analyzed in this Draft PEIR is the reasonably foreseeable impacts resulting from construction of the MDP facilities. The MDP identifies the approximate location, size, and type of MDP facilities needed to alleviate and control flooding within the Project boundary. The alignments and type of facility depicted in the MDP can change as more detailed information becomes available during the design process. For example, the locations of underground utilities, new development patterns, or the results of subsequent focused biological surveys may necessitate a shift in alignment or change in facility type (i.e., concrete channel to underground pipe). To add to that uncertainty, the construction of the MDP facilities will be accomplished in discrete phases over a number of decades.

Despite this future environment of uncertainty and change, the Draft PEIR still must identify the general types of construction activities anticipated and their associated impacts. Table ES-1 lists the types of

drainage improvements (i.e., new facilities and upgrades to existing ones) proposed in the MDP and Table ES-2 provides a detailed description of each of the individual MDP facilities.

Subsequent CEQA analysis would be required when specific MDP facilities are proposed for construction, but those future construction projects would be able to tier from the PEIR. Actual construction of the MDP facilities may occur as a result of conditions of approval on development projects or capital improvement projects undertaken by the County of Riverside, the City of Lake Elsinore, the City of Wildomar, or the District.

Future Operations and Maintenance of the MDP Facilities

The final component of the Project to be analyzed in this Draft PEIR is the reasonably foreseeable impact of future operation and maintenance activities. Once a facility is constructed, it will require maintenance in order to retain flood control capacity. It is expected that the District will operate and maintain all the MDP storm drains, channels, and basins.

Maintenance of storm drains and concrete channels typically consists of keeping these facilities and their side drains clear of debris and sediment, as well as repairing access roads and fences. On rare occasions, major repairs may be required following damaging storm events. Thus, major grading will not routinely occur while maintaining the underground storm drains and open concrete channels. To maintain the constructed MDP facilities, the District will occasionally use equipment similar to the types used to construct the proposed MDP facilities.

The routine maintenance of the channels and basins will likely require the following activities: the removal of deposition, repair of eroded slopes, and reduction of fire hazard by annual mowing and application of herbicides as well as the maintenance activities described in the previous paragraph. Vegetation must be removed or mowed annually (or as necessary) to provide the designed hydraulic capacity.

Development of the Project Alternatives

In 2010, the District conducted an Environmental Constraints Analysis (ECA; Appendix B to this PEIR) that studied five preliminary scenarios for the Project. The five preliminary scenarios (labeled as Alternatives 1–5) in the ECA explored the feasibility of debris removal, water quality mitigation, floodplain management, and environmental avoidance. The ECA was prepared to assist the District in identifying key environmental issues so that the District could refine the five preliminary scenarios into three CEQA alternatives for the environmental impact analysis, as discussed in Section 8.0 of this document. Based on the ECA, engineering feasibility, and other Project objectives, the District selected the proposed Project (see Figure ES-3a and Figure ES-3b, Proposed MDP Facilities, and Tables ES-1 and ES-2).

Table ES-1
Summary of MDP Facilities

Type of Improvement	Facility Name
Upsizing of the existing facilities	• Lakeland Village Channel • Ortega Channel Outlet • Lime Street Channel/Line A
New open channels	• Channel A • Line O-10 • Line M • Line L • Lakeland Village Channel
New storm drains	• Line O-10 • Line O-20 • Line N • Lateral N-1 • Line M • Line K • Line K-1 • Line J • Line I • Line I-1 • Lakeland Village Channel • Line H • Line H-1 • Line H-2 • Line G • Line F • Line F-1 • Line E • Line D • Line C • Line C-1 • Lime Street Channel/Line A
New debris basins	• Line O-10 • Line O-20 • Line N • Line K • Line I • Lakeland Village Channel • Line F • Line B/Ortega Channel • Line A
New water quality basins	• Line N • Line G • Ortega Outlet • Line A

Note: See Figure ES-3a and Figure ES-3b, Proposed MDP Facilities.

Table ES-2 provides a detailed description of the proposed and existing MDP facilities.

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
A	**Proposed**	Line A Debris Basin	Debris basin	Line A Debris Basin is located at a point approximately 350 ft west of the intersection of Jamieson and Orange Street, just upstream of existing Lime Street Channel, and has a volume of 9.3 ac-ft. and an approximate ROW of 1.5 ac. The debris basin consists of a 36 in low-flow outlet pipe and a spillway structure.	Storage = 9.3 ac-ft Approx. ROW = 1.5 ac		690
		Line A and Lime Street Channel	Floodwalls	Floodwalls ranging in height from 1 to 2 ft would be added to the existing Lime Street Channel. The improved Lime Street Channel will ultimately have a uniform height ranging from 4.5 to 5.5 ft.	Depth = 1 ft	1,631	690
					Depth = 2 ft	773	900
			RCP	The upstream origin of Line A begins as a 72 in RCP at the downstream terminus	Diameter = 72 in	921	840

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				of existing Lime Street Channel located at the intersection of Hill Street and Laguna Avenue. From there, the 72 in RCP extends northerly in Hill Street until it connects to the existing Lime Street Channel. The 72 in RCP would replace the existing 42 in RCP.			
		Line A Water Quality Basin	Water Quality Basin	Located at the northwest corner of the intersection of Hill Street and Grand Avenue. The water quality basin would require a connection to the existing drainage system of the existing tract located at the southwest corner of the intersection of Grand Avenue and Hill Street. The water quality basin has a volume of 5.5 ac-ft and approximate ROW of 3.3 ac.	Storage = 5.5 ac-ft Approx. ROW = 3.3 ac		

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Line A and Lime Street Storm Drain	Trapezoidal channel	The construction of the Lime Street Channel was completed in 1963. The Lime Street Storm Drain is a concrete trapezoidal channel whose upstream origin is located at a point approximately 350 ft west of the intersection of Jamieson and Orange Street. The channel extends northeasterly toward Laguna Avenue, transitions into a 42 in RCP, then heads northerly toward Lake Elsinore. The channel has a base width of 3 ft, a sideslope of 1:1, and depths ranging from 3.5 ft to 4.5 ft.	Base width = 3 ft Sideslope = 1:1 Depth = 3.5 to 4.5 ft	2,995	Information not available
			RCP		Diameter = 42 in	750	Information not available
B	**Proposed**	Line B (Ortega Channel) Debris Basin	Debris basin	Ortega Channel Debris Basin is located at a point approximately 700 ft south of the intersection of Shoreline and	Storage = 15.7 ac-ft Approx. ROW = 1.6 ac		836

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Lighthouse Drive, just upstream of the existing Ortega Channel, and has a volume of 15.7 ac-ft and an approximate ROW of 1.6 ac. The debris basin has a 36 in low-flow outlet pipe and a spillway structure.			
		Line B (Ortega Channel) Outlet	Floodwall	1 ft floodwalls would be added to the existing Ortega Channel outlet located on the north side of Grand Avenue.	Depth = 1 ft	727	1,400
		Line B Water Quality Basin	Water quality basin	The Line B Water Quality Basin is located at the southeast intersection of Serena Way and Grand Avenue and has an approximate volume of 5.0 ac-ft and an approximate area footprint of 3.2 ac.	Storage = 5.0 ac-ft Approx. ROW = 3.2 ac		
	Existing	Ortega Channel Debris	Debris basin	The Ortega Channel Debris Basin is located south of the	Storage = not available Approx. ROW		Information not available

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Basin		southernmost end of Welford Place and is located upstream of existing Ortega Channel Lateral A.	= 1.4 ac		
		Ortega Channel	Trapezoidal channel	The construction of Ortega Channel was completed in 1995. Ortega Channel is a concrete trapezoidal channel whose upstream origin is located at a point approximately 800 ft south of the intersection of Shoreline and Lighthouse Drive. The channel extends northerly towards Ortega Highway. At Ortega Highway, the channel transitions into an 84 in RCP and extends along Ortega Highway for approximately 815 ft. At this point, the 84 in RCP transitions into a 96 in RCP and extends into Lake Terrace Drive for	Typical base width = 5 ft Typical top width = 17 ft Sideslope = 1.5:1 Depth = 4 ft	1,678	870
			RCP		Diameter = 84 in	815	1,123
			RCP		Diameter = 96 in	280	1,123
			RCP		Diameter = 120 in	430	1,400
			RCB		Width = 10.5 ft Depth = 6 ft	100	1,400
			Trapezoidal Channel		Typical width = 2 ft Typical top width = 17 ft Typical depth = 5 ft Sideslope = 1.5:1	1,355	950

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				approximately 280 ft. The 96 in RCP then transitions into a 102 in RCP and extends parallel to Lake Terrace Drive for approximately 430 ft. At Grand Avenue, the 102 in RCP transitions into a 10.5 ft wide by 6 ft deep reinforced concrete box (RCB). From there, the concrete trapezoidal channel begins and extends parallel to Serena Way towards Lake Elsinore. The channel has a typical base width of 2 ft and sideslope of 1.5:1.			
	Existing	Ortega Channel Lateral A	RCP	The construction of Ortega Channel Lateral A was completed in 1992. Ortega Channel Lateral A is an RCP ranging in size from 54 in to 60 in in diameter. The upstream origin is at the existing Ortega Channel Debris Basin outlet and	Diameter = 54–60 in	1,858	604

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				the RCP extends northerly in Welford Place toward Lake Ridge Road. At Lake Ridge Road, the RCP extends easterly in Lake Ridge Road toward Grandview Drive. At Grandview Drive, the RCP extends northerly in Grandview and terminates at its confluence with existing Ortega Channel.			
	Existing	Ortega Channel Lateral A-1	RCP	The construction of Ortega Channel Lateral A-1 was completed in 1992. Ortega Channel Lateral A-1 is a 48 in RCP whose upstream origin is at the intersection of Trabuco Drive and Laguna Avenue. The RCP extends northerly in Laguna Avenue until it terminates at its confluence with existing Ortega Channel Lateral A.	Diameter = 48 in	440	114

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Ortega Channel Lateral A-2	RCP	The construction of Ortega Channel Lateral A-2 was completed in 1994. The upstream origin of the lateral is near the intersection of Grandview Avenue and Lakeridge Road. From there, the 36 in RCP extends northerly in Grandview until its confluence with the existing Ortega Channel Lateral A.	Diameter = 36 in	140	85
C	**Proposed**	Line C	RCP	The upstream origin of Line C is at the intersection of Windward Way and Grand Avenue as a 48in RCP. From there, the 48 in RCP extends easterly in Grand Avenue, transitions into a 60 in, then a 78 in RCP. Near the intersection of Blanche Drive and Grand Avenue, the 78 in RCP transitions into a 90 in	Diameter = 48 in	903	108
			RCP		Diameter = 60 in	350	264
			RCP		Diameter = 78 in	330	354
			RCP		Diameter = 90 in	280	522

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				RCP and extends northerly towards Lake Elsinore.			
		Line C-1	RCP	The upstream origin of Line C-1 is near the intersection of Santa Rosa Drive and Grand Avenue as a 48 in RCP. The RCP then extends westerly in Grand Avenue and transitions into a 66 in RCP. Near Blanche Drive, the 66 in RCP transitions into a 78 in RCP and confluences with the proposed Line C.	Diameter = 48 in	433	84
			RCP		Diameter = 66 in	155	90
			RCP		Diameter = 78 in	255	174
D	**Proposed**	Line D	RCP	The upstream origin of Line D is at a point approximately 840 ft south of the southern end of Santa Rosa Drive as a 60 in RCP. From there, the RCP extends northerly toward Santa Rosa Avenue, continues in Santa Rosa Avenue,	Diameter = 60 in	1,313	780
			RCP		Diameter = 66 in	380	780
			RCP		Diameter = 72 in	340	780
			RCP		Diameter = 78 in	140	780

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				transitions into a 66 in, 72 in, and 78 in RCP, then a daylight/outlet structure with an approximate length of 105 ft, width of 40 ft, and a maximum depth of 6.5 ft.			
E	**Proposed**	Line E	RCP	The upstream origin of Line E is near the intersection of the future alignment of Union Avenue and Esther Street as a 54 in RCP. From there, the RCP would extend northerly in Esther Street and transition into a 72 in RCP as it continues northerly and parallel to Olive Street towards Lake Elsinore.	Diameter = 54 in	904	204
			RCP		Diameter = 72 in	224	336
F	**Proposed**	Line F Debris Basin	Debris basin	The Line F Debris Basin is located at a point approximately 1,090 ft southwest of the intersection of Evergreen Street and Union Avenue at the	Storage = 2.6 ac-ft Approx. ROW = 1.9 ac		215

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				upstream origin of proposed Line F and has a volume of 2.6 ac-ft and approximate ROW of 1.9 ac. The debris basin consists of a 36 in outlet pipe and a spillway structure.			
		Line F	RCP	The upstream origin of Line F is at a point approximately 1,090 ft southwest of the intersection of Evergreen Street and Union Avenue as a 42 in RCP. From there, the 42 in RCP extends easterly toward a point located approximately 1,000 ft southeast of the intersection of Evergreen Street and Union Avenue. Near this point, the 42 in RCP transitions into a 60 in RCP, a 66 in RCP, and then a daylight/outlet structure with an approximate length of 75 ft, width of	Diameter = 42 in	727	215
			RCP		Diameter = 60 in	1,218	465
			RCP		Diameter = 66 in	377	540

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				25 ft, and a maximum depth of 4.5 ft as it extends northerly and parallel to Evergreen Street toward Lake Elsinore.			
		Line F-1	RCP	The upstream origin of Line F-1 is at a point approximately 370 ft southwest of the intersection of Akley and Gillette Street as a 42 in RCP. From there, the 42 in RCP extends northwesterly for approximately 1,040 ft to its point of confluence with the proposed Line F.	Diameter = 42 in	1,037	195
G	**Proposed**	Line G	RCP	The upstream origin of Line G is near the intersection of Deeble Entrance and Grand Avenue as a 54 in RCP. From there, the 54 in RCP transitions into a 66 in RCP and continues westerly along Grand toward	Diameter = 54 in	312	138
			RCP		Diameter = 66 in	180	168
			RCP		Diameter = 66 –in	225	276
			RCP		Diameter = 72 in	330	330

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Adelfa Street. Near Adelfa Street, the 66 in RCP transitions into a 72 in RCP, then a daylight structure/outlet with an approximate length of 65 ft, width of 15 ft, and maximum depth of 6.5 ft as it continues northeasterly toward Lake Elsinore.			
		Line G Water Quality Basin	Water quality basin	A 4.0 ac-ft water quality basin with an approximate ROW of 1.9 ac is proposed at the southwest corner of the intersection of Grand Avenue and Adelfa Street. The water quality basin is located west of an existing development located at the southeast corner of the intersection of Adelfa Street and Grand Avenue. The water quality basin would require a connection to the existing development drainage	Storage = 4.0 ac-ft Approx. ROW = 1.9 ac		

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				system.			
H	**Proposed**	Line H (Adelfa Channel)	RCP	The upstream origin of Line H is at Gillette Street as a 48 in RCP. From there, the 48 in RCP extends easterly towards Zellar Street and then northerly in Zellar Street. At Cottrell Boulevard, the 48 in RCP transitions into a 66 in RCP and extends easterly in Cottrell Boulevard. At Landerville Boulevard, the 66 in RCP transitions into an 84 in RCP and continues easterly in Cottrell Boulevard and then northerly in Blackwell Boulevard toward Lake Elsinore.	Diameter = 48 in	819	375
			RCP		Diameter = 66 in	50	375
			RCP		Diameter = 66 in	791	500
			RCP		Diameter = 84 in	1,924	960
			RCP		Diameter = 84 in	600	1,000
		Line H-1	RCP	The upstream origin of Line H-1 is approximately 127 ft south of Cottrell Boulevard in Adelfa Street. From there, the	Diameter = 42 in	127	125

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				42 in RCP extends northerly in Adelfa Street until its confluence with the proposed Line H.			
		Line H-2	RCP	The upstream origin of Line H-2 is near the intersection of Brand Street and Anthony Ave as a 60 in RCP. From there, the 60 in RCP extends easterly in Anthony Avenue and heads northerly in Landerville Boulevard. At Peeler Avenue, the 60 in RCP transitions into a 54 in RCP and continues in Landerville Boulevard until its confluence with the proposed Line H at Cottrell Boulevard.	Diameter = 60 in	464	460
			RCP		Diameter = 54 in	710	460
		Lakeland Village Channel Debris/ Attenuation Basin	Debris/ attenuation basin	The debris/attenuation basin is proposed approximately 350 ft south of the southernmost end of Blackwell Boulevard	Storage = 97 ac-ft Approx. ROW = 10.8 ac		
			Basin outlet		Diameter = 66 in	100	515

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				and has a volume of 97 ac-ft and an approximate ROW of 10.8 ac.			
		Lakeland Village Channel	Rectangular channel	The upstream origin of the existing Lakeland Village Channel begins near the southernmost end of Blackwell Boulevard at the proposed debris/attenuation basin outlet. From there, the existing channel extends parallel to Baldwin Boulevard along the geographic low until it terminates at Lake Elsinore. The existing Lakeland Village Channel would remain and improvements would be made to the existing undersized culverts at Nelson, Hayes, Bobrick, MacKay, Brightman,	Width = 12 ft Depth = 4 ft	557	515
			Nelson RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Hayes RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Bobrick RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			MacKay RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Brightman RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Sutherland RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Raley RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Grand RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Rectangular channel		Width = 12 ft Depth = 4 ft	614	515

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Sutherland, Raley, and Grand to meet the existing capacity. The existing channel downstream of Grand Avenue would be removed and replaced with a 12 ft wide by 4 ft deep rectangular channel sized to convey 515 cfs.			
	Existing	Lakeland Village Channel	Rectangular channel	The construction of Lakeland Village Channel was completed in 1955. Lakeland Village Channel is a concrete-bottom rectangular channel with Elmwood fence and rock pill channel walls. The upstream origin is near Nelson Avenue. The channel then extends northerly along existing wash and terminates at Lake Elsinore.	Width = 12 ft Depth = 4 ft	1,850	Information not available
			Rectangular channel		Width = 7 ft Depth = 4.5 ft	600	Information not available
I	**Proposed**	Line I Debris	Debris basin	The Line I Debris Basin is located at a point	Storage = 3.0 ac-ft		220

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Basin		approximately 265 ft south of Hayes Street and upstream of proposed Line I. The debris basin has a volume of 3.0 ac-ft and an approximate ROW of 0.9 ac. The debris basin consists of a 36 in outlet pipe and a spillway structure.	Approx. ROW = 0.9 ac		
		Line I	RCP	The upstream origin of Line I is at a point approximately 265 ft south of Hayes Street as a 36 in RCP. From there, a 36 in RCP extends northerly in Wood Street. At Broomall Avenue, the 36 in RCP transitions into a 48 in RCP and continues in westerly in Broomall Avenue. At Dowman Street, the 48 in RCP transitions into a 72 in RCP and continues northerly in Dowman Street, easterly in	Diameter = 36 in	491	220
			RCP		Diameter = 48 in	429	220
			RCP		Diameter = 72 in	548	490
			RCP		Diameter = 72 in	761	650
			RCP		Diameter = 90 in	490	705

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Brightman Avenue, and then northerly in Lorimer Street. At Grand Avenue, the 72 in RCP transitions into a 90 in RCP and outlets into Lake Elsinore.			
		Line I-1	RCP	The upstream origin of Line I-1 begins near the intersection of Baldwin Boulevard and Brightman Avenue as a 42 in RCP. From there, the 42 in RCP extends easterly in Brightman Avenue and transitions into a 48 in RCP at Churchill Street. The 48 in RCP extends easterly in Brightman Avenue until its confluence with the proposed Line I at Lorimer Street.	Diameter = 42 in	585	60
			RCP		Diameter = 42 in	250	100
			RCP		Diameter = 48 in	240	150
			RCP		Diameter = 48 in	540	185
	Existing	Churchill Street Drainage Ditch	Drainage ditch	The upstream origin of the Churchill Street drainage ditch is located at Grand Avenue. From	Base width = 2.5 ft Approximate depth = 3 ft	609	Information not available

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				there, a drainage ditch with a base width of 2.5 ft, depth of approximately 3 ft, and sideslope of 1.5:1, located on the west and east sides of Churchill Street, extends northerly toward Lake Elsinore.	Sideslope = 1.5:1		
J	**Proposed**	Line J	RCP	The upstream origin of Line J is near the intersection of Brightman Avenue and Benner Street as a 54 in RCP. From there, the 54 in RCP extends westerly in Brightman Avenue toward Turner Street. At Turner Street, the 54 in RCP transitions into a 60 in RCP. The 60 in RCP continues northerly in Turner Street and transitions into a 5 ft wide by 5 ft deep RCB. At Grand Avenue, the RCB transitions into a 7 ft wide by 5 ft deep RCB. The 7 ft wide by	Diameter = 54 in	556	126
			RCP		Diameter = 60 in	436	228
			RCB		Width = 5 ft Depth = 5 ft	212	228
			RCB		Width = 7 ft Depth = 5 ft	450	336

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				5 ft deep RCB then transitions into a daylight/outlet structure with an approximate length of 350 ft, width of 7 ft, and maximum depth of 5 ft as it extends northerly toward Lake Elsinore.			
K		Line K Debris Basin	Debris basin	Line K Debris Basin is located at the southernmost end of Ginger Lane, upstream of the proposed Line K, and has a volume of 7.4 ac-ft and an approximate ROW of 4.8 ac. The debris basin consists of a 36 in outlet pipe and spillway structure.	Storage = 7.4 ac-ft Approx. ROW = 4.8 ac		527
	Proposed	Line K	RCP	The upstream origin of Line K is near the southernmost end of Ginger Lane. From there, the 60 in RCP extends northerly in Ginger Lane towards Grand Avenue. At Grand	Diameter = 60 in	1,275	527
			RCP		Diameter = 78 in	617	527
			RCB		Width = 7 ft Depth = 5 ft	944	527

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Avenue, the 60 in RCP transitions into a 78 in RCP and extends easterly in Turtle Dove Drive. The 78 in RCP transitions into a 7 ft wide by 5 ft deep RCB, then into a daylight structure/outlet with an approximate length of 200 ft, width of 7 ft, and maximum depth of 5 ft as it continues easterly in Turtle Dove Drive toward Lake Elsinore.			
		Line K -1	RCP	The upstream origin of Line K-1 begins near the intersection of Kathryn Way and Grand Avenue as a 36 in RCP. The 36 in RCP extends westerly in Grand Avenue and then easterly and parallel to Vail Street. Near Lake Elsinore, the 36 in RCP transitions into a daylight/outlet structure with an approximate length of	Diameter = 36 in	1297	63

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				265 ft, width of 10 ft and maximum depth of 3 ft.			
L	**Proposed**	Line L	Rectangular channel	The upstream origin of Line L begins at a point approximately 696 ft south of Grand Avenue. From there, the 6 ft wide by 5 ft deep rectangular channel extends along the geographic low. At Grand Avenue, the open channel transitions into a 7 ft wide by 7 ft deep RCB. The RCB then transitions into a 15 ft wide by 5 ft deep, to a 18 ft wide by 10 ft deep, to a 15 ft wide by 8 ft deep, to a 60 ft wide by 5 ft deep rectangular channel, then a daylight/outlet structure with an approximate length of 180 ft, width of 60 ft, and maximum depth of 5 ft, and outlets into	Width = 6 ft Depth = 5 ft	765	535
			RCB		Width = 7 ft Depth = 7 ft	110	535
			Rectangular channel		Width = 15 ft Depth = 5 ft	1,071	535
			Rectangular channel		Width = 18 ft Depth = 10 ft	323	535
			Rectangular channel		Width = 18 ft Depth = 10 ft	120	1,453
			Rectangular channel		Width = 15 ft Depth = 8 ft	606	1,453
			Rectangular channel		Width = 15 ft Depth = 8 ft	240	1,573

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Lake Elsinore.			
M	**Proposed**	Line M	RCP	The upstream origin of Line M is near the southern end of Koves Road as a 60 in RCP. The 60 in RCP extends northerly in Koves Road and transitions into a 66 in RCP. At Grand Avenue, the 66 in RCP transitions into a 72 in RCP and extends westerly in Grand Avenue towards Gregory Place. At Gregory Place, the 72 in RCP transitions into a 90 in RCP and continues northerly in Gregory Place. At the geographic low, the 90 in RCP transitions into a 15 ft wide by 8 ft deep and then a 15 ft wide by 10 ft deep rectangular channel and confluences with the proposed Line L.	Diameter = 60 in	1,365	480
			RCP		Diameter = 66 in	832	614
			RCP		Diameter = 72 in	369	653
			RCP		Diameter = 90 in	1,173	710
			RCP		Diameter = 90 in	178	869
			Rectangular channel		Width = 15 ft Depth = 8 ft	806	869
			Rectangular channel		Width = 15 ft Depth = 8 ft	264	901
			Rectangular channel		Width = 15 ft Depth = 10 ft	130	901

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
N	**Proposed**	Line N Debris Basin	Debris basin	Line N Debris Basin is located a point approximately 690 ft south of Morrell Lane, just upstream of the proposed Line N, and has a volume of 9.3 ac-ft and approximate ROW of 2.9 ac. The debris basin consists of a 36 in low-flow outlet pipe and spillway structure.	Storage = 9.3 ac-ft Approx. ROW = 2.9 ac		822
		Line N	RCP	The upstream origin of Line N is at a point approximately 690 ft south of Morrell Lane, just downstream of the proposed Line N debris basin. From there, the 66 in RCP extends northerly towards Morrell Lane. At Morrell Lane, the 66 in RCP transitions into a 90 in RCP and continues northerly in Morrell Lane towards Grand Avenue. At Grand	Diameter = 66 in	614	822
			RCP		Diameter = 90 in	1,316	1,018
			RCP		Diameter = 90 in	1,000	1,050
			RCP		Diameter = 102 in	600	1,066
			RCP		Diameter = 102 in	1,860	1,236
			RCB		Width = 12 ft Depth = 7 ft	812	1,293
			Rectangular channel		Width = 20 ft Depth = 7 ft	398	1,369

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Avenue, the 90 in RCP transitions into a 102 in RCP. The 102 in RCP extends westerly in Grand Avenue and northerly in Stoneman Street. At approximately 1,859 ft into Stoneman Street, the 90 in RCP transitions into a 12 ft wide by 7 ft deep RCB. From there, the RCB transitions into a 20 ft wide by 7 ft deep open channel, then a daylight/outlet structure with an approximate length of 230 ft, width of 50 ft, and maximum depth of 4 ft as it extends toward Lake Elsinore.			
		Lateral N-1	RCP	The upstream origin of Lateral N-1 is at a point approximately 367 ft west of Stoneman Street as a 36 in RCP. From there, the 36 in RCP extends easterly	Diameter = 36 in	1,152	130

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				until its confluence with proposed Line N.			
		Line N Water Quality Basin	Water quality basin	Line N Water Quality Basin is located at the southwest corner of the intersection of Palomar and Stoneman Street. The water quality basin has an approximate volume of 5.9 ac-ft and an approximate ROW of 3.7 ac and would require a connection to the drainage system of the tract located west of the proposed water quality basin.	Storage = 5.9 ac-ft Approx. ROW = 3.7 ac		
	Existing	Stoneman Street Channel	Trapezoidal channel	The construction of Stoneman Street Channel was completed after 1966. Stoneman Street is a paved trapezoidal channel and has a typical base width of 24 ft and 6:1 sideslopes. The upstream origin begins near Stoneman Street at a point	Base width = 24 ft Sideslopes = 6:1	1,011	Information not available

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				approximately 1,015 ft south of Grand Avenue and extends northerly in Stoneman Street until it terminates approximately 300 ft north of Grand Avenue.			
O	**Proposed**	Line O-10 Debris Basin	Debris basin	Line O-10 Debris Basin is located near the intersection of Skylark Drive and Cissna Place, just upstream of the proposed Line O-10 and has a volume of 9.1 ac-ft and an approximate ROW of 1.8 ac. The debris basin consists of a 36 in RCP outlet and spillway structure.	Storage = 9.1 ac-ft Approx. ROW = 1.8 ac		502
		Line O-10	RCP	The upstream origin of Line O-10 is near the intersection of Skylark Drive and Cissna Place as a 66 in RCP. From there, the 66 in RCP extends northerly in Skylark Drive. At Grand Avenue, the 66 in RCP	Diameter = 66 in	2134	502
			RCP		Diameter = 78 in	2276	532
			Rectangular channel		Width = 20 ft Depth = 10 ft	1,293	779
			Rectangular channel		Width = 14 ft Depth = 8 ft	30	779

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				transitions into a 78 in RCP and extends easterly in Grand Avenue. At the geographic low between Gill Lane and Corydon Road, the 78 in RCP transitions into a 20 ft wide by 10 ft deep open channel. Just before the connecting to the existing Palomar Channel, the 20 ft wide by 10 ft deep transitions into a 14 ft by 8 ft deep open channel.			
		Line O-20 Debris Basin	Debris basin	Line O-20 Debris Basin is located at a point approximately 1,060 ft south of Grand Avenue on Borchard Drive, just upstream of the proposed Line O-20, and has a volume of 6.7 ac-ft and an approximate ROW of 2.1 ac.	Storage = 6.7 ac-ft Approximate ROW = 2.1 ac		356
		Line O-20	RCP	The upstream origin of Line O-20 is at a point	Diameter = 60 in	1,215	356

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCP	approximately 1,060 ft south of Grand Avenue on Borchard Drive. From there, the 60 in RCP extends northerly in Borchard Drive. At Grand Avenue, the 60 in RCP transitions into a 72 in RCP, extends westerly in Grand Avenue and connects to the existing 78 in RCP in Ontario Way. The downstream terminus of the existing 78 in RCP transitions into a proposed 7 ft wide by 7 ft deep RCB. The RCB then transitions into a daylight/outlet structure with an approximate length of 300 ft, width of 50 ft, and maximum depth of 5 ft as it outlets into Lake Elsinore.	Diameter = 72 in	592	356

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Corydon Channel	RCB	The construction of Corydon Channel was completed after 2006. Corydon Channel is a rectangular concrete channel with an average width of approximately 28.7 ft and depth of 12.5 ft. The upstream origin begins at Union Street as a double 14 ft wide by 8 ft deep RCB, transitions into a rectangular channel extending parallel to Union Street, transitions into a double 14 ft wide by 8 ft deep RCB and terminates at the confluence with existing Palomar Channel.	Width = 2–14 ft Depth = 8 ft	80	1,174
			Rectangular channel		Typical base width = 28.7 ft Depth = 12.5 ft	317	1,174
			RCB		Width = 2–14 ft Depth = 8 ft	101	1,174
		Palomar Channel	RCB	The construction of Palomar Channel was completed after 2006. Palomar Channel is a stone riprap-lined	Triple width = 14 ft Depth = 4.2 ft	160	1036
			Trapezoidal channel		Base width = 22 ft	706	2233

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				channel. The upstream origin begins at Corydon Street as a triple 14 ft wide by 4.2 ft deep RCB and transitions into a trapezoidal channel with base width ranging from 22 to 24 ft, top width ranging from 70 to 76 ft, depth ranging from 12 to 13 ft respectively, and sideslope of 2:1. The trapezoidal channel extends northerly along Old Coach Road. At Palomar Street, the trapezoidal channel transitions into a 2–14 ft wide by 8 ft deep RCB.	Top width = 70 ft Depth = 12 ft Sideslope = 2:1		
					Base width = 24 ft Top width = 76 ft Depth = 13 ft Sideslope = 2:1	1245	2374
			RCB		Double width = 14 ft Depth = 8 ft	95	2374
		78 in RCP in Ontario Way	RCP	Upstream origin begins at Grand Avenue then extends northerly in Ontario Way towards Lake Elsinore for approximately 2,800 ft.	Diameter = 78 in	2,800	516

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
P	**Proposed**	Channel A	Trapezoidal channel	The upstream origin of Channel A begins at the downstream terminus of Sedco-Bryant Street Storm Drain Stage 1. From there, the 40 ft wide by 6 ft deep trapezoidal channel extends westerly along the geographic low. At Corydon Road, the trapezoidal channel transitions into a 42 ft wide by 6 ft deep RCB. The 42 ft wide by 6 ft deep RCB would replace the existing 42 ft wide by 4 ft deep RCB.	Width = 40 ft Depth = 6 ft Sideslope = 2:1	1,573	1,115
			RCB		Width = 42 ft Depth = 6 ft	60	1,115
	EXISTING	Sedco-Bryant Street Storm Drain Stage 1	RCP	The construction of Bryant Street Storm Drain Stage 1 was completed in 2008. The Bryant Street Storm Drain Stage 1 is a 30 in RCP. The upstream origin begins near Palomar Street.	Diameter = 30 in	2,131	18

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				The storm drain then extends southerly in Bryant Street for approximately 1,325 ft then northerly and parallel to Union Street for approximately 810 ft where it terminates at the confluence with proposed Channel A.			
		Sedco-Bryant Street Storm Drain	RCP	The construction of Bryant Street Storm Drain was completed after 2006. Bryant Street Storm Drain is a system of RCPs ranging in size from 42 in to 66 in. The upstream origin is at the existing Bryant Street Debris Basin Outlet located at the southernmost end of Sweet Nectar Road. From there, the storm drain extends northerly in Sweet Nectar Road and continues northerly in Bryant Street to Grand Avenue. The	Diameter = 42 in	1,027	245
			RCP		Diameter = 48 in	860	292
			RCP		Diameter = 54 in	677	304
			RCP		Diameter = 66 in	1,027	313

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				storm drain then travels northerly in Grand Avenue for approximately 1,016 ft, where it terminates.			
			Drainage ditch Tract 23111	The upstream origin of the paved ditch begins at the downstream terminus of Sedco-Bryant Street Storm Drain at Grand Avenue. From there, the paved ditch extends northerly and parallel to Bryant Street until it confluences with the proposed Channel A and existing Sedco-Bryant Street Storm Drain Stage 1.	Typical base width = 4 ft Typical top width = 12 ft Typical depth = 2 ft	2667	Information not available
		Sedco-Bryant Street Debris Basin	Debris basin	The construction of Bryant Street Debris Basin was completed after 2005. The Bryant Street Debris Basin is located upstream of the existing Bryant Street Storm Drain at	Storage = 1.2 ac-ft		245

Table ES-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				the southernmost end of Sweet Nectar Road and has a volume of 1.2 ac-ft.			

Source: District 2012
ft = foot/feet; cfs = cubic foot/feet per second; ac-ft = acre-foot/feet; ac = acre(s); in = inch(es); RCP = reinforced concrete pipe___; RCB = reinforced concrete box; ROW = right-of-way

ES-1.4.1 Project Objectives

A clear statement of Project objectives allows for the analysis of reasonable alternatives to the Project. Reasonable alternatives, both on and off site, must be analyzed per Section 15126.6 of the CEQA Guidelines. The Project is intended to meet the following objectives, based on the concerns of the Project area:

1. Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the 100-year level.[1]
2. Provide all-weather access along Grand Avenue by conveying 100-year tributary flood flows below the traveled way.
3. Provide a master drainage plan at the lowest construction and right-of-way acquisition cost.
4. Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events.
5. Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore.
6. Avoid or minimize the impacts to potentially sensitive areas.

ES-1.4.2 Other Public Agencies Who May Use This CEQA Document or Issue Permits for Portions of the MDP Facilities

In addition to CEQA compliance, the Project is also being reviewed for the need to obtain permits and approvals under other federal, state, and local laws that may be applicable to the construction and maintenance of the MDP facilities. While these other permits and approvals are independent of the Draft PEIR, they will be coordinated as closely as possible. The following is a list of the permits potentially required for the future construction and maintenance of the MDP facilities.

U.S. Army Corps of Engineers

A Clean Water Act Section 404 permit will be required if the construction or maintenance of the MDP facilities involves the discharge or dredged or fill material within waters of the United States or adjacent wetlands.

RWQCB, Santa Ana Region

Compliance with the National Pollutant Discharge Elimination System Construction General Permit will be required for grading activities of 1 acre or larger.

[1] The 1% annual chance flood event.

If a 404 permit is required, then a Section 401 Water Quality Certification will be required.

A Waste Discharge Permit will be required if ground dewatering is necessary during tunneling activities or if waste is discharged into waters of the state.

California Department of Fish and Wildlife

A Fish and Game Code Section 1600 Streambed Alteration Agreement will be required if a jurisdictional streambeds or stream banks will be altered.

California Department of Transportation

Encroachment permits for crossings of State Route 74 will be required. Water Pollution Control Plans will also be required.

County of Riverside

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

City of Lake Elsinore

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

City of Wildomar

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

ES-1.5 Summary of Environmental Impacts

Table ES-3, Summary of Environmental Impacts and Mitigation Measures, provides a summary of the impact analysis related to the Project. The table identifies a summary of the significant environmental impacts resulting from the Project pursuant to the CEQA Guidelines Section 15123(b)(1); for more detailed discussion, please see Section 4.0 of this document. Table ES-3 also lists the applicable mitigation measures related to identified significant impacts, as well as the level of significance after mitigation is identified. As stated in Section 2.0 of the Draft PEIR, the IS prepared and circulated with the NOP for public review of the Project concluded that the Project would not result in significant impacts to agricultural resources, land use/planning, mineral resources, population/housing, public services, and recreation; therefore, these resource areas are not addressed in the Draft PEIR and consequently not mentioned in Table ES-3.

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Aesthetics		
Substantial adverse effect on a scenic vista. / **Significant**	No feasible measures proposed.	Significant and unavoidable
Substantially degrade the existing visual character or quality of the site and its surroundings. / **Significant**	No feasible measures proposed.	Significant and unavoidable
Air Quality		
Violate any air quality standard or contribute substantially to an existing or projected air quality violation. / **Significant**	**AIR-1:** For all MDP facilities, to minimize impacts related to particulate matter (PM_{10} and $PM_{2.5}$) generation from construction activities, consistent with SCAQMD Rule 403, the District shall ensure that fugitive dust generated by grading and construction activities will be kept to a minimum, with a goal of retaining dust on the site. The contractor shall be required to comply with the applicable provisions of SCAQMD Rule 403 and implement appropriate fugitive dust control measures that include watering, stabilized construction access to reduce tracking of mud or dirt onto public roads, covering trucks hauling loose materials off site, and street sweeping. **AIR-2:** The following measures shall be adhered to by the District and its contractors during project grading and construction to reduce NO_x from construction equipment related to water quality basins (or an activity of similar magnitude): a) All off-road construction equipment with engines rated at greater than 100 horsepower shall be equipped with California Air Resources Board certified Tier 3 or better engines. Records shall be maintained by the contractor and provided to the District to verify the horsepower, model year, and tier of all equipment engines. b) The contractor shall maintain construction equipment in tune per	Significant and unavoidable

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	the manufacturer's specifications and make available maintenance records to the District upon request.	
Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). / **Significant**	**AIR-1:** See above. **AIR-2:** See above.	Significant and unavoidable
Expose sensitive receptors to substantial pollutant concentrations. / **Significant**	**AIR-1:** See above.	Less than significant
Biological Resources		
Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. / **Significant**	**BIO-1:** Suitable habitat has been identified within the Project boundary within the NEPSSA, CASSA, and Burrowing Owl Survey Areas (see Table 4.3-4). All MDP facility alignments and impact footprints shall be reviewed by the District, City of Lake Elsinore, or City of Wildomar during project design in order to determine if suitable habitat conditions have changed from the analysis contained herein. If no changes have occurred, and no suitable habitat is present for CASSA species, NEPSSA species, or burrowing owls, then no further surveys are needed. For the MDP facilities identified as having suitable habitat on Table 4.3-4, those facilities will require habitat assessments and focused surveys conducted by a qualified biologist during the appropriate season. If species are found to be present in the footprint, further measures as recommended by the District's, City of Elsinore's, or City of Wildomar's qualified biologist shall be taken to avoid or minimize adverse project effects to these species and their habitat. Per Section 6.3.2 of the MSHCP, the District, City of Lake Elsinore or City of Wildomar shall avoid 90% of the areas providing long-term conservation value for the target	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	species. For burrowing owls, if owls are found in the impact area of an MDP facility, Species Objective 5 from the MSHCP shall be implemented. If avoidance is not feasible, then individual projects will require the approval of a Determination of Biologically Equivalent or Superior Preservation (DBESP) pursuant to the requirements of Section 6.3.2 of the MSHCP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, relocation and/or payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options. **BIO-2:** In order to avoid violation of the MBTA and California Fish and Wildlife Code, the District, City of Lake Elsinore and/or City of Wildomar shall ensure that site-preparation activities (removal of trees and vegetation) shall be avoided, to the greatest extent possible, during the nesting season (generally February 1 to August 31) of potentially occurring native and migratory bird species. If site-preparation activities are proposed during the nesting/breeding season (generally February 1 to August 31), a pre-activity field survey shall be conducted by the District's, City of Lake Elsinore's or City of Wildomar's qualified biologist to determine if active nests of species protected by the MBTA or the California Fish and Wildlife Code are present in the construction zone. If active nests are not located within the a future MDP facility alignment and appropriate buffer (i.e., within 500 feet of an active listed species or raptor nest, 300 feet of other sensitive or protected bird nests (non-listed), or within 100 feet of	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	sensitive or protected songbird nests), construction may be conducted during the nesting/breeding season. However, if active nests are located during the pre-activity field survey, no grading or heavy equipment activity shall take place within at least 500 feet of an active listed species or raptor nest, 300 feet of other sensitive or protected (under MBTA or California Fish and Wildlife Code) bird nests (non-listed), or within 100 feet of sensitive or protected songbird nests until the nest is no longer active. **BIO-3:** All future MDP facilities within the mapped survey area Burrowing owls shall have a qualified biologist conduct a pre-construction survey for resident burrowing owls within 30 days prior to commencement of grading and construction activities. If ground-disturbing activities in these areas are delayed or suspended for more than 30 days after the pre-construction survey, the area shall be resurveyed for owls. Take of active nests shall be avoided. The pre-construction survey and any relocation activity will be conducted following accepted protocols and in coordination with the Regional Conservation Authority (RCA), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service.	
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. / **Significant**	**BIO-4:** As Permittees to the MSHCP, the District, City of Lake Elsinore, or City of Wildomar shall ensure that the construction of each future MDP facility shall be compliant with Section 6.1.2 of the MSHCP and documented as such. For areas not excluded as artificially created, the MSHCP requires 100% avoidance of riparian/riverine areas. If avoidance is not feasible, then individual projects will require the approval of a DBESP	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options, to offset the loss of functions and values as they pertain to the MSHCP Covered Species. If riparian vegetation will be impacted, then focused surveys for least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo will be required if suitable habitat is present. If avoidance is not feasible, then individual projects will require the approval of a DBESP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options. **BIO-5:** The District, City of Lake Elsinore, or City of Wildomar shall conduct Project-specific jurisdictional delineations to determine the limits of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board, and CDFW jurisdiction for the MDP facilities listed in Table 4.3-5. Impacts to jurisdictional waters will need to be verified by the corresponding regulatory agency. If impacts are anticipated, then jurisdictional water will either a) be completely avoided or b) necessary permits from requisite jurisdictions will be obtained. Obtaining permits may include mitigation for impacts, which would most likely include similar mitigation to that offered in a DBESP such as restoration, creation and enhancement of resources in exchange for impacts from the project (same as	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	MM HYDRO-4). The District, the City of Lake Elsinore, or the City of Wildomar shall be responsible for obtaining required regulatory permits for any jurisdictional features prior to ground disturbance.	
Have a substantial adverse effect on biological resources involved within a jurisdictional water features as defined by federal, state, or local regulations (e.g., Section 404 of the Clean Water Act, Section 401 of the Clean Water Act, Section 1602 of California Fish and Game Code, Porter-Cologne Water Quality Control Act, etc.) through direct removal, filing, hydrological interruption, or other means. / **Significant**	**BIO-5:** See above.	Less than significant
Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. / **Less than significant**	None required	N/A
Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. / **Less than significant**	None required	N/A
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. / **Significant**	**BIO-1:** See above. **BIO-3:** See above.**BIO-6:** MDP facilities located within MSHCP Criteria Cells will require submittal of a JPR to the RCA by the District, City of Lake Elsinore, or City of Wildomar as Permittees to the MSHCP for review and approval to illustrate that the MDP facility does not affect the Reserve Assembly, demonstrate consistency with Sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2, and demonstrate that the appropriate surveys and applicable mitigation measures (refer to **MM BIO-1** through **MM BIO-5**, and **MM BIO-8**) have been conducted.	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	BIO-7: A biological resource assessment shall be prepared by a qualified biologist during the design phase of each MDP facility. The biological resource assessment shall include project location, project description, regulatory context, methods for field surveys including weather, dates, and time of surveys, mapping, and results of the biological assessment. Since the Project is located within the Western Riverside County MSHCP Plan Area, the biological resources assessment shall also include a MSHCP Consistency Analysis and Findings pursuant to Sections 6.1.2, 6.1.3, 6.3.2, and 6.1.4 of the MSHCP. For MDP facilities located within a Criteria Cell, the biological resource assessment shall be included as part of the JPR application. **BIO-8:** As Permittees to the MSHCP, the District, City of Lake Elsinore, or City of Wildomar shall ensure where appropriate, future MDP facilities shall be surveyed for vernal pools and/or fairy shrimp habitat and documented as such. For areas not excluded as artificially created, the MSHCP requires 100% avoidance of vernal pools and fairy shrimp habitat. If avoidance is not feasible, then individual projects will require the approval of a DBESP including appropriate mitigation to offset the loss of functions and values as they pertain to the MSHCP covered species. Vernal pools and other seasonal ponding depressions will also need to be evaluated for Riverside and Vernal pool fairy shrimp.	
Cultural Resources		
Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5. / **Significant**	**CUL-1:** Prior to final design of flood control facilities, a cultural resources survey not within an existing road rights-of-way shall be completed by a	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	qualified archaeologist. The survey shall include an updated site records search at the Eastern Information Center (EIC) to locate all previously recorded archaeological sites within the proposed construction area of Master Drainage Plan (MDP) facilities. The survey shall assess the direct and indirect impact of the MDP facility. Consultation with the Pechanga Band of Luiseño Indians (Pechanga Tribe) shall be initiated at the beginning of the survey to request additional site information and requested participation in the Project. If the record search indicates that the area has been surveyed and the study is not older than 5 years, a reconnaissance survey shall verify the condition and location of any previously recorded archaeological sites. If previously recorded sites are relocated during the survey, any changes in site condition shall be documented on appropriate State Department Parks and Recreation (DPR) forms, documented in the final technical study as described further in **MM CUL-3** and submitted to the EIC and the Pechanga Tribe (upon request). Any prehistoric or historic sites identified during the survey shall be recorded on appropriate DPR forms, discussed and described in the technical study, and submitted to the EIC and the Pechanga Tribe (upon request). **CUL-2:** If the cultural resources survey determines that construction of an MDP facility would potentially impact a prehistoric or historic archaeological site and avoidance is not feasible, the Riverside County Flood Control and Water Conservation District (District), City of Lake Elsinore, or City of Wildomar shall have a qualified	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	archaeologist develop a testing program which includes the excavation of shovel test pits and/or test units, in consultation with the Pechanga Tribe. The testing program shall fully define the boundaries of surface and subsurface materials, evaluate the integrity and significance of the site and collect surface and subsurface artifacts. The program shall include mapping of all site features, artifacts, and excavation locations. Related laboratory work shall be conducted to treat the materials that are recovered from the archaeological investigations in consultation with the Tribe. If construction of an MDP facility would potentially impact a historic architectural resource structure because the MDP facility cannot be moved to avoid the resource, a survey of the structure by a qualified architectural historian shall be required to assess the structure's significance. A review of primary and secondary documentary sources, such as tax assessor records, historic fire insurance maps, city directories, aerial photographs, and local building permit files, shall be conducted. The assessment shall take into account any events with which the structure is associated, any persons who may have lived in the structure, distinctive architectural characteristics, methods of construction, or association with a notable architect/designer. The assessment by the architectural historian shall recommend to the District, the City of Lake Elsinore, or the City of Wildomar guidelines to assist in the maintenance, repair, and renovation of the resource, if applicable. **CUL-3:** For MDP facilities not within existing roads or road rights-of-way	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	that have prepared a cultural resources survey per **MM CUL-1** and **MM CUL-2** described above, a technical report shall be prepared that documents all of the information gathered from the survey, data gathered from the testing program of prehistoric or historic archaeological sites, and consultation efforts with the Pechanga Tribe. The report shall identify any significant cultural resources and evaluate the potential impacts to those resources, providing an analysis based upon a regional, landscape viewpoint. If any site evaluated would be impacted by construction of a proposed component, additional project-specific mitigation measures shall be required to reduce the level of impacts. These mitigation measures shall include one of the following or a combination thereof: a) Redesign of the proposed component to avoid the significant cultural resource, thereby avoiding significant impacts. b) A data recovery program to recover sufficient cultural materials to exhaust the research potential of the site such that construction shall no longer represent a significant impact. **CUL-4:** A data recovery program shall be required whenever avoidance from construction of MDP facilities has been demonstrated to be infeasible. The data recovery program shall include the excavation of a sufficiently large percentage of a subsurface deposit such that the research potential of the deposit will be exhausted. Typically, a 5% sample of the deposit will be required; however, sample sizes in the data recovery program will be	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	determined on a per site basis in consultation with the Pechanga Tribe. Laboratory analysis and research shall be conducted to catalog all recovered materials and interpret the data. Interpretation of the site shall take into account the traditional beliefs and customs of the Tribe. **CUL-5:** Indirect impacts may be identified where construction of MDP facilities would occur adjacent to a significant resource. In cases where construction activities are planned adjacent to known cultural resources, temporary fencing shall be placed around the site boundary by the Project archaeologist and the Pechanga Tribe prior to the start of construction activities to prevent access to the site. All temporary fencing shall be removed once the construction activities are completed. **CUL-6:** Ground disturbances associated with construction of proposed MDP facilities that contain recorded archaeological sites identified in the cultural records survey (**MM CUL-1** and **MM CUL-2**) and archaeological sites identified in the technical report (**MM CUL-3**), regardless of significance, shall be monitored by a qualified archaeologist. Monitoring of construction activities shall ensure that any materials uncovered during construction activities are identified and adequately recorded. If the site is prehistoric, a local Native American observer shall also be retained by the District, the City of Lake Elsinore, or the City of Wildomar to monitor construction activities. Not all MDP facilities will be constructed by the District. For District-administered contracts, monitors from	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	the Tribe shall be allowed to monitor grading and ground-disturbing activities pursuant to the executed Master Cultural Resources Treatment and Tribal Monitoring Agreement between the Pechanga Tribe and the District. Additionally, the hired contractor would use the District's plans and specifications, which would include all the mitigation measures outlined in this section. For MDP facilities located in the Cities of Lake Elsinore and Wildomar where those jurisdictions will have lead agency authority over the project constructing the MDP facility, the cities can utilize the mitigation measures outlined herein, or prepare its own California Environmental Quality Act (CEQA) document with mitigation measures and/or incorporation conditions of approval in its project approval process that addresses monitoring activities within proximity to recorded archaeological sites. **CUL-7:** A pre-construction workshop shall be conducted by a qualified archaeologist for an MDP facility not located within roads or roads right-of-way. The workshop shall address the following: review the types of archaeological resources that may be uncovered; provide examples of common archaeological artifacts to examine; describe why monitoring is required; identify monitoring procedures; describe what would temporarily stop construction and for how long; describe a reasonable worst-case resource discovery scenario (i.e., discovery of intact human remains or a substantial midden deposit); and describe reporting requirements and the responsibilities of the construction	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	supervisor and crew. The workshop shall make attendees aware of prohibited activities, including unauthorized collecting of artifacts, which can result in impact on cultural resources. **CUL-8:** In the event cultural remains are encountered during construction of any MDP facilities, work shall stop immediately until a qualified archaeologist is retained to determine the potential significance of the find. If the remains are prehistoric, the District, the City of Lake Elsinore, or the City of Wildomar shall contact the Pechanga Tribe and abide by the District and Pechanga Master Agreement related to treatment of resources unexpectedly uncovered. Measures per the Master Agreement between the District and the Pechanga Tribe shall include: giving all cultural items, including ceremonial items and archaeological items to the Pechanga; waiving ownership of any items found in favor of the Pechanga; no photography shall be taken of any articles found; and no destructive testing shall occur on ceremonial and/or sacred objects and human remains unless permission is granted by the Pechanga Tribe.	
Cause a substantial adverse change in the significant of an archaeological resource pursuant to §15064.5. / **Significant**	**CUL-1:** See above. **CUL-2:** See above. **CUL-3:** See above. **CUL-4:** See above. **CUL-5:** See above. **CUL-6:** See above. **CUL-7:** See above.	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	CUL-8: See above.	
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. / **Significant**	**CUL-9:** A literature search, and/or paleontological resources field survey (or surveys) by a certified paleontologist shall be completed prior to construction of any MDP facility that lie within the High or Undetermined potential sensitivity paleontological resource area. Relevant treatment for the site as recommended by the Society for Vertebrate Paleontology shall be applied, if needed. If the results of such survey (or surveys) identify the presence of potentially significant paleontological resources, avoidance or other appropriate measures (such as excavation, analysis, and interpretation of resources) potentially leading to curation in perpetuity in a facility that meets the standards of the State of California Guidelines for the Curation of Archaeological Collections and 36 CFR 79, shall be implemented. **CUL-10:** In the unlikely event that paleontological resources such as vertebrate, plant, or invertebrate fossils are discovered during construction or site disturbance, work shall stop within the area of the discovery and the District, along with possibly the County of Riverside, the City of Lake Elsinore, or the City of Wildomar Planning Department, shall be contacted so that a qualified paleontologist can be consulted to determine the extent or quality of the find and make recommendations for further action, if necessary.	Less than significant
Geology and Soils		
Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction. / **Significant**	**GEO-1**: In order to ensure individual MDP facilities are placed on the least unstable areas, or designed in a way to address any unstable geologic conditions (i.e., liquefaction), grading	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	and earthwork construction shall conform to *Standard Specifications for Public Works Construction* (the "Greenbook") and grading specifications shall be developed by a geotechnical consultant hired by the Riverside County Flood Control and Water Conservation District (District), the City of Lake Elsinore, or the City of Wildomar. Typical earthwork considerations include: • Remedial grading requirements for any given site are determined based on a site-specific geotechnical investigation to provide stable ground for any proposed structures. Generally, the upper weathered formational materials or loose soils are removed until dense, relatively "non-compressible" soils (alluvium or Formation materials) are encountered. • Topsoil and vegetation layers, root zones, and similar surface materials are typically not suitable for reuse as engineered fill and are normally stripped and either stockpiled for reuse in landscape areas or removed from the site. Most alluvial materials and bedrock materials are considered suitable for reuse as compacted engineer fills. However, excavations in the bedrock materials may generate oversize materials that are difficult to handle in engineered fills. Typically, cobbles and boulders larger than 6 inches in diameter are not placed in structural fill under settlement-sensitive improvements and may require special handling and grading procedures. **GEO-2:** In order to provide a safe and stable earthfill dam that would be associated with debris basins or water quality basins, during all phases of construction and operation, the following criteria must be met in accordance with the U.S. Department	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	of the Interior, Bureau of Reclamation, *Design of Small Dams* (BOR 1987): a) The embankment, foundation, abutments, and reservoir rim must be stable and must not develop unacceptable deformations under all loading conditions brought about by construction of the embankment, reservoir operation, and earthquake. b) Seepage flow through the embankment, foundation, abutments, and reservoir rim must be controlled to prevent excessive uplift pressures; piping; instability; sloughing; removal of material by solutioning; or erosion of material into cracks, joints, or cavities. The amount of water lost through seepage must be controlled so that it does not interfere with planned Project functions. c) The reservoir rim must be stable under all operating conditions to prevent the triggering of a landslide into the reservoir that could cause a large wave to overtop the dam. d) The embankment must be safe against overtopping or encroachment of freeboard during occurrence of the IDF (inflow design flood) by the provision of sufficient spillway and outlet works capacity. e) Freeboard must be sufficient to prevent overtopping by waves. f) Camber should be sufficient to allow for settlement of the foundation and embankment, but not included as part of the freeboard. g) The upstream slope must be protected against wave erosion, and the crest and downstream	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	slope must be protected against wind and rain erosion. **GEO-3:** In order to address risk of seismic activities such as land spreading or slope instability, future proposed MDP facilities will be assessed by the District, the City of Lake Elsinore, or the City of Wildomar through a qualified geologist to determine whether they are located in areas prone to these types of seismic activities. If so, a geotechnical report (field exploration and borings) shall be prepared during the design phase. The geotechnical report shall include a site-specific seismic evaluation to determine the intensity of ground shaking on the specific MDP facility. MDP facilities within a liquefaction hazard zone per the Riverside County General Plan shall also be evaluated for liquefaction-induced settlement. An analysis of lateral spreading affects to properties adjacent to the lake edge and where future MDP facilities are proposed as well as a review to determine whether the potential for landsliding or slope instability exists shall be performed by a qualified geologist and provided to the District during the design phase. Additionally, future site-specific geologic review shall be performed to determine whether the potential for land sliding or slope instability exist, especially for MDP facilities located on the higher elevations of the Project boundary.	
Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving landslides or mudflows.	**GEO-2:** See above. **GEO-3:** See above.	Less than significant
Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and	**GEO-1:** See above. **GEO-2:** See above.	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	**GEO-3:** See above.	
Greenhouse Gas Emissions		
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. / **Less than significant**	**AIR-2**: See above.	Less than significant
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. / **Less than significant**	**AIR-2:** See above.	Less than significant
Hazards and Hazardous Materials		
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. / **Significant**	**HAZ-1:** As part of the final design of each Master Drainage Plan (MDP) facility, the design engineer or designee shall check the MDP facility alignments for any properties or nearby properties listing on the most recent Hazardous Waste and Substance List provided by the Riverside County Department of Environmental Health pursuant to Section 65962.5 of the Government Code. Also, before proposed MDP facilities are constructed, the proponent should generate a report from Enviromapper, GeoTracker, and EnviroStor to ensure no new waste sites with reported releases have been documented within proximity to the facilities. If the location of said MDP facility is on the Hazardous Waste and Substances List, Enviromapper, GeoTracker, or EnviroStor, avoidance of that property or properties will be the first consideration; if avoidance is infeasible, **MM HAZ-2** shall be implemented. **HAZ-2:** If the selected MDP facility traverses a site listed on the Hazardous Waste and Substances List, Enviromapper, GeoTracker, or EnviroStor, and avoidance is not feasible or if there are other indications that a site could be contaminated, a	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	Phase I Environmental Site Assessment (ESA) for the MDP facility will be prepared by a consultant hired by the Riverside County Flood Control and Water Conservation District (District), the City of Lake Elsinore, or the City of Wildomar. If the Phase I ESA prepared pursuant to the current ASTM standards identifies possible contamination along the MDP facility alignment, then all recommended subsurface investigation measures listed in the Phase I ESA will be implemented by the District, the City of Lake Elsinore, or the City of Wildomar. Based on subsurface investigations characterizing subsurface contamination, remediation measures (such as excavation of contaminated soil, bioremediation, or soil-vapor extraction), shall be implemented for the applicable MDP facility or an alternative facility alignment will be chosen. The District, the City of Lake Elsinore, or the City of Wildomar shall be responsible for reviewing and complying with the recommendations of the Phase I ESA. **HAZ-3:** All environmental investigation and/or remediation shall be conducted under a work plan approved by jurisdictional regulatory agencies overseeing hazardous waste cleanups until the applicable regulatory standard is met. **HAZ-4:** Prior to any excavation, grading activities, or soil removal on known contaminated sites, or if contaminated soil (i.e., soil with visible sheen or detectable odor) is encountered during construction, a complete characterization of the soil will be conducted by qualified personnel hired by the District, the City of Lake Elsinore, or the City of Wildomar Prior	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	to the disposal of excavated materials, soil sampling shall be conducted in accordance with the County of Riverside Department of Environmental Health Site Assessment and Cleanup, Corrective Action Guidelines document (County of Riverside 2007). The guidelines set forth the number of samples to be collected per volume of stockpiled soil (i.e., two random samples from stockpiles less than 10 cubic yards); sample analytical methods depend on the current and historical property use and known contamination. If the soil is contaminated, it shall be properly disposed of according to California's Land Disposal restrictions (22 CCR 19). If site remediation involves the removal of contamination, then contaminated material shall be transported off site by a licensed handler/hauler to a licensed hazardous waste disposal facility. **HAZ-5:** If during construction of a specific MDP facility, soil and/or groundwater contamination is suspected, construction in the area of the suspected contamination shall cease and appropriate health and safety measure shall be implemented. The construction contractor shall contact the respective jurisdictional enforcement agency (i.e., City of Lake Elsinore, City of Wildomar, County of Riverside) to obtain the necessary information on appropriate measures and their implementation. The measures recommended by the applicable enforcement agency will be implemented.	
Hydrology and Water Quality		
Violate or conflict with any adopted water quality standards or waste discharge requirements. / **Significant**	**HYDRO-1**: During any construction or maintenance activities that require ground disturbance for future Master Drainage Plan (MDP) facilities, the	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	Riverside County Flood Control and Water Conservation District (District), County of Riverside, and Cities of Lake Elsinore and Wildomar shall comply with the current statewide Construction General Permit for projects resulting in land disturbances of 1 acre. Where projects result in disturbance to less than 1 acre of land, the District, County of Riverside, and Cities of Lake Elsinore and Wildomar shall comply with the local grading ordinance and install best management practices (BMPs) to ensure that sediment is not transported beyond the project limits or into sensitive areas such as wetlands and water bodies. A De Minimus discharge shall be obtained from the RWQCB when required for dewatering activities. **HYDRO-2**: Future landscape maintenance activities using pesticides (i.e., herbicides or rodenticides) around the MDP facilities shall be phosphorus and nitrogen free or be in conformance with the phosphorus and nitrogen Total Maximum Daily Loads (TMDLs) outlined in the 303(d) list for Lake Elsinore. **HYDRO-3**: Prior to construction of future MDP facilities that may be located in waters of the United States or waters of the state, the District, County of Riverside, and Cities of Lake Elsinore and Wildomar shall obtain all necessary permits to comply with the federal Clean Water Act (CWA) state discharge permitting requirements, 404 Permits, 401 Permits, 1602 Permits, and California Porter-Cologne Water Quality Control Act permit. Restoration, enhancement, or creation may be required as a result of these regulatory permits and could include	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	such activities on MDP facilities (such as within basins) or could occur off site, but within the same watershed. Mitigation ratios shall be determined at the time specific MDP facilities are proposed for construction in the future.	
Result in substantial discharges of typical stormwater pollutants (e.g., sediment from construction activities, hydrocarbons and metals from motor vehicles, nutrients and pesticides from landscape maintenance activities, metals or other pollutants from industrial operation) or substantial changes to surface water quality including, but not limited to, temperature, dissolved oxygen, pH, or turbidity. / **Significant**	**HYDRO-1**: See above.	Less than significant
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). / **Less than significant**	None required.	N/A
Substantially alter the existing drainage pattern of the site or area, including through the alteration of a watercourse or wetland, in a manner which would result in substantial erosion or siltation on- or off-site.	**HYDRO-1:** See above. **HYDRO-4**: Project-specific jurisdictional delineations will be required to determine the limits of the U.S. Army Corps of Engineers (ACOE), RWQCB, and California Department of Fish and Wildlife (CDFW) jurisdiction for the MDP facilities listed in Table 4.3-5. Impacts to jurisdictional waters will need to be verified by the corresponding regulatory agency. If impacts are anticipated, then either a) jurisdictional water will be completely avoided or b) necessary permits from requisite jurisdictions will be obtained. Obtaining permits may include mitigation for impacts, which would most likely include similar mitigation to	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	that offered in a Determination of Biological Equivalent or Superior Preservation (DBESP) such as restoration, creation and enhancement of resources in exchange for impacts from the project (same as **MM BIO-5**).	
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.	**HYDRO-1**: See above. **HYDRO-4**: See above.	Less than significant
Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems. / **Less than significant**	None required.	N/A
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. / **Less than significant**	None required.	N/A
Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. / **Less than significant**	None required	N/A
Noise		
Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. / **Significant**	**NOISE-1:** In order to mitigate the noise impact associated with construction noise in the City of Lake Elsinore, and in order to address the City of Lake Elsinore's noise criteria related to construction noise, the Riverside County Flood Control and Water Conservation District (District) or entity constructing a Master Drainage Plan (MDP) facility within the City of Lake Elsinore shall ensure or require prior to grading or demolition permit issuance that: • All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers. • Construction noise reduction methods	Significant and unavoidable

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible. Unattended construction vehicles shall not idle for more than 5 minutes when located within 200 feet from residential properties. • During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from the residences. • During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors. A plan should be provided to the City of Lake Elsinore identifying the staging areas prior to issuance of a construction permit. Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent if necessary.	
Expose people to or generate excessive ground-borne vibration or ground-borne noise levels. / **Less than significant**	None required.	N/A
Cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. / **Significant**	**NOISE-1:** See above.	Significant and unavoidable
Transportation/Traffic		
Conflict with an adopted 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	**TRANS-1:** To reduce traffic congestion or disruption that may occur during individual Master Drainage Plan (MDP) facility construction or maintenance activities, especially the MDP facilities located within existing road alignments, prior to construction, the Riverside County Flood Control	Less than significant

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. / **Significant**	and Water Conservation District (District), City of Lake Elsinore, City of Wildomar, or developers shall prepare a Traffic Control Plan. The Traffic Control Plan will detail and coordinate all traffic movement through the project area and will be implemented throughout project construction. The Traffic Control Plan will also ensure that private property and emergency access will be maintained at all times. Methods to maintain access may include, but are not limited to: temporary bridge crossings (i.e., steel plates or structural design bridges) for all driveway entrances to be closed to vehicular access for any period exceeding 4 hours; use of construction signs, barricades and delineators; and the use of flaggers during construction. All work proposed by the District, City of Lake Elsinore, City of Wildomar, or developers, within state right-of-way requires lane and shoulder closure charts. Also, all roadway features such as signs, pavement delineation, roadway surface, etc. within the State right-of-way must be protected, maintained in a temporary condition, and/or restored by the District, City of Lake Elsinore, City of Wildomar, or developers. The Traffic Control Plan shall be prepared in accordance with the California Department of Transportation (Caltrans) *Manual of Traffic Controls for Construction and Maintenance Work Zones*. If work requires complete road closure, then the public shall be notified within 10 days of that closure. **TRANS-2:** In order to address potential impacts along State Route (SR) 74, the District, City of Lake Elsinore, City of Wildomar, or developer shall obtain an Encroachment Permit from the Caltrans for any project activities	

Table ES-3
Summary of Environmental Impacts and Mitigation Measures

Threshold / Impact Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	within SR 74 including but not limited to alterations to existing improvements and conform to current Caltrans design standards and construction practices. **TRANS-3:** In order to ensure that construction activities within SR 74 conform to current Caltrans design standards and construction practices, prior to encroachment permit issuance, the District, City of Lake Elsinore, City of Wildomar, or developers shall submit street, grading and drainage construction plans to Caltrans for review and approval.	
Conflict with an adopted congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the appropriate congestion management agency for designated roads or highways. / **Significant**	**TRANS-1:** See above.	Less than significant
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, pedestrian facilities, or other alternate transportation or otherwise decrease the performance or safety of such facilities. / **Significant**	**TRANS-1:** See above.	Less than significant
Utilities		
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? / **Less than significant**	None required.	N/A

ES-1.6 Areas of Controversy/Issues to Be Resolved

Section 15123(b) (2) of the CEQA Guidelines requires that areas of controversy known to the lead agency must be stated in the EIR summary. Issues of interest to the public and public agencies were identified during the 30-day public comment period of the IS and NOP. A public scoping meeting was held at the District on September 28, 2011.

Written comments from agencies and interested parties in response to the NOP were received from the following:

- Native American Heritage Commission
- California Department of Transportation
- California Department of Fish and Wildlife
- South Coast Air Quality Management District
- Linda Ridenour.

The IS, NOP, distribution list, and comment letters received during the NOP review period are included in Appendix A of this Draft PEIR.

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved; this includes the choice among alternatives and whether or how to mitigate significant impacts. The major issues to be resolved for the Project include decisions by the District, the County of Riverside, and the Cities of Lake Elsinore and Wildomar as to whether this Draft PEIR adequately describes the potential environmental impacts of the Project, the recommended mitigation measures should be adopted or modified, additional mitigation measures need to be applied, the Project should or should not be approved as proposed, or the Project should be modified based on the alternatives considered in this Draft PEIR.

ES-1.7 Summary of Project Alternatives

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to the Project should occur. As stated in this section of the guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the Project. Each alternative must be capable of avoiding or substantially lessening any significant effects of the Project. During the Draft PEIR analysis, impacts to greenhouse gas emissions and utilities and service systems were found to be less than significant and no mitigation measures were necessary. With mitigation incorporated, impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and traffic remain less than significant. Even with mitigation incorporated, impacts to air quality and noise were found to be significant and unavoidable for construction emissions only. Impacts related to aesthetics were found to be significant

and there are no feasible mitigation measures that could be implemented that would reduce or minimize impacts to scenic resources. Cumulatively, the Draft PEIR will demonstrate that the Project does not contribute to significant impacts to biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, transportation and traffic, and utilities and service systems. However, cumulative impacts to aesthetics and noise are considered significant and a Statement of Overriding Conservation is required. The rationale for selecting the alternatives to be evaluated and a discussion of the "No Project" alternative are also required, per Section 15126.6.

This Draft PEIR includes an evaluation of the following alternatives:

- Alternative 1 – No Build Alternative
- Alternative 2 – Upsizing Facilities
- Alternative 3 – Debris Basins and Floodplain Buyout.

Alternative 1 is the **No Project Alternative**; thus, there are no new facilities proposed under this alternative. For this alternative, flood protection is only provided by the existing District and non-District maintained drainage facilities within the Lakeland Village area. Existing drainage facilities include Lime Street Channel, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco–Bryant Street Storm Drain and Debris Basin.

Alternative 2, the **Upsizing Facilities Alternative**, consists of a network of open channels and storm drains large enough to convey bulk flows originating from the Santa Ana Mountains. Alternative 2 proposes 21 underground storm drains (approximately 45,000 linear feet), four open channels (approximately 9,000 linear feet), two debris basins, and one debris/detention basin. The proposed storm drains and open channels are sized to convey "bulked flows" (i.e., flows that include both stormwater runoff and its associated debris load) to Lake Elsinore. The two debris basins are proposed upstream of the existing Ortega and Lime Street Channels to capture sediment before entering the channels. These channels historically have been subject to debris accumulation and frequent maintenance due to relatively flat slopes. A debris/detention basin is proposed upstream of the existing Lakeland Village Channel to capture debris and attenuate flow during a 100-year storm event.

Alternative 2 also proposes improvements to the following existing facilities:

- Lime Street Channel – Floodwalls (2 feet high) would be added to the top of the channel. The existing 48-inch diameter pipe along Hill Street would be replaced with a 72-inch pipe.

- Ortega Channel – Floodwalls (2 feet high) would be added to the portion of Ortega Channel downstream of Grand Avenue.
- Lakeland Village Channel – The existing double 36-inch culverts located at Nelson Avenue, Bobrick Avenue, MacKay Avenue, Brightman Avenue, Sutherland Avenue, Raley Avenue, and Grand Avenue would be replaced with a 12-foot by 4-foot reinforced concrete box.

Alternative 3, the **Debris Basins plus Floodplain Buyout Alternative**, is a drainage system that consists of open channels, storm drains, and debris basins. Alternative 3 proposes 17 underground storm drains (approximately 37,000 linear feet), four open channels (approximately 7,000 linear feet), and eight debris basins. Like Alternative 2, Alternative 3 includes improvements to the existing Lime Street, Ortega, and Lakeland Village Channels, such as flood walls and larger culverts. Alternative 3 also proposes the acquisition of properties and the removal of over 200 structures located within the FEMA mapped SFHAs. This alternative also proposes enlarging the existing culverts located along Grand Avenue, including those located within the SFHAs, to convey the 100-year storm flow.

Table ES-4, Comparison of Alternatives, provides a summary of the alternatives impact analysis considered in the Draft PEIR and identifies the areas of potential environmental effects per CEQA, and ranks each alternative as better, the same, or worse than the proposed Project with respect to each issue area that was found to have potentially significant impacts. The analysis comparing the impacts of the alternatives with the preferred alternative is discussed further in Section 8.0 of this Draft PEIR.

Table ES-4
Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins and Floodplain Buyout
Aesthetics – Scenic resources	Significant, no feasible mitigation proposed	Better	Slightly better	Slightly better
Air Quality – Air quality standard	Significant even with mitigation	Better	Better	Better
Air Quality – Cumulatively considerable contribution to a criteria pollutant	Significant even with mitigation	Better	Better	Better
Air Quality – Sensitive receptors	Less than significant with mitigation incorporated	Better	Same	Same
Biological Resources – Candidate, sensitive, or special-status species	Less than significant impacts with mitigation incorporated	Slightly better	Same	Worse

Table ES-4
Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins and Floodplain Buyout
Biological Resources – Riparian habitat	Less than significant impacts with mitigation incorporated	Better	Same	Better
Biological Resources – Jurisdictional water features	Less than significant impacts with mitigation incorporated	Better	Same	Better
Biological Resources – Native resident or migratory fish or wildlife species	Less than significant	Same	Same	Same
Biological Resources – Local policies or ordinances	Less than significant	Slightly better	Same	Same
Biological Resources – Conflict with the provisions of an adopted habitat conservation plan	Less than significant impacts with mitigation incorporated	Better	Same	Same
Cultural Resources – Historical resources	Less than significant impacts with mitigation incorporated	Better	Same	Same
Cultural Resources – Archaeological resources	Less than significant impacts with mitigation incorporated	Better	Same	Same
Cultural Resources – Paleontological resources	Less than significant impacts with mitigation incorporated	Better	Same	Same
Geology and Soils – Seismic-related ground failure	Less than significant impacts with mitigation incorporated	Slightly better	Same	Same
Geology and Soils – Landslides or mudflows	Less than significant impacts with mitigation incorporated	Worse	Same	Same
Geology and Soils – On- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	Less than significant impacts with mitigation incorporated	Better	Same	Same

Table ES-4
Comparison of Alternatives

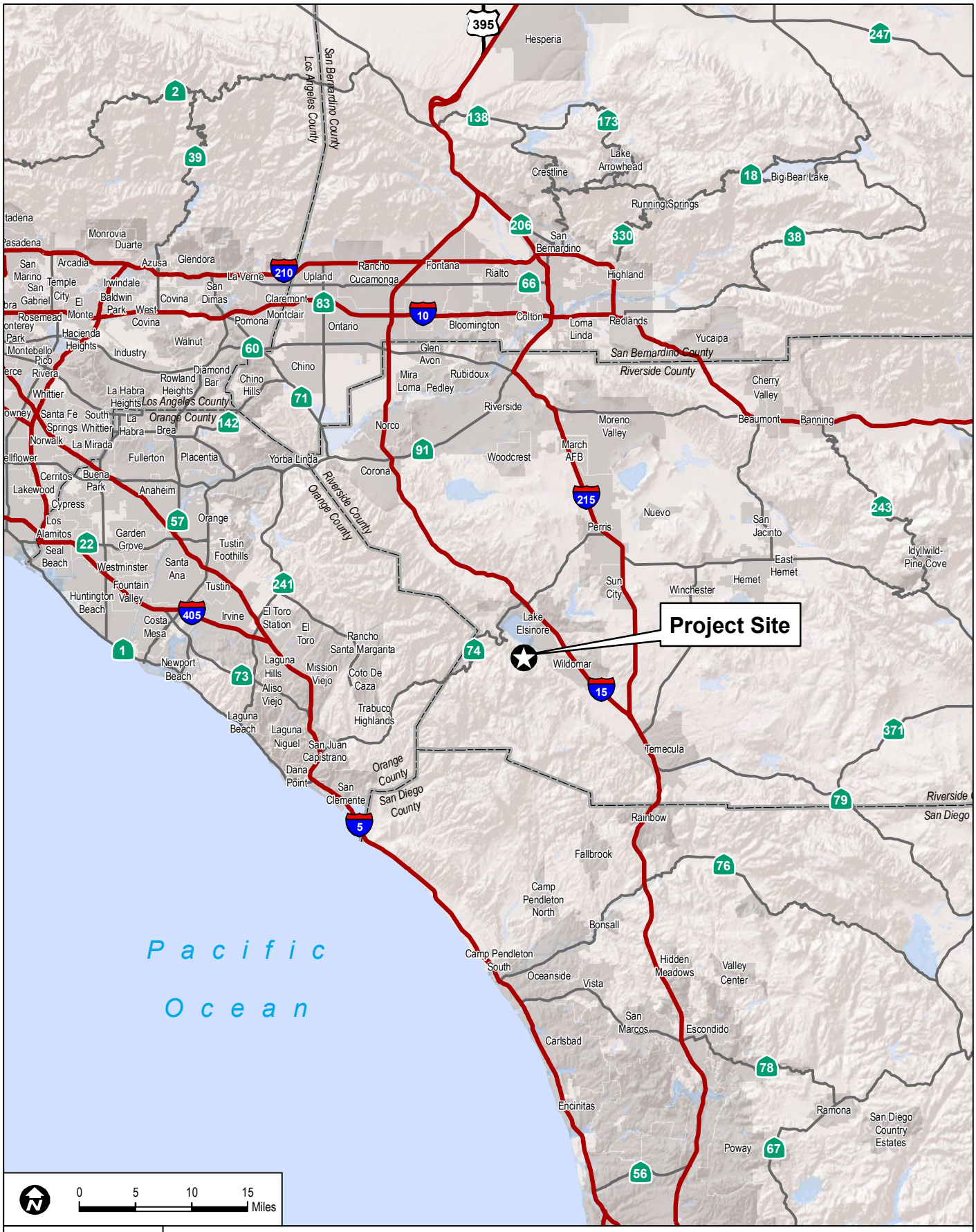
Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins and Floodplain Buyout
Hazards and Hazardous Materials – List of hazardous materials sites	Less than significant impacts with mitigation incorporated	Better	Same	Same
Hydrology and Water Quality – Violate adopted water quality standards or waste discharge requirements	Less than significant impacts with mitigation incorporated	Worse	Worse	Worse
Hydrology and Water Quality – Substantial discharges of typical stormwater pollutants or substantial changes to surface water quality	Less than significant impacts with mitigation incorporated	Worse	Worse	Worse
Hydrology and Water Quality – Substantial depletion of groundwater supplies or interference with groundwater recharge	Less than significant	Better	Worse	Better
Hydrology and Water Quality – Substantially alter existing drainage pattern that would result in substantial erosion or siltation on- or off-site	Less than significant impacts with mitigation incorporated	Better	Same	Same
Hydrology and Water Quality – Substantially alter existing drainage pattern that would result in flooding on- or off-site	Less than significant with mitigation	Worse	Same	Same

Table ES-4
Comparison of Alternatives

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins and Floodplain Buyout
Hydrology and Water Quality – Runoff water	Less than significant	Worse	Same	Same
Hydrology and Water Quality – Flooding	Less than significant	Worse	Same	Same
Hydrology and Water Quality – Inundation by seiche, tsunami, or mudflow	Less than significant	Worse	Same	Same
Noise – Noise levels	Significant even after mitigation	Better	Same	Same
Noise – Ground-borne vibration or ground-borne noise levels	Less than significant	Better	Same	Same
Noise – Ambient noise	Significant even with mitigation	Better	Same	Same
Transportation/ Traffic – Circulation system	Less than significant impacts with mitigation incorporated	Worse	Same	Same
Transportation/ Traffic – Congestion management program	Less than significant with mitigation	Better	Same	Same
Transportation/ Traffic – Alternate transportation	Less than significant with mitigation	Better	Same	Same

ES-1.8 References

Caltrans (California Department of Transportation). 2011. "Route 74 – Scenic Highway." Accessed September 9, 2011. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.



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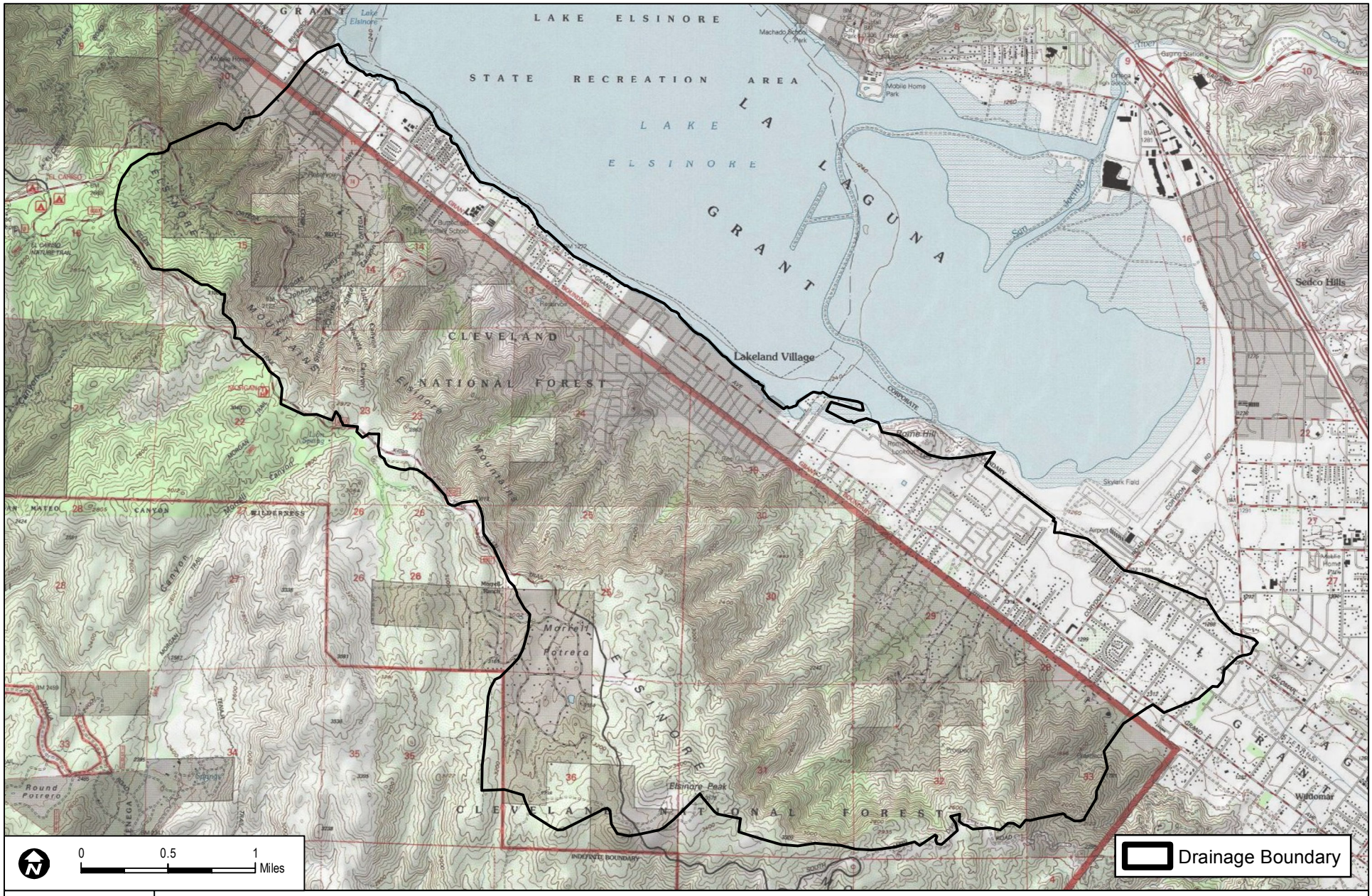
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FIGURE ES-1

Regional Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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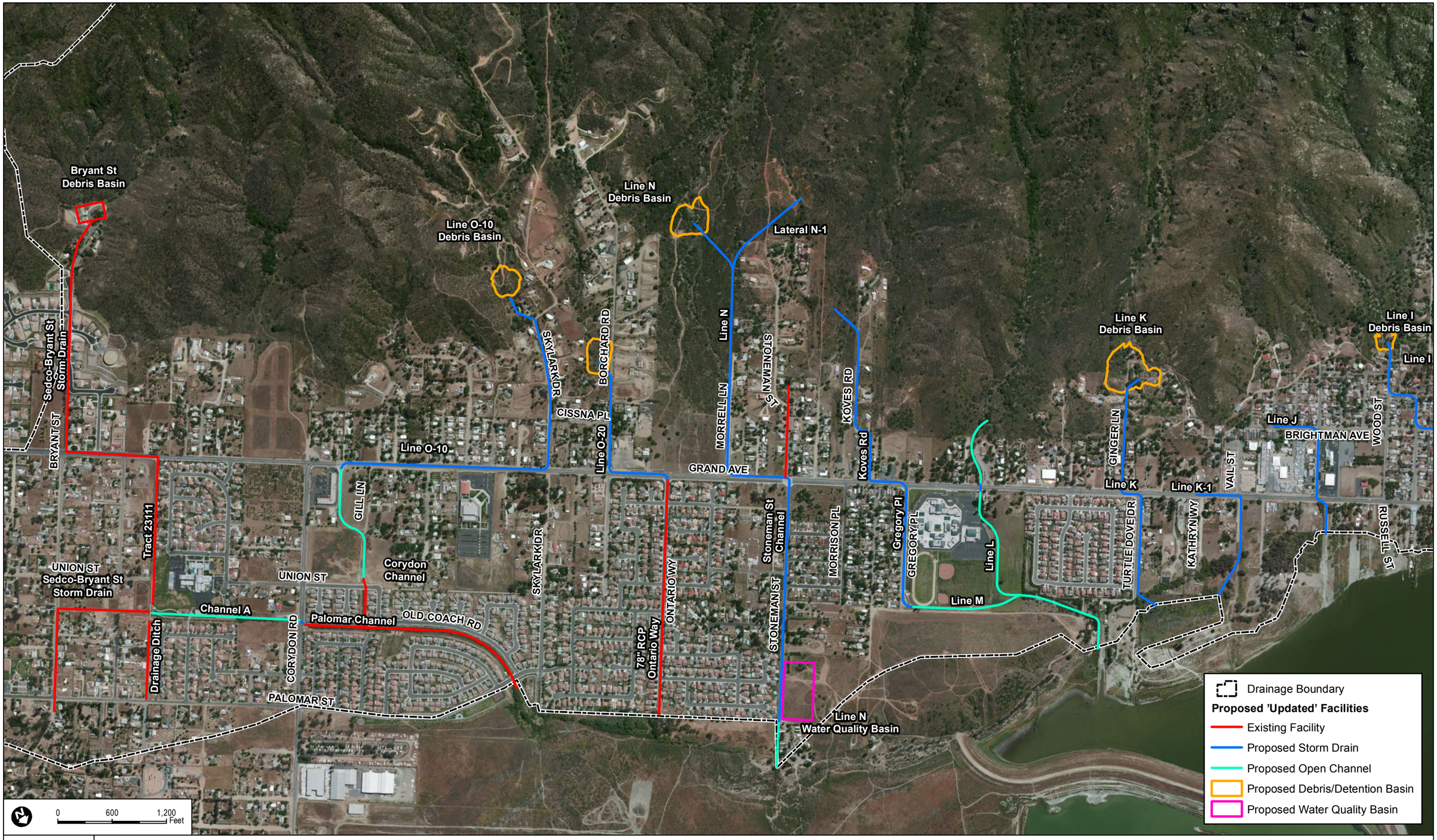
SOURCE: USGS 7.5-Minute Series Alberhill, Elsinore and Wildomar Quadrangles.

FIGURE ES-2

Vicinity Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE ES-3a

Proposed MDP Facilities (Left)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE ES-3b

Proposed MDP Facilities (Right)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this Draft Program Environmental Impact Report (PEIR) is to evaluate potential environmental impacts resulting from the implementation of the Lakeland Village Master Drainage Plan (MDP) (Project), which is a "Project" as defined in the California Environmental Quality Act (CEQA) Guidelines Section 15378. The Riverside County Flood Control and Water Conservation District (District) is the lead agency for purposes of this Project and is responsible for preparation of this Draft PEIR. This Draft PEIR is an informational document intended for use by the District, responsible agencies and members of the general public in evaluating the potential environmental effects associated with the Project. This study has been prepared pursuant to CEQA (California Public Resources Code, Sections 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.).

This Draft PEIR provides a programmatic-level analysis for the Project, as described in Section 3.0 of this Draft PEIR. Pursuant to Section 15168 of the CEQA Guidelines, a programmatic-level environmental analysis will enable the District to examine the overall effects and adopt the Project. Following this approach, when future individual MDP facilities are proposed, the District, or any other jurisdiction having approval related to the MDP facility (i.e., County of Riverside, City of Lake Elsinore, or City of Wildomar), will be required to examine each facility on its own merits and prepare a facility-specific environmental document, such as an initial study (IS) leading to a negative declaration, mitigated negative declaration, supplemental EIR, or subsequent EIR pursuant to Section 15168 of the CEQA Guidelines. As stated in Section 15168(c)(2) of the CEQA Guidelines, if the District, or any other jurisdiction having approval related to the MDP facility, (i.e., County of Riverside, City of Lake Elsinore, or City of Wildomar) finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the responsible agency can approve the activity as being within the scope of the Project covered by the PEIR, and no new environmental document would be required. Since many of the MDP facilities may be designed and/or constructed as part of private development projects processed by the County of Riverside, City of Lake Elsinore, or City of Wildomar, the facility-specific analysis may be included as part of the environmental documentation and CEQA process for a development project.

1.2 Compliance with CEQA

1.2.1 Format

Section 1.0 of this Draft PEIR covers the summary requirements of CEQA as required by Section 15123 of the CEQA Guidelines. Sections ES-1.4 and 3.0 also cover the Project description requirements of

CEQA by discussing the Project location, the Project objectives, a general description of the Project's environmental setting, and a statement of document purpose and intended use.

Issues identified in the IS prepared by the District for the Project that were found to have no impact are provided in Appendix A of this document. This Draft PEIR has been formatted to address the issues found to be potentially significant in the IS. For the issue areas found to be potentially significant in the IS, there is a corresponding PEIR section. Each PEIR section includes an existing setting discussion which describes the physical environmental conditions within the drainage boundary of the Project, as they exist at the time the Notice of Preparation (NOP) was prepared (baseline conditions). Section 15125(d) of the CEQA Guidelines requires that an EIR discuss any inconsistencies between the Project and applicable general plans and regional plans, which will be addressed in any applicable section of this PEIR. Each PEIR section also includes an analysis performed to determine the amount and degree of potential impact that is associated with the Project. For all significant direct and indirect environmental impacts, mitigation measures, where feasible, are implemented in order to reduce the impact to a level below significant. Mitigation measures will appear in each applicable PEIR section, as well as in the Executive Summary.

The analysis of impacts and identification of mitigation measures are derived from technical report(s), which are included as technical appendices to this document, and from other informational resources as listed in the references section of this document.

1.2.2 Environmental Procedures

The basic purposes of CEQA are to:

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
2. Identify the ways that environmental damage can be avoided or significantly reduced;
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved. (14 CCR 15002).

The EIR process typically consists of three parts: (1) the NOP (including the IS), (2) preparation and circulation of the Draft EIR, and (3) the preparation and certification of the Final EIR. Pursuant to Section 15063 of the CEQA Guidelines, the District prepared an IS (Environmental Checklist) (see Appendix A) for the Project in order to determine whether the Project may have a significant effect on the environment. Prior to the circulation of the NOP and IS, the District held a pre-scoping agency briefing meeting on May 12, 2011, inviting responsible agencies to meet with the District and discuss

concerns over the Project so that those concerns could be addressed in the IS and/or Draft PEIR. The NOP was intended to encourage interagency communication concerning the proposed action and provide sufficient background information about the proposed action so that agencies, organizations, and individuals could respond with specific comments and question on the scope and content of the Draft PEIR. Based upon the findings of fact contained within the NOP/IS, the District concluded that a PEIR should be prepared. The NOP for a PEIR and a description of potential adverse impacts were distributed to the State Clearinghouse, responsible agencies, and other interested parties on or about September 7, 2011. Pursuant to Section 15082 of the CEQA Guidelines, recipients of the NOP were requested to provide responses within 30 days after their receipt of the NOP. During the 30-day public review period of the NOP, the District held a public scoping meeting on September 28, 2011, to gather additional public input on the Project. The District also held a Lakeland Village/Wildomar Project Area Committee Meeting on October 19, 2011. Copies of the NOP (including the IS) and the NOP distribution list are located in Appendix A. All comments received during the NOP public notice period and at the public scoping meeting were considered during the preparation of this Draft PEIR. Written comments received on the NOP are included in Appendix A of this Draft PEIR.

Based on the scope of analysis for this Draft PEIR, including comments received during the NOP public scoping period, the following issues were determined to be potentially significant and are therefore addressed in Section 4.0 to Section 4.11 of this document:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Noise
- Transportation and traffic
- Utilities and service systems.

Other CEQA-mandated environmental topics, such as agricultural and forestry resources, land use and planning, mineral resources, population and housing, public services, and recreation, were not found to be significant based on the results of the IS. These issues are addressed in Section 2.0 of this Draft PEIR.

As the designated lead agency, the District has assumed responsibility for preparing this document. The decision to implement the Project is within the purview of the County's Board of Supervisors, the District's Board of Supervisors, and the Cities of Lake Elsinore and Wildomar Planning Commission and City Council. The District, the County, and the Cities of Lake Elsinore and Wildomar will use the information included in this Draft PEIR to consider potential impacts to the physical environment associated with the Project when making the decision to implement the Project within their respective jurisdictions. As set forth in Section 15021 of the CEQA Guidelines, the District, as lead agency, has the duty to avoid or minimize environmental damage where feasible. Furthermore, Section 15021(d) states:

> CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment (14 CCR 15021(d)).

The County of Riverside, the City of Lake Elsinore, and the City of Wildomar may use this PEIR in their decision making or permit processing for MDP facilities within their respective jurisdictions. In accordance with CEQA, the public agencies will be required to make findings for each environmental impact of the Project that cannot be mitigated to below a level of significance. If the lead agency determines the benefits of the proposed Project outweigh unmitigated, significant environmental effects, the agency will be required to adopt a statement of overriding considerations stating the reasons supporting their action notwithstanding the Project's significant environmental effects.

The Draft PEIR will be made available for review to the public and public agencies for 45 days to provide comments on the "sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the Project might be avoided or mitigated" (14 CCR 15204).

1.2.3 Project Baseline

Existing drainage facilities that currently provide some level of flood protection within the study area are as follows: Lime Street Channel, Ortega Channel Lateral A-1, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco–Bryant Street Storm Drain and Debris Basin. These drainage facilities constitute the baseline conditions for the project area.

The watersheds in the Lakeland Village area are considered to have high debris production potential and the area has historically experienced excess debris deposition. When fires occur within the steep canyons, vegetation is destroyed, which leaves the soil more susceptible to erosion. During high intensity rainfall events, the debris originating from fires along with eroded sediment is swiftly carried downstream towards Lake Elsinore. As the debris and stormwater runoff drains to Lake Elsinore, debris is deposited in the flatter areas, causing severe property damage. Additionally, the excess debris and sediment that eventually flows into Lake Elsinore may contribute to water quality degradation of the lake.

Debris from the nearby Santa Ana Mountains also creates a major problem for the existing Ortega Channel/Storm Drain. A portion of this facility is constructed on a very mild slope in which the debris and stormwater runoff moves slowly and sediment tends to settle out. As the sediment accumulates inside the storm drain, the blockage reduces the hydraulic capacity of the facility and makes it susceptible to overflow.

Lake Elsinore is currently listed as a 303(d) impaired water body. The Santa Ana Regional Water Quality Control Board has identified nutrients, specifically nitrogen and phosphorous, as the principal cause of impairment in Lake Elsinore. For purposes of the analysis in the Draft PEIR, the existing drainage facilities and setting described above as they exist at the time of the release of the NOP are considered part of the baseline physical condition by which the District determines whether an impact is considered to be significant (14 CCR 15125(a)).

1.2.4 NOP Comment Letters

The public review period for the NOP/IS began on September 7, 2011, and ended on October 6, 2011. A public scoping session was held on September 28, 2011, at the District offices. A Lakeland Village/ Wildomar Project Area Committee Meeting was held on October 19, 2011. The letters from agencies and individuals that commented on the NOP/IS are included in Appendix A.

1.3 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

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2.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

2.1 Effects Found Not to Be Significant during Preparation of the Notice of Preparation

The California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.) provides that an environmental impact report (EIR) shall focus on the significant effects on the environment, discussing the effects with emphasis in proportion to their severity and probability of occurrence. Effects dismissed in an initial study (IS) as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless information inconsistent with the finding in the IS is subsequently received.

Section 21100(c) of the California Public Resources Code states that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and that these effects, therefore, are not discussed in detail in the EIR. Section 15128 of the CEQA Guidelines adds, "Such a statement may be contained in an attached copy of an IS" (14 CCR 15128).

The IS (Environmental Checklist) prepared and circulated with the Notice of Preparation (NOP) for public review (Appendix A) concluded that the Project would not result in significant impacts to the following areas:

- Agricultural and Forestry Resources
- Land use/Planning
- Mineral Resources
- Population/Housing
- Public Services
- Recreation.

Therefore, as stated in the IS/NOP, these topics are not addressed further in this Draft Program EIR (PEIR).

2.2 Effects Found Not to Be Significant as Part of the PEIR Process

Based on the analysis provided herein, the following areas were found to not have significant impacts:

- Utilities and Service Systems.

Therefore, no mitigation measures are required.

2.3 Effects Found to Be Less Than Significant with Mitigation Measures Incorporated

Based on the analysis provided herein, the following areas were found to have less than significant impacts with the incorporation of mitigation measures:

- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Transportation and Traffic.

Sections 15126, 15126.2, and 15126.4 of the CEQA Guidelines require consideration and discussion of significant environmental effects and mitigation measures proposed to minimize significant effects. All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation (14 CCR 15126) and an EIR shall identify and focus on the significant environmental effects of the proposed project (14 CCR15126.2).

Sections 4.1 through 4.11 of this Draft PEIR address each environmental effect that was determined to be potentially significant during preparation of the NOP prepared for the Project (Appendix A).

As previously identified, utilities and service systems have less than significant adverse environmental effects and do not require mitigation. Biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and transportation and traffic have potentially significant environmental effects that can be mitigated to below the level of significance. Thus, mitigation is required for these issues.

Please see the following referenced sections of this Draft PEIR for more detailed discussion of each issue area that was found to be less than significant with mitigation incorporated:

- Biological Resources (Section 4.3)
- Cultural Resources (Section 4.4)
- Geology and Soils (Section 4.5)
- Greenhouse Gas Emissions (Section 4.6)
- Hazards and Hazardous Materials (Section 4.7)

- Hydrology and Water Quality (Section 4.8)
- Transportation and Traffic (Section 4.10)
- Utilities and Service Systems (Section 4.11).

2.4 Effects Found to Be Significant Even with Mitigation Measures Incorporated

Based on the analysis provided herein, potential impacts on aesthetics, air quality, and noise were found to be significant and cannot be mitigated to below the level of significance. A Statement of Overriding Considerations will be required for these issue areas.

Aesthetics was found to have a potentially significant impact since there are no feasible mitigation measures that could be implemented. Air quality and noise were found to have potentially significant impacts even after the incorporation of feasible mitigation measures. See the following referenced sections of this Draft PEIR for more detailed discussion:

- Aesthetics (Section 4.1)
- Air Quality (Section 4.2)
- Noise (Section 4.9).

2.5 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

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3.0 PROJECT DESCRIPTION

The Riverside County Flood Control and Water Conservation District (District) proposes to prepare a Program Environmental Impact Report (PEIR) for the implementation of the Lakeland Village Master Drainage Plan (MDP). Implementation of the MDP consists of three separate components: administration of the MDP, future construction of the MDP facilities, and future operations and maintenance of the MDP facilities. Implementation of the MDP is hereinafter referred to as the Project.

3.1 Project Location

The Project is located within Lakeland Village, in the City of Lake Elsinore, City of Wildomar, and unincorporated Riverside County, California (see Figure 3.0-1, Regional Map). The Project area, which encompasses approximately 13 square miles, is generally bounded by Lake Elsinore to the north, the ridgeline of the Santa Ana Mountains to the south, Bryant Street and Sheila Lane to the east, and Riverside Drive to the west (see Figure 3.0-2, Vicinity Map).

The Project may be found within Township 6 South, Ranges 4 and 5 West, Sections 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, and 36 of the Alberhill, Elsinore, Sitton Peak, and Wildomar 7.5 Series U.S. Geological Survey (USGS) Topographic Quadrangle Maps.

The Project study area encompasses 16 separate watersheds. These watersheds are characteristically steep with high debris production potential. Runoff originating from these watersheds generally flows northeasterly, across Grand Avenue (the community's principal thoroughfare) and into Lake Elsinore. Existing land use within the study area is predominantly residential or vacant open space. The majority of the existing developments are located within the northerly portion of the study area.

3.2 Background and Project Description

Since the 1980s, all flooding concerns and complaints received from Lakeland Village residents have been documented by District staff. Over the years, various concerns and complaints have been received from local residents through phone calls, letters to the District, community meetings, and the District's annual budget hearing process. The concerns discussed below are representative of those concerns expressed by the residents.

Most of the existing properties located in the Lakeland Village area were subdivided as far back as the early 1900s, long before the Subdivision Map Act granted local agencies the authority to regulate and control the design of subdivisions to protect public health and safety. Consequently, most subdivisions within the Lakeland Village community were developed without consideration of the area's significant flood hazards and without adequate flood protection and drainage infrastructure in place.

Within the Lakeland Village area, the Federal Emergency Management Agency (FEMA) has designated and mapped four separate Special Flood Hazard Areas (SFHAs). These SFHAs indicate areas that are especially prone to flood hazards (i.e., subject to a 1% annual chance of being flooded). The SFHAs are located in the general vicinity of Gregory Place, Baldwin Boulevard, Maiden Lane, and Santa Rosa Drive (located in watersheds D, H, L, and M, respectively). There are approximately 210 existing structures located within the SHFAs. These structures are subject to high flood hazards and are typically subject to mandatory purchase of flood insurance under the provisions of the National Flood Insurance Program.

Grand Avenue is the major thoroughfare into and out of Lakeland Village community and provides access to the adjacent cities of Lake Elsinore and Wildomar. Stormwater runoff from each of the 16 watersheds must cross Grand Avenue on its way to Lake Elsinore. In general, Grand Avenue lacks adequate drainage improvements (road culverts) to convey significant stormwater flows. Therefore, vehicular travel along Grand Avenue during storm events is a major concern for the Lakeland Village residents. In a large storm event, Grand Avenue would likely become impassable, rendering the area inaccessible and isolated.

Project Baseline

Existing drainage facilities that currently provide some level of flood protection within the study area are as follows: Lime Street Channel, Ortega Channel Lateral A-1, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco–Bryant Street Storm Drain and Debris Basin. These facilities constitute the physical baseline condition of the Project area.

The watersheds in the Lakeland Village area are considered to have high debris production potential and the area has historically experienced excess debris deposition. When fires occur within the steep canyons, vegetation is destroyed, which leaves the soil more susceptible to erosion. During high intensity rainfall events, the debris originating from fires along with eroded sediment is swiftly carried downstream towards Lake Elsinore. This combination of debris and stormwater runoff is referred to as "bulked flow" and includes sand, silt, and vegetative debris from the Santa Ana Mountains. As the bulked flow drains to Lake Elsinore, debris is deposited in the flatter areas causing severe property damage. Additionally, the excess debris and sediment that eventually flows into Lake Elsinore may contribute to water quality degradation of the lake.

Debris from the nearby Santa Ana Mountains also creates a major problem for the existing Ortega Channel/Storm Drain. A portion of this facility is constructed on a very mild slope in which the bulked flow moves slowly and sediment tends to settle out. As the sediment accumulates inside the storm drain, the blockage reduces the hydraulic capacity of the facility and makes it susceptible to overflow. To

ensure adequate capacity of the channel at all times, frequent routine maintenance is required, which over time has become costly.

Lastly, Lake Elsinore is currently listed as a 303(d) impaired water body. The Santa Ana Regional Water Quality Control Board (RWQCB) has identified nutrients, specifically nitrogen and phosphorous, as the principal cause of impairment. Very few, if any, of the existing developments within the Lakeland Village area were required to implement water quality best management practices as a condition of their development. Thus, "first flush" events typically collect and carry trash, dirt, and other pollutants directly to the lake. Addressing the area's urban runoff will help to improve the existing water quality of Lake Elsinore. For purposes of the analysis in the Draft PEIR, the existing drainage facilities and setting described above as they exist at the time of the release of the Notice of Preparation (NOP) is considered part of the baseline physical condition by which the District determines whether an impact is considered to be significant (in accordance with Section 15125(a) of the California Environmental Quality Act (CEQA) Guidelines).The CEQA analysis of a master drainage plan is more complex than a typical project because master drainage plans have a variety of purposes that are implemented over time; in fact, some parts of the plan could be implemented many years in the future or not at all, which makes the use of a PEIR for the CEQA analysis appropriate.

Administration of the MDP

The first component of the Project being analyzed in this Draft PEIR consists of the preparation of and, ultimately, the adoption of the Project and its use as a long-range planning document. The MDP will be a guide for the alignment, type, size, and cost of major existing and proposed facilities (MDP facilities) within the watershed to address the current and future drainage needs of Lakeland Village and the surrounding area. The drainage boundary of the Project is drawn to include all of the watershed area that contributes to the drainage problems in the community. The MDP facilities would contain the 100-year flood discharge.

The MDP has a variety of planning uses. The MDP will not only be relied upon by the County of Riverside as it reviews and approves existing and proposed development in the Lakeland Village area, but if adopted, it can be used by the Cities of Wildomar and Lake Elsinore as they review and approve new development. New development may be required to construct MDP facilities or set aside rights–of-way for the future construction of the facilities. The local jurisdictions can also use the MDP to identify MDP facilities and costs for inclusion in capital improvement programs. Finally, the local jurisdictions can use the MDP to aid in long-range planning of other public infrastructure projects like roads or utility pipelines.

Future Construction of the MDP Facilities

The second component of the Project being analyzed in this Draft PEIR is the reasonably foreseeable impacts resulting from construction of the MDP facilities. Table 3.0-1 lists the types of drainage

improvements (i.e., new facilities and upgrades to existing ones) proposed in the MDP and Table 3.0-2 provides a detailed description of each of the individual MDP facilities.

The MDP identifies the approximate location, size, and type of MDP facilities needed to alleviate and control flooding within the Project boundary. The alignments and type of facility depicted in the MDP can change as more detailed information becomes available during the design process. For example, the locations of underground utilities, new development patterns, or the results of subsequent focused biological surveys may necessitate a shift in alignment or change in facility type (i.e., concrete channel to underground pipe). To add to that uncertainty, the construction of the MDP facilities will be completed in discrete phases over a number of decades.

Despite this future environment of uncertainty and change, the Draft PEIR still must identify the general types of construction activities anticipated and their associated impacts. Subsequent CEQA analysis would be required when specific MDP facilities are proposed for construction, but those future construction projects would be able to tier from the PEIR. Actual construction of the MDP facilities may be fulfilled by conditions of approval on development projects or capital improvement projects undertaken by the County of Riverside, the City of Wildomar, the City of Lake Elsinore, or the District.

Future Operations and Maintenance of the MDP Facilities

The final component of the Project to be analyzed in this Draft PEIR is the reasonably foreseeable impact of future operation and maintenance activities. Once a facility is constructed, it will require maintenance in order to retain flood control capacity. Following construction of the future MDP facilities, it is expected that the District will operate and maintain all the MDP storm drains, channels, and basins.

Maintenance of storm drains and concrete channels typically consists of keeping these facilities and their side drains clear of debris and sediment, as well as repairing access roads and fences. On rare occasions, major repairs may be required following damaging storm events. Thus, major grading will not routinely occur while maintaining the underground storm drains and open concrete channels. To maintain the constructed MDP facilities, the District will occasionally use equipment similar to the types used to construct the proposed MDP facilities.

The routine maintenance of the channels and basins will likely require the following activities: the removal of deposition, repair of eroded slopes, and reduction of fire hazard by annual mowing and application of herbicides as well as the maintenance activities described in the previous paragraph. Vegetation must be removed or mowed annually (or as necessary) to provide the designed hydraulic capacity.

Development of the Project Alternatives

In 2010, the District conducted an Environmental Constraints Analysis (ECA; Appendix B to this PEIR) that studied five preliminary scenarios for the Project. The five preliminary scenarios (labeled as

Alternatives 1–5) in the ECA explored the feasibility of debris removal, water quality mitigation, floodplain management, and environmental avoidance. The ECA was prepared to assist the District in identifying key environmental issues so that the District could refine the five preliminary scenarios into three CEQA alternatives for the environmental impact analysis, as discussed in Section 8.0 of this document. Based on the ECA, engineering feasibility, and other Project objectives, the District selected the Project (see Figure 3.0-3a and Figure 3.0-3b, Proposed MDP Facilities, and Tables 3.0-1 and 3.0-2).

Table 3.0-1
Summary of MDP Facilities

Type of Improvement	Facility Name
Upsizing of the existing facilities	• Lakeland Village Channel • Ortega Channel • Lime Street Channel/Line A
New open channels	• Channel A • Line O-10 • Line M • Line L • Lakeland Village Channel
New storm drains	• Line O-10 • Line O-20 • Line N • Lateral N-1 • Line K • Line J • Line I • Line I-1 • Lakeland Village Channel • Line H • Line H-1 • Line H-2 • Line G • Line F • Line F-1 • Line E • Line D • Line C • Line C-1 • Lime Street Channel/Line A
New debris basins	• Line O-10 • Line O-20 • Line N • Line K • Line I • Lakeland Village Channel

Table 3.0-1
Summary of MDP Facilities

Type of Improvement	Facility Name
	• Line F • Ortega Channel • Line A
New water quality basins	• Line NLine I • Line G • Lime Street Channel/Line A • Ortega Channel

Source: See Figure 3.0-3a and Figure 3.0-3b, Proposed MDP Facilities Map.

Table 3.0-2 provides a detailed description of the proposed and existing MDP facilities.

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
A	**Proposed**	Line A Debris Basin	Debris basin	Line A Debris Basin is located at a point approximately 350 ft west of the intersection of Jamieson and Orange Street, just upstream of existing Lime Street Channel, and has a volume of 9.3 ac-ft. and an approximate ROW of 1.5 ac. The debris basin consists of a 36 in low-flow outlet pipe and a spillway structure.	Storage = 9.3 ac-ft Approx. ROW = 1.5 ac		690
		Line A and Lime Street Channel	Floodwalls	Floodwalls ranging in height from 1 to 2 ft would be added to the existing Lime Street Channel. The improved Lime Street Channel will ultimately have a uniform height ranging from 4.5 to 5.5 ft.	Depth = 1 ft	1,631	690
					Depth = 2 ft	773	900
			RCP	The upstream origin of Line A begins as a 72 in RCP at the downstream terminus of existing Lime Street Channel located at the intersection of Hill Street and Laguna Avenue. From there, the 72 in RCP extends northerly in Hill Street until it connects to the existing Lime Street Channel. The 72 in RCP would replace the existing 42 in RCP.	Diameter = 72 in	921	840
		Line A Water Quality	Water Quality Basin	Located at the northwest corner of the intersection of Hill Street and Grand Avenue. The water quality basin would	Storage = 5.5 ac-ft Approx.		

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Basin		require a connection to the existing drainage system of the existing tract located at the southwest corner of the intersection of Grand Avenue and Hill Street. The water quality basin has a volume of 5.5 ac-ft and approximate ROW of 3.3 ac.	ROW = 3.3 ac		
	Existing	Line A and Lime Street Storm Drain	Trapezoidal channel	The construction of the Lime Street Channel was completed in 1963. The Lime Street Storm Drain is a concrete trapezoidal channel whose upstream origin is located at a point approximately 350 ft west of the intersection of Jamieson and Orange Street. The channel extends northeasterly toward Laguna Avenue, transitions into a 42 in RCP, then heads northerly toward Lake Elsinore. The channel has a base width of 3 ft, a sideslope of 1:1, and depths ranging from 3.5 ft to 4.5 ft.	Base width = 3 ft Sideslope = 1:1 Depth = 3.5 to 4.5 ft	2,995	Information not available
			RCP		Diameter = 42 in	750	Information not available
B	**Proposed**	Line B (Ortega Channel) Debris Basin	Debris basin	Ortega Channel Debris Basin is located at a point approximately 700 ft south of the intersection of Shoreline and Lighthouse Drive, just upstream of the existing Ortega Channel, and has a volume of 15.7 ac-ft and an approximate ROW of	Storage = 15.7 ac-ft Approx. ROW = 1.6 ac		836

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				1.6 ac. The debris basin has a 36 in low-flow outlet pipe and a spillway structure.			
		Line B (Ortega Channel) Outlet	Floodwall	1 ft floodwalls would be added to the existing Ortega Channel outlet located on the north side of Grand Avenue.	Depth = 1 ft	727	1,400
		Line B Water Quality Basin	Water quality basin	The Line B Water Quality Basin is located at the southeast intersection of Serena Way and Grand Avenue and has an approximate volume of 5.0 ac-ft and an approximate area footprint of 3.2 ac.	Storage = 5.0 ac-ft Approx. ROW = 3.2 ac		
	Existing	Ortega Channel Debris Basin	Debris basin	The Ortega Channel Debris Basin is located south of the southernmost end of Welford Place and is located upstream of existing Ortega Channel Lateral A.	Storage = not available Approx. ROW = 1.4 ac		Information not available
		Ortega Channel	Trapezoidal channel	The construction of Ortega Channel was completed in 1995. Ortega Channel is a concrete trapezoidal channel whose upstream origin is located at a point approximately 800 ft south of the intersection of Shoreline and Lighthouse Drive. The channel extends northerly towards Ortega Highway. At Ortega Highway, the channel transitions into an	Typical base width = 5 ft Typical top width = 17 ft Sideslope = 1.5:1 Depth = 4 ft	1,678	870
			RCP		Diameter = 84 in	815	1,123

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCP	84 in RCP and extends along Ortega Highway for approximately 815 ft. At this point, the 84 in RCP transitions into a 96 in RCP and extends into Lake Terrace Drive for approximately 280 ft. The 96 in RCP then transitions into a 102 in RCP and extends parallel to Lake Terrace Drive for approximately 430 ft. At Grand Avenue, the 102 in RCP transitions into a 10.5 ft wide by 6 ft deep RCB. From there, the concrete trapezoidal channel begins and extends parallel to Serena Way towards Lake Elsinore. The channel has a typical base width of 2 ft and sideslope of 1.5:1.	Diameter = 96 in	280	1,123
			RCP		Diameter = 120 in	430	1,400
			RCB		Width = 10.5 ft Depth = 6 ft	100	1,400
			Trapezoidal Channel		Typical width = 2 ft Typical top width = 17 ft Typical depth = 5 ft Sideslope = 1.5:1	1,355	950
	Existing	Ortega Channel Lateral A	RCP	The construction of Ortega Channel Lateral A was completed in 1992. Ortega Channel Lateral A is an RCP ranging in size from 54 in to 60 in in diameter. The upstream origin is at the existing Ortega Channel Debris Basin outlet and the RCP extends northerly in Welford Place toward Lake Ridge Road. At Lake Ridge Road, the RCP extends easterly in Lake Ridge Road toward Grandview Drive. At Grandview Drive, the RCP extends	Diameter = 54–60 in	1,858	604

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				northerly in Grandview and terminates at its confluence with existing Ortega Channel.			
	Existing	Ortega Channel Lateral A-1	RCP	The construction of Ortega Channel Lateral A-1 was completed in 1992. Ortega Channel Lateral A-1 is a 48 in RCP whose upstream origin is at the intersection of Trabuco Drive and Laguna Avenue. The RCP extends northerly in Laguna Avenue until it terminates at its confluence with existing Ortega Channel Lateral A.	Diameter = 48 in	440	114
	Existing	Ortega Channel Lateral A-2	RCP	The construction of Ortega Channel Lateral A-2 was completed in 1994. The upstream origin of the lateral is near the intersection of Grandview Avenue and Lakeridge Road. From there, the 36 in RCP extends northerly in Grandview until its confluence with the existing Ortega Channel Lateral A.	Diameter = 36 in	140	85
C	**Proposed**	Line C	RCP	The upstream origin of Line C is at the intersection of Windward Way and Grand Avenue as a 48in RCP. From there, the 48 in RCP extends easterly in Grand Avenue, transitions into a 60 in, then a 78 in RCP. Near the intersection of	Diameter = 48 in	903	108
			RCP		Diameter = 60 in	350	264
			RCP		Diameter = 78 in	330	354

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCP	Blanche Drive and Grand Avenue, the 78 in RCP transitions into a 90 in RCP and extends northerly towards Lake Elsinore.	Diameter = 90 in	280	522
		Line C-1	RCP	The upstream origin of Line C-1 is near the intersection of Santa Rosa Drive and Grand Avenue as a 48 in RCP. The RCP then extends westerly in Grand Avenue and transitions into a 66 in RCP. Near Blanche Drive, the 66 in RCP transitions into a 78 in RCP and confluences with the proposed Line C.	Diameter = 48 in	433	84
			RCP		Diameter = 66 in	155	90
			RCP		Diameter = 78 in	255	174
D	**Proposed**	Line D	RCP	The upstream origin of Line D is at a point approximately 840 ft south of the southern end of Santa Rosa Drive as a 60 in RCP. From there, the RCP extends northerly toward Santa Rosa Avenue, continues in Santa Rosa Avenue, transitions into a 66 in, 72 in, and 78 in RCP, then a daylight/outlet structure with an approximate length of 105 ft, width of 40 ft, and a maximum depth of 6.5 ft.	Diameter = 60 in	1,313	780
			RCP		Diameter = 66 in	380	780
			RCP		Diameter = 72 in	340	780
			RCP		Diameter = 78 in	140	780
E	**Proposed**	Line E	RCP	The upstream origin of Line E is near the intersection of the future alignment of Union Avenue and Esther Street as a 54 in RCP. From there, the RCP would extend northerly in Esther Street and transition	Diameter = 54 in	904	204
			RCP		Diameter = 72 in	224	336

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				into a 72 in RCP as it continues northerly and parallel to Olive Street towards Lake Elsinore.			
F	**Proposed**	Line F Debris Basin	Debris basin	The Line F Debris Basin is located at a point approximately 1,090 ft southwest of the intersection of Evergreen Street and Union Avenue at the upstream origin of proposed Line F and has a volume of 2.6 ac-ft and approximate ROW of 1.9 ac. The debris basin consists of a 36 in outlet pipe and a spillway structure.	Storage = 2.6 ac-ft Approx. ROW = 1.9 ac		215
		Line F	RCP	The upstream origin of Line F is at a point approximately 1,090 ft southwest of the intersection of Evergreen Street and Union Avenue as a 42 in RCP. From there, the 42 in RCP extends easterly toward a point located approximately 1,000 ft southeast of the intersection of Evergreen Street and Union Avenue. Near this point, the 42 in RCP transitions into a 60 in RCP, a 66 in RCP, and then a daylight/outlet structure with an approximate length of 75 ft, width of 25 ft, and a maximum depth of 4.5 ft as it extends northerly and parallel to Evergreen Street toward Lake Elsinore.	Diameter = 42 in	727	215
			RCP		Diameter = 60 in	1,218	465
			RCP		Diameter = 66 in	377	540

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Line F-1	RCP	The upstream origin of Line F-1 is at a point approximately 370 ft southwest of the intersection of Akley and Gillette Street as a 42 in RCP. From there, the 42 in RCP extends northwesterly for approximately 1,040 ft to its point of confluence with the proposed Line F.	Diameter = 42 in	1,037	195
G	**Proposed**	Line G	RCP	The upstream origin of Line G is near the intersection of Deeble Entrance and Grand Avenue as a 54 in RCP. From there, the 54 in RCP transitions into a 66 in RCP and continues westerly along Grand toward Adelfa Street. Near Adelfa Street, the 66 in RCP transitions into a 72 in RCP, then a daylight structure/outlet with an approximate length of 65 ft, width of 15 ft, and maximum depth of 6.5 ft as it continues northeasterly toward Lake Elsinore.	Diameter = 54 in	312	138
			RCP		Diameter = 66 in	180	168
			RCP		Diameter = 66 –in	225	276
			RCP		Diameter = 72 in	330	330
		Line G Water Quality Basin	Water quality basin	A 4.0 ac-ft water quality basin with an approximate ROW of 1.9 ac is proposed at the southwest corner of the intersection of Grand Avenue and Adelfa Street. The water quality basin is located west of an existing development located at the southeast corner of the intersection of	Storage = 4.0 ac-ft Approx. ROW = 1.9 ac		

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Adelfa Street and Grand Avenue. The water quality basin would require a connection to the existing development drainage system.			
H	**Proposed**	Line H (Adelfa Channel)	RCP	The upstream origin of Line H is at Gillette Street as a 48 in RCP. From there, the 48 in RCP extends easterly towards Zellar Street and then northerly in Zellar Street. At Cottrell Boulevard, the 48 in RCP transitions into a 66 in RCP and extends easterly in Cottrell Boulevard. At Landerville Boulevard, the 66 in RCP transitions into an 84 in RCP and continues easterly in Cottrell Boulevard and then northerly in Blackwell Boulevard toward Lake Elsinore.	Diameter = 48 in	819	375
			RCP		Diameter = 66 in	50	375
			RCP		Diameter = 66 in	791	500
			RCP		Diameter = 84 in	1,924	960
			RCP		Diameter = 84 in	600	1,000
		Line H-1	RCP	The upstream origin of Line H-1 is approximately 127 ft south of Cottrell Boulevard in Adelfa Street. From there, the 42 in RCP extends northerly in Adelfa Street until its confluence with the proposed Line H.	Diameter = 42 in	127	125
		Line H-2	RCP	The upstream origin of Line H-2 is near the intersection of Brand Street and Anthony Ave as a 60 in RCP. From there, the 60 in RCP extends easterly in	Diameter = 60 in	464	460
			RCP		Diameter =	710	460

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Anthony Avenue and heads northerly in Landerville Boulevard. At Peeler Avenue, the 60 in RCP transitions into a 54 in RCP and continues in Landerville Boulevard until its confluence with the proposed Line H at Cottrell Boulevard.	54 in		
		Lakeland Village Channel Debris/ Attenuation Basin	Debris/ attenuation basin	The debris/attenuation basin is proposed approximately 350 ft south of the southernmost end of Blackwell Boulevard and has a volume of 97 ac-ft and an approximate ROW of 10.8 ac.	Storage = 97 ac-ft Approx. ROW = 10.8 ac		
			Basin outlet		Diameter = 66 in	100	515
		Lakeland Village Channel	Rectangular channel	The upstream origin of the existing Lakeland Village Channel begins near the southernmost end of Blackwell Boulevard at the proposed debris/attenuation basin outlet. From there, the existing channel extends parallel to Baldwin Boulevard along the geographic low until it terminates at Lake Elsinore. The existing Lakeland Village Channel would remain and improvements would be made to the existing undersized culverts at Nelson,	Width = 12 ft Depth = 4 ft	557	515
			Nelson RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Hayes RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Bobrick RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			MacKay RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Brightman		Width = 12 ft	65	515

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCB Culvert	Hayes, Bobrick, MacKay, Brightman, Sutherland, Raley, and Grand to meet the existing capacity. The existing channel downstream of Grand Avenue would be removed and replaced with a 12 ft wide by 4 ft deep rectangular channel sized to convey 515 cfs.	Depth = 4 ft		
			Sutherland RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Raley RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Grand RCB Culvert		Width = 12 ft Depth = 4 ft	65	515
			Rectangular channel		Width = 12 ft Depth = 4 ft	614	515
	Existing	Lakeland Village Channel	Rectangular channel	The construction of Lakeland Village Channel was completed in 1955. Lakeland Village Channel is a concrete-bottom rectangular channel with Elmwood fence and rock pill channel walls. The upstream origin is near Nelson Avenue. The channel then extends northerly along existing wash and terminates at Lake Elsinore.	Width = 12 ft Depth = 4 ft	1,850	Information not available
			Rectangular channel		Width = 7 ft Depth = 4.5 ft	600	Information not available
I	**Proposed**	Line I Debris Basin	Debris basin	The Line I Debris Basin is located at a point approximately 265 ft south of Hayes Street and upstream of proposed Line I. The debris basin has a volume of 3.0 ac-ft and an approximate ROW of 0.9 ac. The debris basin consists of a 36 in outlet pipe and a spillway structure.	Storage = 3.0 ac-ft Approx. ROW = 0.9 ac		220

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Line I	RCP	The upstream origin of Line I is at a point approximately 265 ft south of Hayes Street as a 36 in RCP. From there, a 36 in RCP extends northerly in Wood Street. At Broomall Avenue, the 36 in RCP transitions into a 48 in RCP and continues in westerly in Broomall Avenue. At Dowman Street, the 48 in RCP transitions into a 72 in RCP and continues northerly in Dowman Street, easterly in Brightman Avenue, and then northerly in Lorimer Street. At Grand Avenue, the 72 in RCP transitions into a 90 in RCP and outlets into Lake Elsinore.	Diameter = 36 in	491	220
			RCP		Diameter = 48 in	429	220
			RCP		Diameter = 72 in	548	490
			RCP		Diameter = 72 in	761	650
			RCP		Diameter = 90 in	490	705
		Line I-1	RCP	The upstream origin of Line I-1 begins near the intersection of Baldwin Boulevard and Brightman Avenue as a 42 in RCP. From there, the 42 in RCP extends easterly in Brightman Avenue and transitions into a 48 in RCP at Churchill Street. The 48 in RCP extends easterly in Brightman Avenue until its confluence with the proposed Line I at Lorimer Street.	Diameter = 42 in	585	60
			RCP		Diameter = 42 in	250	100
			RCP		Diameter = 48 in	240	150
			RCP		Diameter = 48 in	540	185

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Churchill Street Drainage Ditch	Drainage ditch	The upstream origin of the Churchill Street drainage ditch is located at Grand Avenue. From there, a drainage ditch with a base width of 2.5 ft, depth of approximately 3 ft, and sideslope of 1.5:1, located on the west and east sides of Churchill Street, extends northerly toward Lake Elsinore.	Base width = 2.5 ft Approximate depth = 3 ft Sideslope = 1.5:1	609	Information not available
J	**Proposed**	Line J	RCP	The upstream origin of Line J is near the intersection of Brightman Avenue and Benner Street as a 54 in RCP. From there, the 54 in RCP extends westerly in Brightman Avenue toward Turner Street. At Turner Street, the 54 in RCP transitions into a 60 in RCP. The 60 in RCP continues northerly in Turner Street and transitions into a 5 ft wide by 5 ft deep RCB. At Grand Avenue, the RCB transitions into a 7 ft wide by 5 ft deep RCB. The 7 ft wide by 5 ft deep RCB then transitions into a daylight/outlet structure with an approximate length of 350 ft, width of 7 ft, and maximum depth of 5 ft as it extends northerly toward Lake Elsinore.	Diameter = 54 in	556	126
			RCP		Diameter = 60 in	436	228
			RCB		Width = 5 ft Depth = 5 ft	212	228
			RCB		Width = 7 ft Depth = 5 ft	450	336
K		Line K Debris Basin	Debris basin	Line K Debris Basin is located at the southernmost end of Ginger Lane, upstream of the proposed Line K, and	Storage = 7.4 ac-ft Approx.		527

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				has a volume of 7.4 ac-ft and an approximate ROW of 4.8 ac. The debris basin consists of a 36 in outlet pipe and spillway structure.	ROW = 4.8 ac		
	Proposed	Line K	RCP	The upstream origin of Line K is near the southernmost end of Ginger Lane. From there, the 60 in RCP extends northerly in Ginger Lane towards Grand Avenue. At Grand Avenue, the 60 in RCP transitions into a 78 in RCP and extends easterly in Turtle Dove Drive. The 78 in RCP transitions into a 7 ft wide by 5 ft deep RCB, then into a daylight structure/outlet with an approximate length of 200 ft, width of 7 ft, and maximum depth of 5 ft as it continues easterly in Turtle Dove Drive toward Lake Elsinore.	Diameter = 60 in	1,275	527
			RCP		Diameter = 78 in	617	527
			RCB		Width = 7 ft Depth = 5 ft	944	527
		Line K -1	RCP	The upstream origin of Line K-1 begins near the intersection of Kathryn Way and Grand Avenue as a 36 in RCP. The 36 in RCP extends westerly in Grand Avenue and then easterly and parallel to Vail Street. Near Lake Elsinore, the 36 in RCP transitions into a daylight/outlet structure with an approximate length of 265 ft, width of 10 ft and maximum depth of 3 ft.	Diameter = 36 in	1297	63

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
L	**Proposed**	Line L	Rectangular channel	The upstream origin of Line L begins at a point approximately 696 ft south of Grand Avenue. From there, the 6 ft wide by 5 ft deep rectangular channel extends along the geographic low. At Grand Avenue, the open channel transitions into a 7 ft wide by 7 ft deep RCB. The RCB then transitions into a 15 ft wide by 5 ft deep, to a 18 ft wide by 10 ft deep, to a 15 ft wide by 8 ft deep, to a 60 ft wide by 5 ft deep rectangular channel, then a daylight/outlet structure with an approximate length of 180 ft, width of 60 ft, and maximum depth of 5 ft, and outlets into Lake Elsinore.	Width = 6 ft Depth = 5 ft	765	535
			RCB		Width = 7 ft Depth = 7 ft	110	535
			Rectangular channel		Width = 15 ft Depth = 5 ft	1,071	535
			Rectangular channel		Width = 18 ft Depth = 10 ft	323	535
			Rectangular channel		Width = 18 ft Depth = 10 ft	120	1,453
			Rectangular channel		Width = 15 ft Depth = 8 ft	606	1,453
			Rectangular channel		Width = 15 ft Depth = 8 ft	240	1,573
M	**Proposed**	Line M	RCP	The upstream origin of Line M is near the southern end of Koves Road as a 60 in RCP. The 60 in RCP extends northerly in Koves Road and transitions into a 66 in RCP. At Grand Avenue, the 66 in RCP transitions into a 72 in RCP and extends westerly in Grand Avenue towards Gregory Place. At Gregory Place, the 72 in RCP transitions into a 90 in RCP and continues northerly in Gregory Place. At	Diameter = 60 in	1,365	480
			RCP		Diameter = 66 in	832	614
			RCP		Diameter = 72 in	369	653
			RCP		Diameter = 90 in	1,173	710
			RCP		Diameter = 90 in	178	869

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			Rectangular channel	the geographic low, the 90 in RCP transitions into a 15 ft wide by 8 ft deep and then a 15 ft wide by 10 ft deep rectangular channel and confluences with the proposed Line L.	Width = 15 ft Depth = 8 ft	806	869
			Rectangular channel		Width = 15 ft Depth = 8 ft	264	901
			Rectangular channel		Width = 15 ft Depth = 10 ft	130	901
N	**Proposed**	Line N Debris Basin	Debris basin	Line N Debris Basin is located a point approximately 690 ft south of Morrell Lane, just upstream of the proposed Line N, and has a volume of 9.3 ac-ft and approximate ROW of 2.9 ac. The debris basin consists of a 36 in low-flow outlet pipe and spillway structure.	Storage = 9.3 ac-ft Approx. ROW = 2.9 ac		822
		Line N	RCP	The upstream origin of Line N is at a point approximately 690 ft south of Morrell Lane, just downstream of the proposed Line N debris basin. From there, the 66 in RCP extends northerly towards Morrell Lane. At Morrell Lane, the 66 in RCP transitions into a 90 in RCP and continues northerly in Morrell Lane towards Grand Avenue. At Grand Avenue, the 90 in RCP transitions into a 102 in RCP. The 102 in RCP extends	Diameter = 66 in	614	822
			RCP		Diameter = 90 in	1,316	1,018
			RCP		Diameter = 90 in	1,000	1,050
			RCP		Diameter = 102 in	600	1,066
			RCP		Diameter = 102 in	1,860	1,236

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
			RCB	westerly in Grand Avenue and northerly in Stoneman Street. At approximately 1,859 ft into Stoneman Street, the 90 in RCP transitions into a 12 ft wide by 7 ft deep RCB. From there, the RCB transitions into a 20 ft wide by 7 ft deep open channel, then a daylight/outlet structure with an approximate length of 230 ft, width of 50 ft, and maximum depth of 4 ft as it extends toward Lake Elsinore.	Width = 12 ft Depth = 7 ft	812	1,293
			Rectangular channel		Width = 20 ft Depth = 7 ft	398	1,369
		Lateral N-1	RCP	The upstream origin of Lateral N-1 is at a point approximately 367 ft west of Stoneman Street as a 36 in RCP. From there, the 36 in RCP extends easterly until its confluence with proposed Line N.	Diameter = 36 in	1,152	130
		Line N Water Quality Basin	Water quality basin	Line N Water Quality Basin is located at the southwest corner of the intersection of Palomar and Stoneman Street. The water quality basin has an approximate volume of 5.9 ac-ft and an approximate ROW of 3.7 ac and would require a connection to the drainage system of the tract located west of the proposed water quality basin.	Storage = 5.9 ac-ft Approx. ROW = 3.7 ac		

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Stoneman Street Channel	Trapezoidal channel	The construction of Stoneman Street Channel was completed after 1966. Stoneman Street is a paved trapezoidal channel and has a typical base width of 24 ft and 6:1 sideslopes. The upstream origin begins near Stoneman Street at a point approximately 1,015 ft south of Grand Avenue and extends northerly in Stoneman Street until it terminates approximately 300 ft north of Grand Avenue.	Base width = 24 ft Sideslopes = 6:1	1,011	Information not available
O	**Proposed**	Line O-10 Debris Basin	Debris basin	Line O-10 Debris Basin is located near the intersection of Skylark Drive and Cissna Place, just upstream of the proposed Line O-10 and has a volume of 9.1 ac-ft and an approximate ROW of 1.8 ac. The debris basin consists of a 36 in RCP outlet and spillway structure.	Storage = 9.1 ac-ft Approx. ROW = 1.8 ac		502
		Line O-10	RCP	The upstream origin of Line O-10 is near the intersection of Skylark Drive and Cissna Place as a 66 in RCP. From there, the 66 in RCP extends northerly in Skylark Drive. At Grand Avenue, the 66 in RCP transitions into a 78 in RCP and extends easterly in Grand Avenue. At the geographic low between Gill Lane and Corydon Road, the 78 in RCP transitions	Diameter = 66 in	2134	502
			RCP		Diameter = 78 in	2276	532
			Rectangular channel		Width = 20 ft Depth = 10 ft	1,293	779
			Rectangular channel		Width = 14 ft Depth = 8 ft	30	779

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				into a 20 ft wide by 10 ft deep open channel. Just before the connecting to the existing Palomar Channel, the 20 ft wide by 10 ft deep transitions into a 14 ft by 8 ft deep open channel.			
		Line O-20 Debris Basin	Debris basin	Line O-20 Debris Basin is located at a point approximately 1,060 ft south of Grand Avenue on Borchard Drive, just upstream of the proposed Line O-20, and has a volume of 6.7 ac-ft and an approximate ROW of 2.1 ac.	Storage = 6.7 ac-ft Approximate ROW = 2.1 ac		356
		Line O-20	RCP	The upstream origin of Line O-20 is at a point approximately 1,060 ft south of Grand Avenue on Borchard Drive. From there, the 60 in RCP extends northerly in Borchard Drive. At Grand Avenue, the 60 in RCP transitions into a 72 in RCP, extends westerly in Grand Avenue and connects to the existing 78 in RCP in Ontario Way. The downstream terminus of the existing 78 in RCP transitions into a proposed 7 ft wide by 7 ft deep RCB. The RCB then transitions into a daylight/outlet structure with an approximate length of 300 ft, width of 50 ft, and maximum depth of 5 ft as it outlets into Lake Elsinore.	Diameter = 60 in	1,215	356
			RCP		Diameter = 72 in	592	356

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
	Existing	Corydon Channel	RCB	The construction of Corydon Channel was completed after 2006. Corydon Channel is a rectangular concrete channel with an average width of approximately 28.7 ft and depth of 12.5 ft. The upstream origin begins at Union Street as a double 14 ft wide by 8 ft deep RCB, transitions into a rectangular channel extending parallel to Union Street, transitions into a double 14 ft wide by 8 ft deep RCB and terminates at the confluence with existing Palomar Channel.	Width = 2–14 ft Depth = 8 ft	80	1,174
			Rectangular channel		Typical base width = 28.7 ft Depth = 12.5 ft	317	1,174
			RCB		Width = 2–14 ft Depth = 8 ft	101	1,174
		Palomar Channel	RCB	The construction of Palomar Channel was completed after 2006. Palomar Channel is a stone riprap-lined channel. The upstream origin begins at Corydon Street as a triple 14 ft wide by 4.2 ft deep RCB and transitions into a trapezoidal channel with base width ranging from 22 to 24 ft, top width ranging from 70 to 76 ft, depth ranging from 12 to 13 ft respectively, and sideslope of 2:1. The trapezoidal channel extends northerly along Old Coach Road. At Palomar	Triple width = 14 ft Depth = 4.2 ft	160	1036
			Trapezoidal channel		Base width = 22 ft Top width = 70 ft Depth = 12 ft Sideslope = 2:1	706	2233
					Base width =	1245	2374

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				Street, the trapezoidal channel transitions into a 2–14 ft wide by 8 ft deep RCB.	24 ft Top width = 76 ft Depth = 13 ft Sideslope = 2:1		
			RCB		Double width = 14 ft Depth = 8 ft	95	2374
		78 in RCP in Ontario Way	RCP	Upstream origin begins at Grand Avenue then extends northerly in Ontario Way towards Lake Elsinore for approximately 2,800 ft.	Diameter = 78 in	2,800	516
P	**Proposed**	Channel A	Trapezoidal channel	The upstream origin of Channel A begins at the downstream terminus of Sedco-Bryant Street Storm Drain Stage 1. From there, the 40 ft wide by 6 ft deep trapezoidal channel extends westerly along the geographic low. At Corydon Road, the trapezoidal channel transitions into a 42 ft wide by 6 ft deep RCB. The 42 ft wide by 6 ft deep RCB would replace the existing 42 ft wide by 4 ft deep RCB.	Width = 40 ft Depth = 6 ft Sideslope = 2:1	1,573	1,115
			RCB		Width = 42 ft Depth = 6 ft	60	1,115
	EXISTING	Sedco-Bryant	RCP	The construction of Bryant Street Storm Drain Stage 1 was completed in 2008. The	Diameter = 30 in	2,131	18

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
		Street Storm Drain Stage 1		Bryant Street Storm Drain Stage 1 is a 30 in RCP. The upstream origin begins near Palomar Street. The storm drain then extends southerly in Bryant Street for approximately 1,325 ft then northerly and parallel to Union Street for approximately 810 ft where it terminates at the confluence with proposed Channel A.			
		Sedco-Bryant Street Storm Drain	RCP	The construction of Bryant Street Storm Drain was completed after 2006. Bryant Street Storm Drain is a system of RCPs ranging in size from 42 in to 66 in. The upstream origin is at the existing Bryant Street Debris Basin Outlet located at the southernmost end of Sweet Nectar Road. From there, the storm drain extends northerly in Sweet Nectar Road and continues northerly in Bryant Street to Grand Avenue. The storm drain then travels northerly in Grand Avenue for approximately 1,016 ft, where it terminates.	Diameter = 42 in	1,027	245
			RCP		Diameter = 48 in	860	292
			RCP		Diameter = 54 in	677	304
			RCP		Diameter = 66 in	1,027	313
			Drainage ditch Tract 23111	The upstream origin of the paved ditch begins at the downstream terminus of Sedco-Bryant Street Storm Drain at Grand Avenue. From there, the paved	Typical base width = 4 ft Typical top width = 12 ft	2,667	Information not available

Table 3.0-2
Detailed Project Description

Proposed Lakeland Village MDP Facilities							
Watershed	*Proposed/ Existing*	*Facility Name*	*Facility Type*	*Facility Description*	*Facility Size*	*Approximate Facility Length (ft)*	*100-Year Q (cfs)*
				ditch extends northerly and parallel to Bryant Street until it confluences with the proposed Channel A and existing Sedco-Bryant Street Storm Drain Stage 1.	Typical depth = 2 ft		
		Sedco-Bryant Street Debris Basin	Debris basin	The construction of Bryant Street Debris Basin was completed after 2005. The Bryant Street Debris Basin is located upstream of the existing Bryant Street Storm Drain at the southernmost end of Sweet Nectar Road and has a volume of 1.2 ac-ft.	Storage = 1.2 ac-ft		245

Source: District 2012.

3.3 Project Objectives

A clear statement of project objectives allows for the analysis of reasonable alternatives to the Project. Reasonable alternatives, both on and off site, must be analyzed per Section 15126.6 of the CEQA Guidelines. Based on the concerns of the Project area, the following Project-specific objectives were developed for the Project:

1. Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the 100-year level.[1]
2. Provide all-weather access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way.
3. Provide a master drainage plan at the lowest construction and right-of-way acquisition cost.
4. Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events.
5. Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore.
6. Avoid or minimize the impacts to potentially sensitive areas.

3.4 Other Public Agencies Who May Use This CEQA Document or Issue Permits for Portions of the MDP Facilities

In addition to CEQA compliance, the Project is also being reviewed for the need to obtain permits and approvals under other federal, state, and local laws that may be applicable to the construction and maintenance of the MDP facilities. While these other permits and approvals are independent of the Draft PEIR, they will be coordinated as closely as possible. The following is a list of the permits potentially required for the future construction and maintenance of the MDP facilities.

U.S. Army Corps of Engineers

A Clean Water Act Section 404 permit will be required if the construction or maintenance of the MDP facilities involves the discharge or dredged or fill material within waters of the United States or adjacent wetlands.

[1] The 1% annual chance flood event.

RWQCB, Santa Ana Region

Compliance with the National Pollutant Discharge Elimination System Construction General Permit will be required for grading activities of 1 acre or larger.

If a 404 permit is required, then a Section 401 Water Quality Certification will be required.

A Waste Discharge Permit will be required if ground dewatering is necessary during tunneling activities or if waste is discharged into waters of the state.

California Department of Fish and Wildlife

A Fish and Game Code Section 1600 Streambed Alteration Agreement will be required if jurisdictional streambeds or stream banks will be altered.

California Department of Transportation

Encroachment permits for crossings of State Route 74 will be required. Water Pollution Control Plans will also be required.

County of Riverside

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

City of Lake Elsinore

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

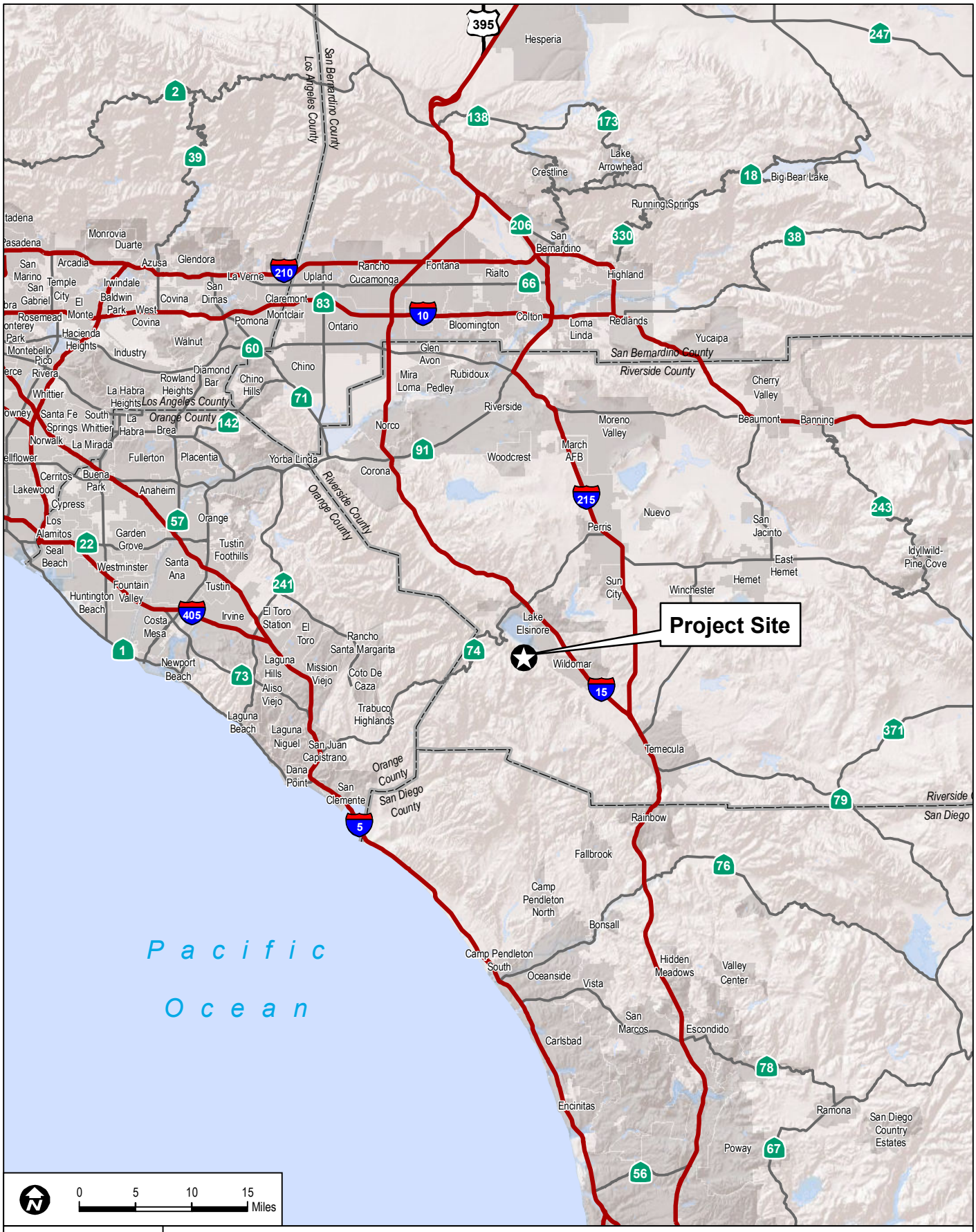
City of Wildomar

Encroachment permits will be required to construct the MDP facilities within road rights-of-way.

3.5 References

District (Riverside County Flood Control and Water Conservation District). 2012. Detailed MDP Facilities Description. August 6, 2012.

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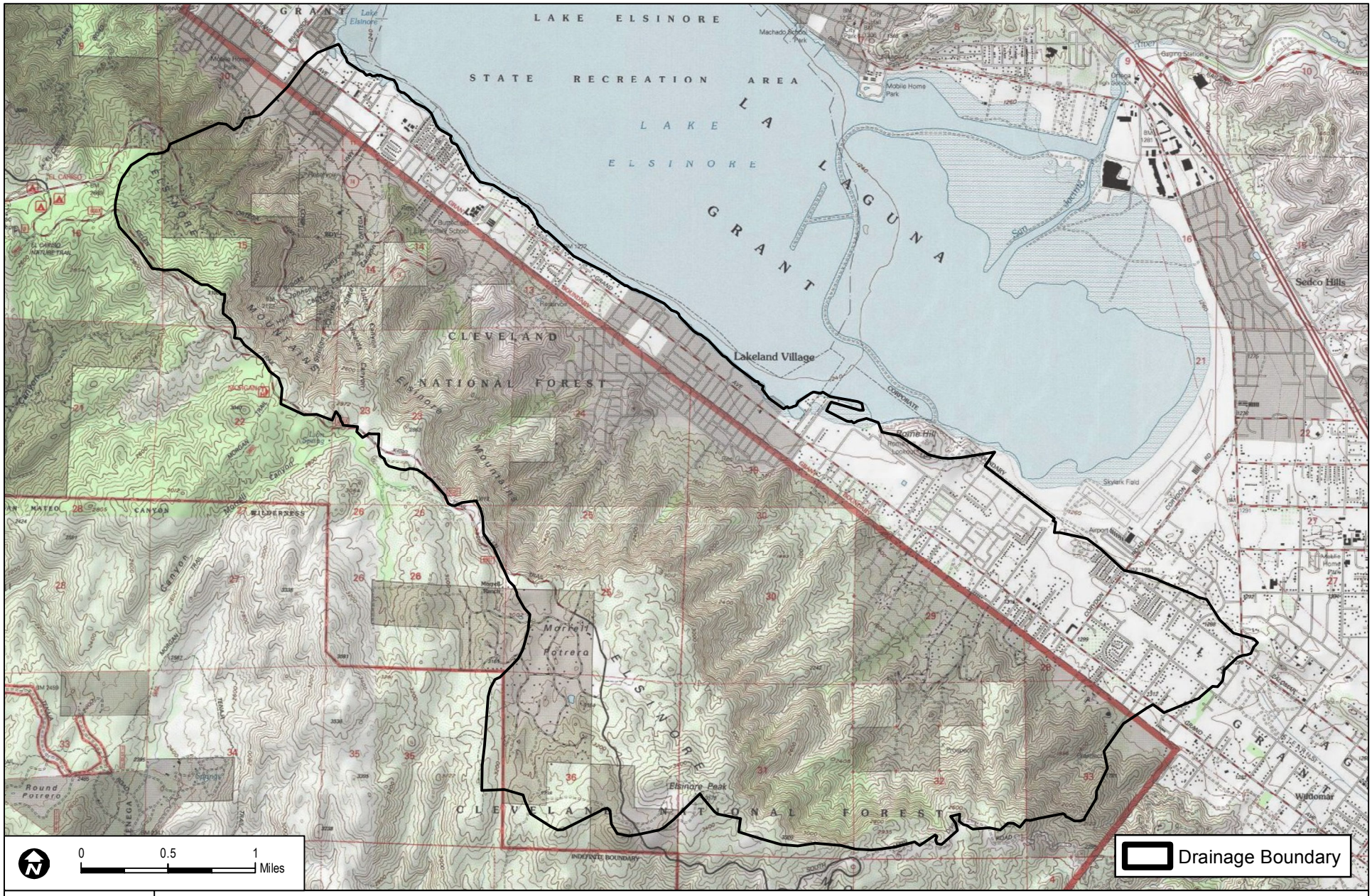
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FIGURE 3.0-1

Regional Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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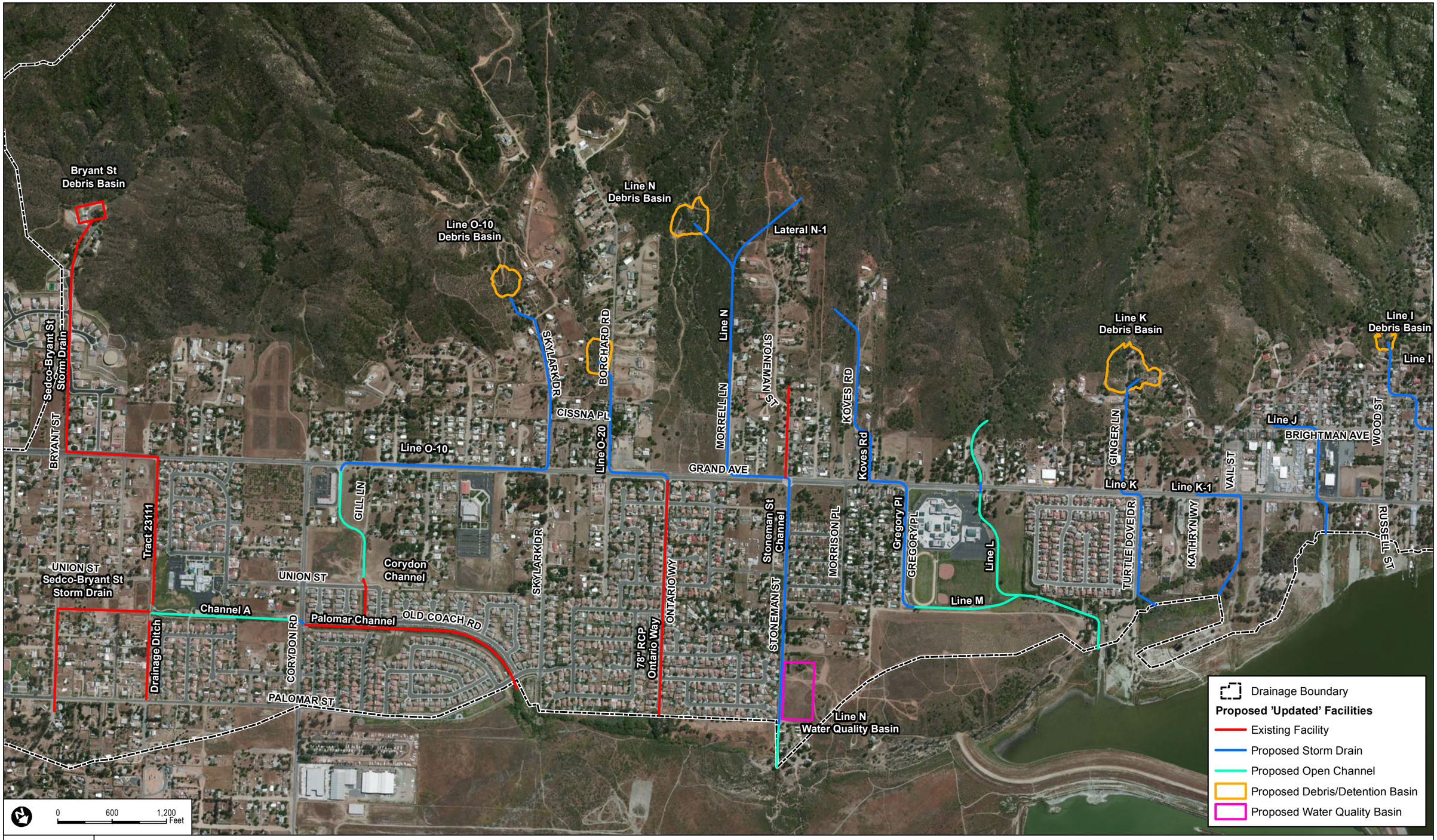
SOURCE: USGS 7.5-Minute Series Alberhill, Elsinore and Wildomar Quadrangles.

FIGURE 3.0-2

Vicinity Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 3.0-3a

Proposed MDP Facilities (Left)

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 3.0-3b

Proposed MDP Facilities (Right)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.0 ANALYSIS OF ENVIRONMENTAL ISSUES

The purpose of this Draft Program Environmental Impact Report (PEIR) is to evaluate the potential environmental effects of the proposed Project. The Riverside County Flood Control and Water Conservation District (District) circulated a Notice of Preparation (NOP) for which the public review period ended October 6, 2011. The NOP was transmitted to the State Clearinghouse, responsible agencies, and other affected agencies to solicit issues and concerns related to the Project. The NOP, Initial Study, and comment letters are contained in Appendix A of this Draft PEIR.

Sections 4.1 through 4.11 of the Draft PEIR examine the potential environmental impacts associated with implementation of the proposed Project and focus on the following issues:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Noise
- Transportation and traffic
- Utilities and service systems.

The impact analyses of these environmental issues are discussed in Sections 4.1 through 4.11 of the Draft PEIR.

Technical Studies

Technical studies in the areas of geology and soils were produced providing technical analyses that were used in this Draft PEIR. This document is identified in the discussion for the individual environmental issue, and included as technical appendix (Appendix D) attached to the Draft PEIR.

Environmental Constraints Analysis

In 2010, the District conducted an Environmental Constraints Analysis (ECA) which studied five preliminary scenarios for the Project. Five preliminary scenarios, labeled as Alternatives 1–5, in the ECA

explored the feasibility of debris removal, water quality mitigation, floodplain management and environmental avoidance. The ECA (Appendix B) was prepared to assist the District in identifying key environmental issues so that the District could refine the five preliminary scenarios into three CEQA alternatives for the environmental impact analysis as discussed in Section 8.0 of this document. Based on the ECA, engineering feasibility, and other Project objectives, the District selected the proposed Project (see Figure ES-3a and Figure ES-3b, Proposed MDP Facilities, and Tables ES-1 and ES-2).

Analysis Format

The Draft PEIR assesses how the Project would impact these issue areas. Each environmental issue addressed in this Draft PEIR is presented in terms of the following subsections:

- **Setting and Project Baseline:** Provides information describing the existing setting on or surrounding the Project boundary which may be subject to change as a result of the implementation of the Project. This setting describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse, and is considered the baseline physical condition.
- **Related Regulations:** Provides a discussion of the applicable regulations with respect to each environmental issue.
- **Comments Received in Response to the Notice of Preparation:** Identifies those parties responding to the NOP and provides a summary of their comments.
- **Significance Threshold Criteria:** Provides criteria for determining the significance of the Project impacts for each environmental issue.
- **Environmental Impacts Before Mitigation:** Provides a discussion of the characteristics of the Project that may have an effect on the environment; analyzes the nature and extent to which the Project is expected to change the existing environment, and whether or not the Project impacts meet or exceed the levels of significance thresholds.
- **Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.
- **Summary of Environmental Effects After Mitigation Measures Are Implemented:** Provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, adverse environmental impacts that are not significant, and beneficial impacts.

4.1 Aesthetics

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to a scenic vista and potential impacts to substantially degrade the existing visual character or quality of the site and its surroundings from implementation of the Project. Potential impacts from the Project on potential damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway; and creation of a new source of substantial light or glare, which would adversely affect day or nighttime views in the area, were found to be less than significant or have no impact in the IS for the Project and are therefore not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.1.1 Setting and Project Baseline

The Project is located in the City of Lake Elsinore and City of Wildomar and within the Elsinore Area Plan in unincorporated areas of Riverside County. The Project area, which encompasses approximately 13 square miles, is generally bounded by Lake Elsinore to the north, the ridgeline of the Santa Ana Mountains to the south, Bryant Street and Sheila Lane to the east, and Riverside Drive to the west (see Section 3.0, Project Description, Figure 3.0-2, Vicinity Map). Immediate views within the Project boundary include residential, commercial, agriculture, open space, vacant uses, Lake Elsinore, and the Santa Ana Mountains.

The Santa Ana Mountains are the main source of vistas/scenic resources in the Project area. Views of properties in the Lakeland Village area also can have views down towards Lake Elsinore. The hills and ridgelines that surround the Project boundary provide scenic vistas to residents from where they can experience long-distance views of natural terrain. Vista points can be found throughout the area, as viewed from both urban areas toward the lake and hills and from wilderness areas toward the urbanized areas. The existing MDP facilities are located within existing street rights-of-way and most of the MDP facilities are underground. Proposed MDP facilities include basins, some of which will be located up in the canyons of the Project boundary and could block or hinder views of the Santa Ana Mountains.

Landscaping around each of the MDP facilities is not proposed as part of the Project, but will be addressed on a project level when each improvement goes forward. As such, landscaping is not addressed in this Draft PEIR but will be addressed as needed on future project-level decisions.

4.1.2 Related Regulations

State

The California Department of Transportation (Caltrans) California Scenic Highway Program defines a State Scenic Highway as any freeway, highway, road, or other public right-of-way that traverses an area

of exceptional scenic quality. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or are currently designated. These highways are identified in Section 263 of the Streets and Highways Code.

State Route 74 (SR 74) is an eligible State Scenic Highway (Caltrans 2011) and runs from southern Mojave Desert to oak and pine forests of San Bernardino National Forest. SR 74 offers views of the San Jacinto Valley and peaks of the San Jacinto Mountains (Caltrans 2011). SR 74 traverses the westerly portion of the Project boundary. However, the Project IS found that potential impacts related to potential damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, would be less than significant; therefore, these impact issues are not discussed further in this Draft PEIR (see Appendix A).

Local

County of Riverside General Plan

The Land Use and Multipurpose Open Space Elements of the Riverside County General Plan (GP) (County of Riverside 2003a, 2003b) provide policies to address effects of prospective development on aesthetics. The following policies are applicable to the Project:

Land Use Element

LU 13.1 Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.

LU 13.3 Ensure that the design and appearance of new landscaping, structures, equipment, signs, or grading within Designated and Eligible State and County scenic highway corridors are compatible with the surrounding scenic setting or environment.

LU 13.8 Avoid the blocking of public views by solid walls.

Multipurpose Open Space Element

OS 21.1 Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County.

OS 22.5 Utilize contour grading and slope rounding to gradually transition graded road slopes into a natural configuration consistent with the topography of the areas within scenic highway corridors.

City of Wildomar General Plan

The City of Wildomar has incorporated Riverside County's GP. Therefore, the above policies related to the Riverside County GP also apply to the City of Wildomar.

City of Lake Elsinore General Plan

The land use, open space, and aesthetics section of the City of Lake Elsinore GP (City of Lake Elsinore 2011a) provides goals and policies to address the effects of prospective development on aesthetics. The following policies are applicable to the Project:

- Chapter 2.0 – Community Form (Section 2.3 – Land Use)
    - Policy 3.1 – Upon availability of appropriate funding the City shall establish hillside grading standards that address unique natural features and encourage the sensitive treatment of hillsides in the site design and architecture of new construction.
- Chapter 4.0 – Resource Protection and Preservation (Section 4.3 – Open Space)
    - Policy 3.4 – Preserve the City's visual character, in particular the surrounding hillsides, which topographically define the lake region.
- Chapter 4.0 – Resource Protection and Preservation (Section 4.8 – Aesthetics)
    - Policy 13.3 – Require grading plans for any hillside development to include specifications for revegetation and new planting to minimize hillside scarring.

City of Lake Elsinore Municipal Code – Title 17 (Zoning Code)

The City of Lake Elsinore's Zoning Code (Title 17 of the Lake Elsinore Municipal Code) regulates the character and use of property throughout the various zones in the city. In addition to the standards set forth for each district, the zoning code designates overlay zones for specific purposes. Overlay zones that affect aesthetic and visual qualities includes the Scenic Overlay Zone (Chapter 17.16), which is intended for use in areas of high scenic value to preserve and enhance these values and to assure exclusion of incompatible uses.

The purpose of this Scenic Overlay District is to implement the policies of the General Plan Environmental Resources Management Element by preserving a sense of open space and important scenic and visual resources identified by the community (City of Lake Elsinore Zoning Code, Chapter 17.16).

The Scenic Overlay District is designated as S, and indicates areas where the additional requirements, limitations, and standards contained in this section shall apply. In any "S" district, where the Scenic Overlay District applies, the City of Lake Elsinore is to implement standards for projects. The standards from the Scenic Overlay District that could apply to the Project are as follows:

D. Utilities. Where practical, all new utilities, including the linkage between main line and structures, shall be underground.

E. Grading.

1. Siting and location of roads, buildings and other structures shall be engineered to minimize grading and to retain existing landforms and characteristics in a natural state;
2. Where natural grade and cut and fill slopes meet, there shall be a gradual transition from the graded slope to the natural configuration consistent with the topography within the area.

F. Vegetation.

1. Landscape plans shall attempt to incorporate existing on-site trees and shrubbery into the landscaping scheme;
2. Landscape areas shall have irrigation facilities where necessary to maintain plant materials. The use of automatic watering systems will be considered;
3. Erosion retardant vegetation should be utilized on all cut and fill slopes. Such vegetation should be compatible with the surrounding natural vegetation;
4. Native fire-resistant plant material should be utilized along firebreak areas or near structures sited in a rural environment;
5. Tree species to be planted within a given corridor should be consistent with other tree species within the area (City of Lake Elsinore Zoning Code, Chapter 17.16).

4.1.3 Comments Received in Response to the Notice of Preparation

Comment letters related to aesthetics were received from Linda Ridenour (dated October 11, 2011) in response to the NOP. The contents of these letters are included in Appendix A.

4.1.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly, and based on the IS, the Project would have a significant impact on Aesthetics if the Project would:

- Have a substantial adverse effect on a scenic vista.
- Substantially degrade the existing visual character or quality of the site and its surroundings.

Potential impacts related to potential damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, were found to be less than significant in the IS/NOP prepared for the Project (Appendix A). Additionally, the Project would not require any lighting and therefore would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, as identified in the IS for the Project. Therefore, these impact issues are not further discussed in this Draft PEIR (see Appendix A).

4.1.5 Environmental Impacts Before Mitigation

The following analysis is programmatic, since there are no specific MDP facilities being proposed for disturbance or construction by approval of this PEIR and specific design of the MDP facilities, including the debris basins (which would have the most visual impacts of the MDP facilities), has not been completed to date. The following is an analysis of the potential visual impacts, and how future MDP facilities will be analyzed in light of what is presented below. The District will use the following analysis and mitigation measures, if applicable, in guiding their future study and analysis.

Would the Project have a substantial adverse effect on a scenic vista?

Scenic resources in the Project area include Lake Elsinore and the Santa Ana Mountains. To assess potential impacts to these scenic resources, a visual assessment, including visual simulations, was conducted.

Several of the MDP facilities have the potential to impact scenic vistas, namely the debris basins. The majority of the proposed underground storm drainages will be located within existing street rights-of-way and developed/disturbed areas and not in areas that are the focus of the scenic resources in the area (see Section 3.0, Project Description, Figure 3.0-3a and Figure 3.0-3b, Proposed MDP Facilities). The proposed debris basin embankments are expected to range in height from 10 feet to 36 feet and at these heights could impact scenic views of the Santa Ana Mountains and surrounding areas. Therefore, the following discussion is focused on the debris basins and how those may or may not affect the scenic vistas of the Santa Ana Mountains.

The visual assessment consisted of identifying accessible vantage points from which the MDP facilities would be visible. Views from the closest residential areas or the scenic highway were considered sensitive. Photographs were taken from the vantage points to document the setting and scenic features. After establishing the primary vantage points of scenic resources within the area, and individual MDP facility sites within those vantage points, a photographic inventory of each view area was completed to determine the visual resources and visual setting of each individual MDP facility area. Visual resources were identified through the potential presence of scenic features and view sensitivity. Sensitive views were identified based on public vantage points, such as public roadways, or views of basin embankments from nearby residential areas.

Based on the elevation, embankment height, visibility, proximity to residences and views from SR 74, and public concerns, it was determined that five proposed MDP facilities could potentially impact scenic vistas. Visual simulations of each of the following MDP facilities were conducted from several vantage points:

- Line A Debris Basin
- Line B Water Quality Basin
- Line B Debris Basin
- Lakeland Village Debris/Attenuation Basin
- Line I Debris Basin.

All photo locations are shown in Figure 4.1-1, Simulation Photo Key Map (Views 1–10).

Line A Debris Basin – Figures 4.1-2 and 4.1-3 (Views 1 and 2)

The Line A Debris Basin is proposed approximately 350 feet west of the intersection of Jamieson Street and Orange Street, upstream of the existing Lime Street Channel and has a volume of 9.3 acre-feet and an area footprint of 1.5 acres. The embankment height of the Line A Debris Basin is planned to be approximately 20 feet. Figures 4.1-2 and 4.1-3 (Views 1 and 2) provide simulated views of the proposed Line A Debris Basin looking southwesterly from nearby residential areas near the intersection of Mountain View Avenue and Jamieson Street (Figure 4.1-2, View 1), and at the dead end of Jamieson Street and the existing Lime Street Channel (Figure 4.1-3, View 2). As shown in Figures 4.1-2 and 4.1-3 (Views 1 and 2), the proposed basin would be located at the base of the Santa Ana Mountains in both views. As shown, some trees and bushes would be removed, and some of the view of the base of the Santa Ana Mountains may be blocked with the construction of the debris basin. But, the majority of the view of the Santa Ana Mountains would still be visible from these residential areas with the construction of the Line A Debris Basin.

Line B Water Quality Basin – Figures 4.1-4 and 4.1-5 (Views 3 and 4)

The Line B Water Quality (WQ) Basin is proposed at the southeast intersection of Serena Way and Grand Avenue and has an approximate volume of 5.0 acre-feet and an approximate area footprint of 3.2 acres. Figures 4.1-4 and 4.1-5 (Views 3 and 4) provide simulated views of the proposed Line B WQ Basin from two vantage points. Figure 4.1-4 (View 3) shows the basin looking easterly from the residence located at 33063 Macy Street and Figure 4.1-5 (View 4) shows the basin looking south from the intersection of Grand Avenue and Serena Way. As shown in Figures 4.1-4 and 4.1-5 (Views 3 and 4), the proposed Line B WQ basin would be visible from the surrounding streets and nearby residences,

but would not block views of any scenic resources, including the Santa Ana Mountains to the west and southwest, and would look very similar to the existing condition on the site.

Line B (Ortega Channel) Debris Basin – Figures 4.1-6 and 4.1-7 (Views 5 and 6)

The Line B Debris Basin is proposed at a point approximately 700 feet south of the intersection of Shoreline and Lighthouse Drive, upstream of the existing Ortega Channel, and has a volume of 15.7 acre-feet and an area footprint of 1.6 acres. The height of the embankment for the Line B Debris Basin is planned to be approximately 27 feet. Figures 4.1-6 and 4.1-7 (Views 5 and 6) provide simulated views of the proposed Line B Debris Basin from two vantage points. Figure 4.1-6 (View 5) shows the site looking southeasterly from Ortega Highway, near the back of a two-story residence. As shown in Figure 4.1-6 (View 5), the proposed debris basin would be visible from the highway and nearby residences, but would not block views of any scenic resources, including the Santa Ana Mountains. Additionally, some of the trees in front of the basin from Figure 4.1-6 (View 5) would remain, thereby screening some of the basin view. Figure 4.1-7 (View 6) shows the site looking southerly from the side of the residence located at 15101 Lighthouse Drive. As shown in Figure 4.1-7 (View 6), the proposed debris basin would be visible from nearby residences. Some trees and bushes would be removed, and some of the view of the base of the Santa Ana Mountains may be blocked with the construction of the debris basin. However, the majority of the view of the Santa Ana Mountains would still be visible from these residential areas with the construction of the basin, and the basin would blend in with the views of the surrounding mountain and terrain.

Lakeland Village Debris/Attenuation Basin – Figures 4.1-8 and 4.1-9 (Views 7 and 8)

The Lakeland Village Debris/Attenuation Basin is proposed approximately 350 feet south of the southernmost end of Blackwell Boulevard and has a volume of 97 acre-feet and an area footprint of 10.8 acres. The embankment height proposed for the Lakeland Village Debris Basin will be approximately 58 feet. As shown in Figures 4.1-8 and 4.1-9 (Views 7 and 8), the simulated views of the proposed Lakeland Village Debris/Attenuation Basin from two vantage points, the proposed debris/attenuation basin does alter the views of the surrounding hills. Figure 4.1-8 (View 7) depicts the site looking southeasterly from an open area near Bodkin Avenue and Mitchell Drive. As shown on Figure 4.1-8 (View 7), the proposed Lakeland Village Debris/Attenuation Basin would remove trees and bushes and would recontour the base of the mountain. Figure 4.1-9 (View 8) depicts the site looking southwesterly from the back of the residences off Nelson Avenue. As shown on Figure 4.1-9 (View 8), the proposed debris basin would be visible from this location as it would be 58 feet high. The vegetation on the slopes of the basin would help blend the new slopes with the surrounding terrain and is intended to make the finished condition with the basin look similar to the topography already present in this area.

Line I Debris Basin – Figures 4.1-10 and 4.1-11 (Views 9 and 10)

The Line I Debris Basin is proposed at a point approximately 265 feet south of Hayes Street and upstream of the proposed Line I facility. The debris basin has a volume of 3.0 acre-feet and an area footprint of 0.9 acre. The embankment height for the Line I Debris Basin is planned to be approximately 24 feet. Figures 4.1-10 and 4.1-11 (Views 9 and 10) provide simulated views of the proposed Line I Debris Basin from two vantage points near residential areas. Figure 4.1-10 (View 9) shows the site looking southerly from Wood Street and Figure 4.1-11 (View 10) shows the site looking southerly from Ballard Avenue. As shown in Figure 4.1-10 (View 9), the proposed debris basin is visible below the hills of the Santa Ana Mountains and to the back of the residence, but does not block views of the mountains. Figure 4.1-11 (View 10) shows that the proposed debris basin is visible below the hills of the Santa Ana Mountains and behind the residences in the photo view. The debris basin would be visible from nearby residences and would look similar to the existing terrain.

As described above, the proposed basins will alter the existing scenic conditions that residents in the immediate areas currently experience. Although most of the proposed basins and their embankments will be contoured and landscaped to blend in with the natural scenery as much as possible, they do still provide a change from the natural scenic condition that could be considered significant to some residents. Therefore, since views and vistas are subjective, and since this Project will alter some views, impacts related to view and vistas are considered **significant**.

Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

Currently, the MDP facility sites are undeveloped and either disturbed or undisturbed. Residential views near some of the basins include the Santa Ana Mountains and Lake Elsinore. During construction, exposed surfaces, construction debris, and construction equipment may temporarily affect the aesthetic quality of the immediate area. Overall, the proposed MDP open channels, debris basins on the hillsides, and water quality basins may be visible and could have a substantial adverse effect on a scenic vista. Buildout of the basins would remove some trees and bushes, along with changing the views of the hills at the bottom of the Santa Ana Mountains, which are currently viewed by residences. Views of Lake Elsinore would not be blocked with the construction of these basins as depicted on Figures 4.1-1 through 4.1-11 (Views 1–10). However, any future construction impacts will be short term and will cease upon construction completion. The construction-related aesthetic impacts would therefore be temporary and are considered to be expected in a developed area such as Lakeland Village.

When construction is complete, the underground MDP facilities will not be visible. However, open channels, debris basins located on the hillsides, and water quality basins will be visible to the public and nearby property owners. As shown in Figures 4.1-2 through 4.1-11 (Views 1-10), the proposed features

would be located on vacant disturbed or undisturbed land, and would, from most vantage points, be hidden by natural and man-made features of the natural and built environment. However, as discussed above, although the basins are being designed to be contoured and landscaped to blend into the existing surroundings as much as possible, the visual character of the surroundings will be affected by the Project. Therefore, the temporary (i.e., construction) and permanent impacts to changes in the visual character of the MDP facilities and their surroundings are considered **significant**.

4.1.6 Mitigation Measures

Impacts related to scenic vistas and visual character have been found to be significant since aesthetic values are subjective, and once built, some of the aboveground facilities such as the debris and water quality basins would change the natural scenic conditions. There are no feasible mitigation measures that could be implemented to reduce or minimize these impacts to scenic resources from the basins. The Project already includes landscaping as part of project design for the basins so that the MDP facilities blend into the surroundings as much as possible. The other MDP facilities either are aboveground or will be at grade level (i.e., the open channels), so those MDP facilities would not affect views. Given that the basins themselves are the reason for the visual impact, no mitigation is proposed, and a Statement of Overriding Considerations will be required for this impact.

4.1.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

No feasible mitigation measures can be implemented that would change the visual impacts of the basins; therefore, impacts are considered significant.

4.1.8 References

Caltrans (California Department of Transportation). 2011. "Route 74 – Scenic Highway." Accessed September 10, 2011. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.

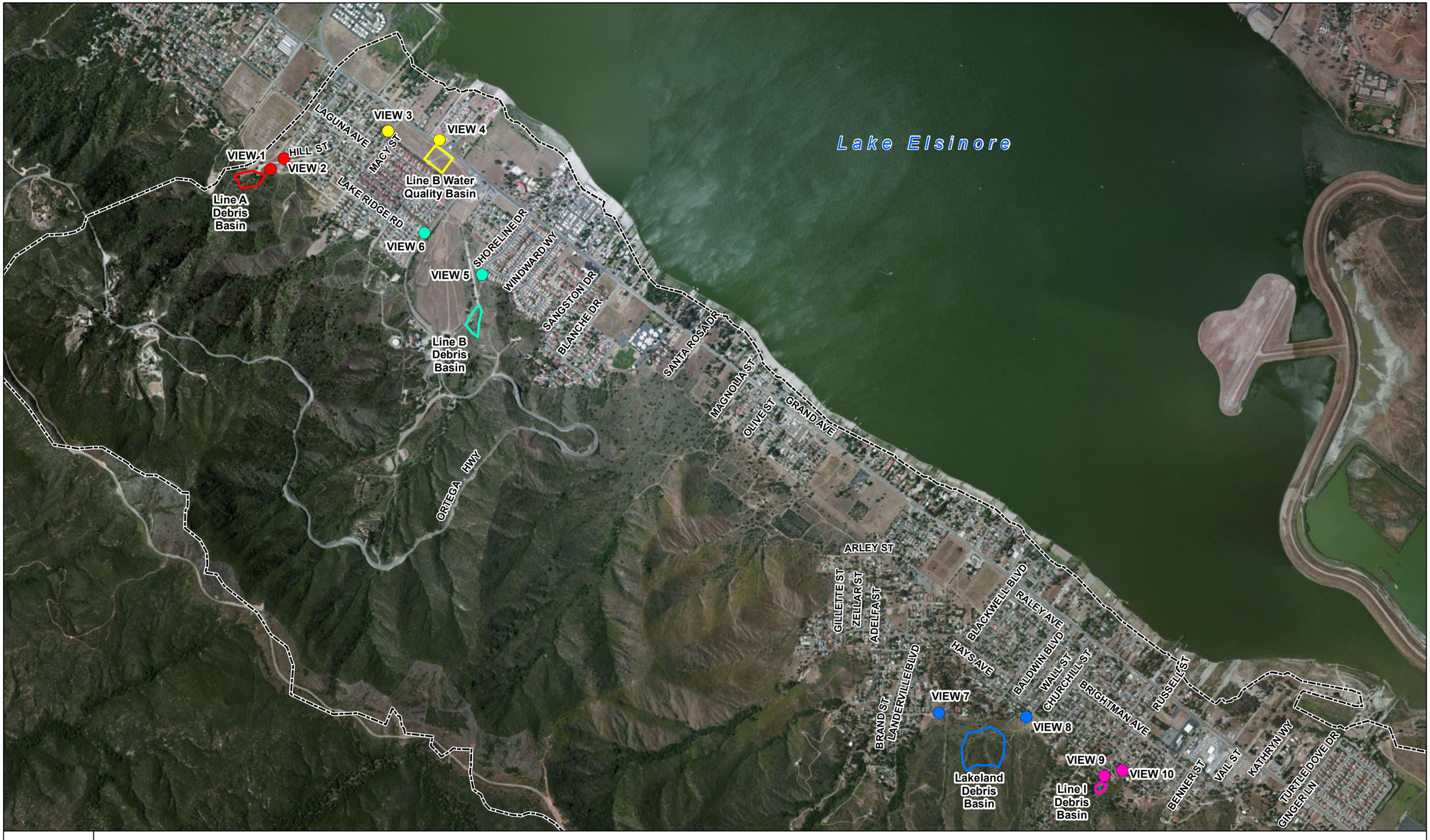
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FIGURE 4.1-1

Simulation Photo Key Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-2

View 1 - Line A Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-3

View 2 - Line A Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-4

View 3 - Line B Water Quality Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-5

View 4 - Line B Water Quality Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-6

View 5 - Line B Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-7

View 6 - Line B Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-8

View 7 - Lakeland Village Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-9

View 8 - Lakeland Village Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-10

View 9 - Line I Debris Basin

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ABOVE: Existing View

BELOW: Simulated View



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FIGURE 4.1-11

View 10 - Line I Debris Basin

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.2 Air Quality

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential to exceed air quality standards or contribute to an existing or projected air quality exceedance, potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, and potential to expose sensitive receptors to substantial pollutant concentrations. This section discusses and analyzes the Project's short-term construction impacts to air quality that would potentially occur as a result of construction of the Master Drainage Plan (MDP) facilities. Operational (long-term) impacts from the Project associated with maintenance of the MDP facilities are addressed qualitatively. Potentially significant impacts identified in the IS for the Project are evaluated for their significance based on the South Coast Air Quality Management District's (SCAQMD's) enumerated air quality thresholds.

Potential impacts from the Project on inconsistency with the applicable air quality plan and potential odors generated during construction were found to be less than significant in the IS for the Project and are therefore not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A). Mitigation measures required to reduce impacts are recommended as appropriate.

Potential Project-generated emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1, available online (http://www.caleemod.com). Model results are included in this Draft PEIR as Appendix C.

4.2.1 Setting and Project Baseline

4.2.1.1 Physical Setting

The Project area is located within the South Coast Air Basin (SCAB), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and is within the jurisdictional boundaries of the SCAQMD. Air quality within the Project boundary is not only affected by various emission sources (e.g., mobile, industry), but it is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall. The SCAB's combination of topography, low mean mixing height, abundant sunshine, and emissions from one of the largest urban areas in the United States have historically resulted in some of the worst air pollution in the nation.

Although the SCAB has a semiarid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds, there is a limited capacity to disperse air contaminants horizontally. The dominant daily wind pattern is an onshore 8–12 mile per hour (mph) daytime breeze and an offshore 3–5 mph nighttime breeze. The typical wind flow pattern fluctuates only with occasional winter storms, or strong northeasterly Santa Ana winds from the mountains and deserts

northeast of the SCAB. Summer wind flow patterns represent worst-case conditions, as this is the period of higher temperatures and more sunlight, which results in ozone (O_3) formation.

The Lakeland Village area's climate is similar to that of Lake Elsinore, which is characterized by relatively low rainfall, with warm summers and mild winters. Average temperatures range from a high of 100 degrees Fahrenheit (°F) in August to a low of 40°F in December. Annual precipitation averages about 12 inches, falling mostly from December through March (City-Data.com 2011).

During spring and early summer, air pollution produced during any one day is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to the Earth's surface. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO), particulate matter, and nitrogen dioxide (NO_2) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen (NOx) to form photochemical smog.

4.2.1.2 Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria air pollutants include the following: O_3, NO_2, CO, sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size ($PM_{2.5}$), and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed below.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors, such as hydrocarbons and NO_x. These precursors are mainly NO_x and

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency "Six Common Air Pollutants" (EPA 2013a) and the CARB "Glossary of Air Pollutant Terms" (CARB 2012) published information.

volatile organic compounds (VOCs; also referred to as reactive organic compounds or gases). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere ozone layer (stratospheric ozone) as well as at the Earth's surface in the troposphere (ozone). O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x, which is formed from fuel combustion under high temperature or pressure, play a major role, together with VOCs, in the atmospheric reactions that produce O_3.. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of hydrocarbon, or fossil, fuels. It is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the Project area, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat

and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with fine particulate matter ($PM_{2.5}$), SO_2 can injure lung tissue and reduce visibility and the level of sunlight. It can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, and windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle, as well as producing haze and reducing regional visibility.

People with influenza and chronic respiratory and cardiovascular diseases, as well as the elderly, may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers and people who cannot breathe well through their noses, as well as exercising athletes because many breathe through their mouths.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, and other old coatings; ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern. Prolonged exposure to

atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Accordingly, children are highly susceptible to the effects of lead.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emission sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Significant sources of TACs in the environment include industrial processes, such as petroleum refining, chemical manufacturing, electric utilities, metal mining/refining, and chrome plating; commercial operations, such as gasoline stations, dry cleaners, and buildings with boilers and/or emergency generators; and transportation activities, particularly diesel-powered vehicles, including trains, buses, and trucks. The California Air Resources Board (CARB) has determined that the 10 compounds that pose the greatest known health risk in California, based primarily on ambient air quality data, are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter.

4.2.1.3 Air Quality Standards and Attainment Status

South Coast Air Basin Attainment Designation

An area is designated in attainment when it is in compliance with the National Ambient Air Quality Standards (NAAQS) and/or California Ambient Air Quality Standards (CAAQS). These standards are set by the U.S. Environmental Protection Agency (EPA) or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The attainment classifications for criteria pollutants are outlined in Table 4.2-1, SCAB Attainment Classification.

Table 4.2-1
SCAB Attainment Classification

Pollutant	Averaging Time	State Designation/Classification[a]	National Designation/Classification[b]
O_3	1 hour 8 hours	Nonattainment Nonattainment	— Nonattainment (extreme)
NO_2	1 hour Annual arithmetic mean	Nonattainment	Unclassifiable/attainment
CO	1 hour 8 hours	Attainment	Attainment (maintenance)
SO_2	1 hour 24 hours Annual arithmetic mean	Attainment	Unclassifiable
PM_{10}	24 hours Annual arithmetic mean	Nonattainment	Attainment (maintenance)
$PM_{2.5}$	24 hours Annual arithmetic mean	Nonattainment	Nonattainment
Lead (Pb)	Quarter	—	Unclassifiable/attainment
	3-month average	—	Unclassifiable/attainment
	30-day average	Attainment	—
Sulfates (SO_4)	24 hours	Attainment	—
Hydrogen sulfide (H_2S)	1 hour	Unclassified	—
Vinyl chloride[c]	24 hours	Unclassified	—
Visibility-reducing particles	8 hours (10:00 a.m.–6:00 p.m.)	Unclassified	—

[a] Source is CARB 2013a.
[b] Source is EPA 2013b.
[c] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined.

Ambient Air Quality

The SCAQMD maintains ambient air quality monitoring stations throughout the SCAB. The closest ambient air quality monitoring station to the Project site is the Lake Elsinore station, located at 506 West Flint Street, which measures O_3, PM_{10}, NO_2, and CO. While the Lake Elsinore station monitors $PM_{2.5}$ for compliance with the annual CAAQS, it does not monitor for compliance with the 24-hour NAAQS using the federal monitoring method; thus, it does not provide a complete summary for this pollutant. For SO_2 and $PM_{2.5}$, values from the next closest Riverside County monitoring station, located in Rubidoux, were used in this analysis. The most recent background ambient air quality data from 2008 to 2011 are presented in Table 4.2-2, Ambient Air Quality Data. The number of days exceeding the NAAQS and CAAQS is shown in Table 4.2-3, Frequency of Air Quality Standard Violations.

Table 4.2-2
Ambient Air Quality Data (parts per million unless otherwise indicated)

Pollutant	Averaging Time	2008	2009	2010	2011	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	8-hour	0.118	0.105	0.091	0.106	0.070	Lake Elsinore
	1-hour	0.139	0.128	0.107	0.133	0.09	
PM_{10}	Annual	39.6 µg/m^3	28.0 µg/m^3	23.7 µg/m^3	24.7 µg/m^3	20 µg/m^3	Lake Elsinore
	24-hour	125.4 µg/m^3	75.2 µg/m^3	54.4 µg/m^3	99.8 µg/m^3	50 µg/m^3	
$PM_{2.5}$	Annual	n/a	17.1µg/m^3	13.9 µg/m^3	13.5 µg/m^3	12 µg/m^3	Riverside-Rubidoux
	24-hour	57.6 µg/m^3	62.0 µg/m^3	46.5 µg/m^3	60.8 µg/m^3	35 µg/m^3	
NO_2	Annual	0.013	0.013	0.010	0.010	0.030	Lake Elsinore
	1-hour	0.055	0.055	0.051	0.050	0.18	
CO	8-hour	0.84	0.73	0.67	0.67	9.0	Lake Elsinore
	1-hour[a]	1	1	1	3	20	
SO_2	Annual	0.000	0.001	0.001	0.000	0.030	Riverside-Rubidoux
	24-hour	0.003	0.003	0.005	0.001	0.040	

Source: CARB 2011.
Notes: Lake Elsinore Monitoring Station: 506 West Flint Street, Lake Elsinore;
Riverside-Rubidoux Monitoring Station: 5888 Mission Boulevard, Rubidoux.
µg/m^3 = micrograms per cubic meter; n/a = insufficient data available to determine the value.
[a] Data were taken from EPA AirData (EPA 2011).

Table 4.2-3
Frequency of Air Quality Standard Violations

Monitoring Site	Year	Number of Days Exceeding Standard					
		State 1-Hour O_3	*State 8-Hour O_3*	*National 8-Hour O_3*	*State 24-Hour PM_{10}*[a]	*National 24-Hour PM_{10}*[a]	*National 24-Hour $PM_{2.5}$*
Lake Elsinore	2008	49	91	69	n/a	0	
	2009	24	65	35	n/a	0	
	2010	15	40	24	n/a	0	
	2011	19	45	28	n/a	0	
Riverside-Rubidoux	2008						15
	2009						15
	2010						4
	2011						5

Source: CARB 2011.
Note: Exceedances of federal and state standards are only shown for ozone and particulate matter. All other criteria pollutants did not exceed either federal or state standards during the years shown.
[a] PM_{10} levels have exceeded the state ambient air quality standards; however, the number of days exceeding these standards has not been reported by CARB.
n/a = Insufficient data available to determine the value.

As Table 4.2-2 demonstrates, air quality within the project region is in compliance with both CAAQS and NAAQS for NO_2, CO, and SO_2. Federal and state 1-hour and 8-hour O_3 standards were, however, exceeded during each of the last 4 years, as shown in Table 4.2-3. The PM_{10} levels monitored at the Lake Elsinore air monitoring station exceeded the state annual and 24-hour standards during each of the 4 years reported. The $PM_{2.5}$ levels at the Riverside-Rubidoux exceeded the state annual standard in 2009, 2010, and 2011 and the federal 24-hour standard in each of the 4 years reported.

4.2.2 Related Regulations

Federal

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, which include NAAQS for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions. NAAQS are established for criteria pollutants under the Clean Air Act, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation; these NAAQS may not be exceeded more than once a year, except annual standards, which may never be exceeded. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan that demonstrates how those areas will attain the standards within mandated time frames.

State

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products. CARB has established CAAQS, which are generally more restrictive than the NAAQS, consistent with the Clean Air Act, which requires state regulations to be at least as restrictive as the federal requirements. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered in "attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The NAAQS and CAAQS are presented in Table 4.2-4, Ambient Air Quality Standards.

Table 4.2-4
Ambient Air Quality Standards

Pollutant	Average Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as primary standard
	8 hours	0.070 ppm (137 μg/m^3)	0.075 ppm (147 μg/m^3)	
CO	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
NO_2	Annual arithmetic mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	Same as primary standard
	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	
SO_2	1 hour	0.25 ppm (655 μg/m^3)	0.075 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)[f]	—
	Annual	—	0.030 ppm (for certain areas)[f]	—
PM_{10}	24 hours	50 μg/m^3	150 μg/m^3	Same as primary standard
	Annual arithmetic mean	20 μg/m^3	—	
$PM_{2.5}$	24 hours	No separate state standard	35 μg/m^3	Same as primary standard
	Annual arithmetic mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Lead[g]	30-day average	1.5 μg/m^3	—	—
	Calendar quarter	—	1.5 μg/m^3 (for certain areas)[7]	Same as primary standard
	Rolling 3-month average	—	0.15 μg/m^3	
Hydrogen sulfide	1-hour	0.03 ppm (42 μg/m^3)	—	—
Vinyl chloride[g]	24-hour	0.01 ppm (26 μg/m^3)	—	—
Sulfates	24-hour	25 μg/m^3	—	—
Visibility reducing particles	8-hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%	—	—

Source: CARB 2013b.
ppm= parts per million by volume; μg/m^3 = micrograms per cubic meter; mg/m^3= milligrams per cubic meter

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[g] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Local

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, where the Project boundary is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment.

The SCAQMD Governing Board adopted the 2003 AQMP on August 1, 2003. The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}, replaces the 1997 attainment demonstration for the federal CO standard, provides a basis for a maintenance plan for CO for the future, and updates the maintenance plan for the federal NO_2 standard that the SCAB has met since 1992. On March 10, 2009, the EPA issued a final rule partially approving and partially disapproving the 2003 AQMP. On February 2, 2011, the U.S. Court of Appeals for the Ninth Circuit ruled that the EPA's partial approval was arbitrary and capricious. The court further ruled that the EPA should have ordered California to submit a revised attainment plan for the SCAB after it disapproved the 2003 AQMP and that the EPA should have required transportation control measures. The SCAQMD Governing Board adopted the 2007 AQMP on June 1, 2007. The 2007 AQMP includes the same updates as the 2003 AQMP and incorporates significant new scientific data, primarily in the form of updated emissions

inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. As part of the 2007 AQMP, the SCAQMD requested that the EPA "bump up" the O_3 nonattainment status from severe to extreme to allow additional time for the SCAB to achieve attainment with the federal standard. The additional time would provide for implementation of state and federal measures that apply to sources over which the SCAQMD does not have control. The 2007 AQMP had been approved by CARB; however, on November 22, 2010, the EPA issued a proposed rule to approve in part and disapprove in part the portions related to attainment of the federal $PM_{2.5}$ standard. The EPA, however, approved the redesignation of the SCAB to an extreme O_3 nonattainment area, effective as of June 4, 2010. Subsequently, on December 15, 2011, the EPA released a final rule approving the air quality plan for the SCAB demonstrating attainment with the 1997 8-hour O_3 standard by June 15, 2024. Final action will become effective 60 days after publication in the Federal Register.

Emissions that would result from mobile, stationary, and area sources during construction and operation of the MDP facilities are subject to the rules and regulations of the SCAQMD. The applicable SCAQMD rules may include the following:

Rule 403 (Fugitive Dust): This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.

Rule 431.2 (Sulfur Content of Liquid Fuels): The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of SO_x and particulates during combustion and to enable the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile source applications.

4.2.3 Comments Received in Response to the Notice of Preparation

A comment letter was received from the SCAQMD dated October 3, 2011, in response to the NOP. The contents of this letter are included in Appendix A.

4.2.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly, and based on the IS, the Project would have a significant impact on air quality if the Project would:

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.

In addition, Appendix G of the CEQA Guidelines indicates that where available, the significance criteria established by the applicable AQMD or pollution control district may be relied upon to determine if the proposed project would have a significant impact on air quality. The SCAQMD CEQA Air Quality Handbook (SCAQMD 1993) set forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality; the most recent SCAQMD significance thresholds were updated in March 2011 (SCAQMD 2011). Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-5, SCAQMD Air Quality Significance Thresholds, are exceeded. Only those thresholds related to potentially significant construction impacts are identified in Table 4.2-5; long-term, operational impacts resulting from maintenance of the MDP facilities are addressed qualitatively because the Project would not result in a substantial increase in routine, daily operation and maintenance activities of District flood control facilities.

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3 (see Table 4.2-4), which is a nonattainment pollutant, if the Project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 4.2-5. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly (see discussion of O_3 and its sources above), and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 4.2-5
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds	
Pollutant	*Construction*
NO_x	100 lb/day
VOC	75 lb/day
PM_{10}	150 lb/day
$PM_{2.5}$	55 lb/day
SO_x	150 lb/day
CO	550 lb/day
Lead[a]	3 lb/day

Table 4.2-5
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds	
Pollutant	*Construction*
Ambient Air Quality for Criteria Pollutants[b]	
NO_2 1-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state)
PM_{10} 24-hour average	10.4 μg/m^3 (construction)[c]
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[c]
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)

Source: SCAQMD 2011.
lb/day = pounds per day; ppm = parts per million; μg/m^3 = micrograms per cubic meter
[a] Ambient air quality threshold based on SCAQMD Rule 403.
[b] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[c] Ambient air quality threshold based on SCAQMD Rule 403.

In addition to the above-listed emission-based thresholds, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the Project as a result of construction activities. The significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. For project sites of 5 acres or less, the SCAQMD's *Final Localized Significance Threshold Methodology* (LST Methodology; SCAQMD 2008) includes "lookup tables" that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling. The allowable emission rates depend on the following parameters:

a. Source–Receptor Area in which the project is located

b. Size of the project site

c. Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals).

The Project boundary is located in Source–Receptor Area 25 (Lake Elsinore). Construction of the MDP facilities could take place relatively close to sensitive receptors including residences and schools. Sufficient

detail is not currently available for all proposed development, as detailed design plans have not been prepared and MDP facilities are analyzed at the program level in this Draft PEIR. The values from the SCAQMD lookup tables for Source–Receptor Area 25 for a 1-acre improvement site and the closest distances of 25 meters are shown in Table 4.2-6. While the actual construction area may be larger than 1 acre, using the smaller area results in a more conservative analysis because the localized significance thresholds (LSTs) for a 1-acre site are lower. The proximity of the nearest off-site sensitive receptors to the proposed MDP facility improvements differs for each improvement; however, residences are potentially located as close as 25 meters to the proposed MDP facilities, which is also the closest distance provided in the lookup tables in the SCAQMD LST Methodology.

Table 4.2-6
Localized Significance Thresholds for Source-Receptor Area 25

Pollutant	Thresholds (pounds/day)
NO_2	162
CO	661
PM_{10}	4
$PM_{2.5}$	3

Source: SCAQMD 2008, Appendix C. Localized significance thresholds are shown for a 1-acre project site corresponding to a distance to a sensitive receptor of 25 meters.

4.2.5 Environmental Impacts Before Mitigation

Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Reasonably Foreseeable Future Construction Emissions

The vast majority of the air pollutants would be generated during the future construction phases of the Project. Construction of the MDP facilities would result in a temporary addition of pollutants to the local air basin caused by soil disturbance, dust emissions, and combustion pollutants from on-site construction equipment, as well as from personal vehicles, vendor trucks (e.g., concrete trucks), and off-site trucks hauling construction materials. 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. Fugitive dust emissions would primarily result from grading and site preparation activities. NO_x and CO emissions would primarily result from the use of construction equipment and motor vehicles.

The Project consists of multiple drainage infrastructure improvements required to alleviate and control flooding within the Project boundary. Types of improvements proposed to meet the goals of the Project include upsizing of existing facilities and construction of concrete-lined rectangular channels, storm drains, debris basins, and water quality basins. Proposed MDP facilities are listed in Section 3.0, Project Description, Table 3.0-1.

Although the Project identifies the approximate location, size, and type of necessary facilities, the alignments and type of facilities proposed would potentially change during the design process, which would take place at some time in the future. Accordingly, because this is a PEIR, construction timing and overall phasing sequence is currently unknown; however, it is anticipated that construction would occur over several years. Due to funding availability, construction could potentially occur intermittently over the next 10 to 50 years. Potential air quality impacts would depend upon the types and lengths of MDP facilities constructed and on the timing of multiple projects located in the same vicinity. By the nature of a PEIR, project components have yet to be designed; thus, construction specifics are currently unknown.

A representative project was identified to analyze potential impacts associated with implementation of future MDP facilities under the Project. The representative project was developed consistent with maximum funding that the District may have available for construction of MDP facilities to conservatively estimate potential construction-related emissions and associated impacts. This representative-project analysis assumes a construction scenario, which includes anticipated phasing, construction equipment, area disturbed during grading activities, and export of excavated material. The representative project consists of excavation; backfill and/or compaction during construction of a storm drain, concrete-lined rectangular channel, debris basin, and water quality basin; and paving construction activities. Construction scenario assumptions were based on anticipated construction of and along Line N and Lateral N-1, which includes the Line N Debris Basin and Line N Water Quality (WQ) Basin (see Table 3.0-2, Detailed Project Description). The evaluation of Line N and Lateral N-1 facilities were chosen as a representation of a typical MDP facility project, and the analysis is intended to represent a maximum scenario associated with Project construction. Therefore, while actual construction could differ from the scenario analyzed in this PEIR, the modeled analysis for Line N and Lateral N-1 facilities and estimated maximum daily emissions included herein would represent a conservative assessment of air quality impacts associated with anticipated Project construction.

Emissions from the construction of the representative project were estimated using the SCAQMD's CalEEMod, version 2011.1.1. For the purposes of modeling, it was assumed that construction of the representative project would start on April 1, 2013, and would end on December 5, 2013, lasting approximately 9 months. Although project construction may not start in spring 2013, assuming construction would occur in 2013 represents a conservative estimate of emissions, as vehicle and equipment emissions generally decrease over time. Modeled construction for Line N and Lateral N-1 facilities would consist of the following phases, which are assumed to be constructed sequentially for purposes of this analysis:

- Storm drain installation (2.1 acres)
    - Excavation – 11 weeks
    - Concrete for reinforced concrete box (RCB) installation – 3 days
    - Backfill – 11 weeks

- Paving – 2 weeks (1.82 acres)
- Concrete rectangular channel (0.64 acres)
    - Excavation – 0.5 week
    - Concrete for channel installation – 3 days
    - Backfill/compaction – 0.5 week
- Debris basin (2.9 acres)
    - Excavation – 3.5 weeks
    - Backfill/compaction – 5 weeks
- Water quality basin (3.7 acres)
    - Excavation – 2 weeks.

The Project envisions construction of 21 new storm drains, five new concrete-lined rectangular channels, nine new debris basins, and four new water quality basins, in addition to the upsizing of existing facilities. Construction would likely occur over several years and could occur intermittently over the next 10 to 50 years depending on availability of funds. Accordingly, potential air quality emissions associated with buildout of all MDP facilities in reality would not occur entirely within 1 year.

Nevertheless, a 9-month construction schedule was assumed for the modeling of the representative project of Line N and Lateral N-1 facilities. The equipment mix anticipated for Project construction activity associated with the representative project was based on the District's input and typical construction practices, and is described in Appendix C. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month). To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction in dust generation to comply with Rule 403 (Fugitive Dust).

Estimated maximum daily construction emissions are presented in Table 4.2-7. Detailed model results and additional details of the construction schedule are included in Appendix C.

Table 4.2-7
Estimated Maximum Daily Construction Emissions (2013)
(pounds/day unmitigated)

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Storm Drain Installation						
Excavation	4.5	37.81	22.71	0.04	13.95	3.12
Concrete for RCB installation	1.15	9.09	5.70	0.01	0.78	0.60
Backfill	3.18	24.95	17.22	0.03	11.18	1.43
Paving						
Paving	1.71	10.59	6.87	0.01	0.98	0.89
Concrete Rectangular Channel						
Excavation	3.45	32.74	20.02	0.04	4.30	1.60
Concrete for channel installation	1.15	9.09	5.70	0.01	0.78	0.60
Backfill/compaction	4.62	41.37	25.89	0.05	7.31	2.11
Debris Basin						
Excavation	9.63	82.64	42.15	0.08	8.65	4.86
Backfill/compaction	1.11	8.60	5.31	0.00	4.08	0.58
Water Quality Basin						
Excavation	14.44	114.65	59.06	0.13	21.50	6.19
Maximum daily emissions	**14.44**	**114.65**	**59.06**	**0.13**	**21.50**	**6.19**
Threshold	75	100	550	150	150	55
Threshold exceeded?	No	**Yes**	No	No	No	No

Source: See Appendix C for results.
Note: These estimates reflect control of fugitive dust required by Rule 403.

As shown above, daily construction emissions would not exceed the thresholds for VOCs, CO, SO_x, PM_{10}, or $PM_{2.5}$. The representative project, however, would exceed daily construction emissions thresholds for NO_x during construction of the water quality basin. As such, the representative project would result in a potentially significant impact to NO_x emissions, and it could be inferred that construction of future basins could also result in NO_x emissions above thresholds. During construction of the channel elements of Line N, Lateral N-1, and debris basin, emissions of all pollutants would be less than the significance thresholds as shown in Table 4.2-7.

Ground disturbances and equipment operation during construction activities would produce short-term PM_{10} and $PM_{2.5}$ emissions. Although such fugitive dust would be short term and would only last during the duration of grading activity, such PM_{10} and $PM_{2.5}$ emissions could be considered problematic since they could cause a public nuisance or further exacerbate the existing PM_{10} nonattainment situation in the SCAB. Implementation of the Project would generate construction-related air pollutant emissions from two general activity categories, entrained dust and vehicle emissions. Entrained dust results from the

exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Vehicle exhaust results from internal combustion engines used by construction equipment and vehicles, which results in emissions of NO_x, VOCs, CO, PM_{10}, and $PM_{2.5}$.

As shown in Table 4.2-7, the maximum construction-generated PM_{10} emissions of approximately 22 pounds per day, which would occur during the water quality basin excavation phase, would not exceed the SCAQMD's quantitative significance threshold of 150 pounds per day. $PM_{2.5}$ maximum daily emissions of approximately 6 pounds per day would also be below the threshold of 55 pounds per day.

Future construction of MDP facilities would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in the SCAQMD. The general requirement prohibits a person from causing or allowing emissions of fugitive dust from construction (or other fugitive dust sources) such that the presence of such dust remains visible in the atmosphere beyond the property line of the emissions source. Since the SCAB is in nonattainment for PM_{10} and $PM_{2.5}$, Mitigation Measure **(MM) AIR-1** would be implemented to reduce potential fugitive dust impacts on nearby sensitive receptors, as discussed in the LST analysis below. Although impacts related to anticipated PM_{10} and $PM_{2.5}$ emission levels during construction are below the threshold and considered less than significant, **MM AIR-1** would further reduce impacts and ensure less than significant impacts.

As shown in Table 4.2-7, the modeled maximum daily emissions of NO_x for the representative project of Line N and Lateral N-1 facilities would exceed the SCAQMD quantitative significance threshold of 100 pounds per day during excavation of the water quality basin only. During the water quality basin excavation phase, operation of off-road construction equipment would result in approximately 78 pounds per day of NO_x on site and haul trucks exporting excess excavated material would generate approximately 36 pounds per day of NO_x off site. **MM AIR-2** would help to reduce project-generated NO_x from construction equipment by requiring the use of lower-emitting engines (Tier 3 or better); however, potential emissions reductions cannot be quantified until equipment specifics are determined.

Representative project modeling assumed that construction of improvements (listed above in Table 4.2-7) would occur sequentially (i.e., one after another). In the event two construction phases would overlap, the combined emissions from both phases would not exceed the SCAQMD thresholds for criteria pollutants, with the exception of NO_x emissions. If the two phases that would generate the greatest amount of emissions (i.e., debris basin excavation and water quality basin excavation) were to occur simultaneously, then NO_x emissions could be as high as 197 pounds per day. Accordingly, based on the SCAQMD's quantitative significance thresholds and the maximum emissions presented in Table 4.2-7, if two construction phases were to occur concurrently, it would not result in new significant impacts that have not already been identified. Incorporation of **MM AIR-2** would reduce NO_x emissions associated with construction equipment operation; however, it is unlikely that this measure would reduce emissions below the level of significance if two construction phases involving substantial haul truck trips off site (e.g., debris

or water quality basin construction) were to occur concurrently. Accordingly, construction NO_x emissions would be **significant** if construction phases occurred concurrently, even with mitigation incorporated. Emissions of all other pollutants would remain **less than significant** in the event that two construction phases were to occur concurrently.

Operational Emissions

Once an MDP facility is constructed, it would require maintenance in order to retain flood control capacity. It is expected that the District would operate and maintain the MDP facilities. Maintenance of storm drains and concrete channels would typically consist of keeping those facilities and their side drains clear of debris and sediment, as well as repairing access roads and fences. On rare occasions, major repairs may be required following damaging storm events. Thus, major grading is not expected to routinely occur while maintaining the underground storm drains and concrete rectangular channels.

In addition to long-term maintenance activities required for the proposed storm drains and concrete channels, the routine maintenance of the concrete-lined rectangular channels and basins would likely require the removal of deposition, repair of eroded slopes, and reduction of fire hazard by annual mowing and application of herbicides. Vegetation would be removed or mowed annually, or as necessary, to provide the designed hydraulic capacity. Anticipated maintenance activities could require the temporary use of an excavator, small tractor, or loader, and operation of light-duty trucks utilized by maintenance workers. MDP facility operation and maintenance would be similar to existing conditions. As the Project does not propose a substantial change in the level of long-term maintenance activities, air quality impacts associated with operational air pollutant emissions would be **less than significant**.

Would the Project result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The portion of the SCAB where the Project area is located is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under state and federal standards. In addressing cumulative effects for air quality, the AQMP utilizes approved general plans and, therefore, is the most appropriate document to use to evaluate cumulative impacts of the Project because the AQMP evaluated air quality emissions for the entire region using a future development scenario based on general plan land use designations and set forth a comprehensive program that would lead the region, including the areas within the Project boundary, into compliance with all federal and state air quality standards. The Project is not a development project and does not conflict with the Riverside County General Plan, Lake Elsinore General Plan, or City of Wildomar General Plan.

As stated above, Riverside County is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under the NAAQS and/or CAAQS. The poor air quality in the SCAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (e.g., VOCs and NO_x for O_3) potentially contribute to poor air quality. Area growth and existing development generate both short-term (construction emissions) and long-term (operational) emissions, including vehicle emissions.

As indicated in Table 4.2-7, during construction of a representative water quality basin, the maximum construction emissions from the construction would be approximately 14 pounds per day of VOCs and 115 pounds per day of NO_x (O_3 precursors), 22 pounds per day of PM_{10}, and 6 pounds per day of $PM_{2.5}$. MDP facility operation and maintenance would not contribute to long-term cumulative vehicle emissions but would potentially contribute to cumulative construction emissions should construction of projects within the Project area and greater Riverside County occur concurrently with the proposed Project. Project-generated short-term construction impacts would be potentially significant since estimated NO_x emissions generated during excavation of the water quality basin would exceed SCAQMD significance thresholds.

Standard SCAQMD-required minimization measures, such as Rule 403, would further reduce exhaust emissions and fugitive dust generation and minimize the already less than significant construction-related PM_{10} impacts from the MDP facilities (**MM AIR-1**). NO_x and VOC emissions from construction equipment would also be reduced through implementation of SCAQMD-required minimization measures (**MM AIR-2**); however, maximum daily emissions would potentially exceed thresholds for of NO_x under the representative project scenario when all MDP facilities are built together. The majority of the NOx emissions are generated during the representative project construction by the heavy grading during the excavation phase for the water quality basin. Although **MM AIR-2**, relating to equipment-generated NO_x emissions, is required, implementation of mitigation would not fully reduce NO_x impacts associated with the construction of the entire representative project to a less than significant level compared to SCAQMD thresholds.

Construction activities of the MDP facilities and other area growth/existing development would be subject to standard SCAQMD measures that would minimize fugitive dust and PM_{10} and $PM_{2.5}$, NO_x, and VOC emissions from construction equipment, such as those included in **MM AIR-1** and **MM AIR-2**. Implementation of these measures would minimize project-specific and cumulative air quality impacts from construction; however, as the proposed representative basin projects would result in project-specific impacts related to construction-generated NO_x emissions, the Project's contribution to cumulative construction-related air quality impacts could be **potentially cumulatively considerable.**

Would the Project expose sensitive receptors to substantial pollutant concentrations?

Localized Significance Thresholds Analysis

As indicated in the discussion of the thresholds of significance, the SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts to sensitive receptors in the immediate vicinity of the project site, referred to as an LST analysis, as a result of construction activities. Sensitive receptors include but are not limited to residential land uses, schools, open space and parks, recreational facilities, hospitals, resident care facilities, daycare facilities, or other facilities that may house individuals with health conditions that would be affected by poor air quality. Sensitive receptors within the Project boundary include schools, daycare facilities, and residences. The nearest off-site sensitive receptors to the proposed MDP facility improvements differs for each improvement; however, residences are potentially located as close as 25 meters to proposed MDP facilities. To analyze a worst-case exposure scenario, it was assumed that the closest off-site existing sensitive receptors (residences) are located immediately adjacent to each of the four types of MDP facilities analyzed in the representative project.

Future construction activities associated with the Project would result in temporary sources of fugitive dust and construction vehicle emissions. There would be no long-term operation of the Project improvements that would generate local emissions that could expose sensitive receptors to substantial pollutant concentrations. Maintenance activities would be temporary, generally less intense than the initial construction activity, and similar to current maintenance activities, and would not represent a long-term source of potential local emissions that would impact sensitive receptors within the Project boundary.

The proposed debris basins would be located at higher elevations than the other proposed linear improvements and would not be located near dense residential developments, as other improvements would be. Estimated maximum on-site emissions generated during excavation of the debris basins were used for the LST analysis included herein. Modeled emissions assumed equipment would consist of an excavator, dozer, two scrapers, a tractor/loader/backhoe, and a total disturbance area of 2.9 acres. For the purposes of the LST analysis, however, it is assumed that the debris basin site would be 1 acre in area[2] and the sensitive receptors would be located within 25 meters of construction activity.

The impacts were analyzed using methods consistent with those in the SCAQMD's LST Methodology (SCAQMD 2008). The allowable emission rates for Source–Receptor Area 25 (Lake Perris) from the SCAQMD LST Methodology's lookup tables are shown in Table 4.2-8 and compared to the maximum daily on-site construction emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ during construction of the representative project debris basin.

[2] While the actual construction area may be larger than 1 acre, using the smaller area results in a more conservative analysis because the LSTs for a 1-acre site are lower.

Table 4.2-8
Debris Basin Localized Significance Thresholds Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions (pounds/day)[a]	LST Criteria (pounds/day)[b]	Exceeds LST?
NO_2	78	162	No
CO	42	661	No
Respirable Particulate Matter (PM_{10})	6	4	**Yes**
Fine Particulate Matter ($PM_{2.5}$)	5	3	**Yes**

Sources: See Appendix C for complete results; SCAQMD 2008.
Note: Construction emissions estimates rounded to nearest pound.

As shown in Table 4.2-8, construction activities associated with a typical debris basin would not generate emissions in excess of site-specific LSTs for NO_2 or CO, but construction-generated emissions would exceed LSTs for PM_{10} and $PM_{2.5}$.

An LST analysis for the water quality basin is also provided in Table 4.2-9. The modeled construction emissions for the water quality basin were based on assumptions for Line N WQ Basin located near Stoneman Street, which assumed a disturbance area of 3.7 acres and operation of equipment used during excavation of the water quality basin. Although the disturbance area is greater than 1 acre, a 1-acre area was assumed to conservatively analyze localized air quality impacts. In addition, the disturbance area of other proposed water quality basins sites could potentially be between 1 and 2 acres. For the purposes of the LST analysis, it is assumed that the sensitive receptors would be located within 25 meters of construction activity. This distance was selected because some residences are within 25 meters of the Line N facilities, and this distance is the closest distance to receptors in lookup tables in the SCAQMD LST Methodology. Thus, using 25 meters would result in a conservative analysis of localized impacts. The allowable emission rates for Source–Receptor Area 25 (Lake Perris) compared to the maximum daily on-site construction emissions during construction of the representative project water quality basin are listed in Table 4.2-9.

Table 4.2-9
Water Quality Basin Localized Significance Thresholds Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions (pounds/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	78	162	No
CO	39	661	No
Respirable Particulate Matter (PM_{10})	6	4	**Yes**
Fine Particulate Matter ($PM_{2.5}$)	5	3	**Yes**

Sources: For maximum construction emissions, see Appendix C for complete results; for LST criteria, see SCAQMD 2008.
Note: Construction emissions estimates rounded to nearest pound.

As shown in Table 4.2-9, construction activities associated with a typical water quality basin would not generate emissions in excess of site-specific LSTs for NO_2 or CO, but construction-generated emissions would exceed LSTs for PM_{10} and $PM_{2.5}$. The allowable emission rates for Source–Receptor Area 25, assuming an area of 2 acres and a 25-meter distance from sensitive receptors to the construction site, would be 7 pounds per day of PM_{10} (SCAQMD 2008). Accordingly, it is anticipated that construction of water quality basins 2 acres in area or larger would not exceed LSTs when operating the same construction equipment assumed for the Line N WQ Basin representative project.

The representative project storm drain construction was based on Line N and Lateral N-1 storm drain installation. The LST analysis assumed operation of an excavator, dozer, and a tractor/loader/backhoe, and a disturbance area of 2.1 acres. As with the LST analysis for the basins, it was assumed that sensitive receptors would be located within 25 meters of construction activity and the construction area would be 1 acre in size. Table 4.2-10 compares the allowable emission rates to the maximum daily on-site construction emissions during construction of the storm drain representative project.

Table 4.2-10
Storm Drain Localized Significance Thresholds Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions (pounds/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	33	162	No
CO	20	661	No
Respirable Particulate Matter (PM_{10})	4	4	No
Fine Particulate Matter ($PM_{2.5}$)	3	3	No

Sources: For maximum construction emissions, see Appendix C for complete results; for LST criteria, see SCAQMD 2008.
Note: Construction emissions estimates rounded to nearest pound.

As shown in Table 4.2-10, construction activities would not generate emissions in excess of site-specific LSTs during storm drain construction of the representative storm drain project. However, as the Project proposes over 21 new storm drains, some of which would be located near dense residential developments and schools, construction of storm drains could adversely affect nearby sensitive receptors.

The Project proposes five concrete-lined rectangular channels. The LST analysis for the Line N and Lateral N-1 representative project concrete rectangular channel assumes construction emissions generated during the backfill/compaction construction phase for the channel, which assumes operation of an excavator, a grader, and a tractor/loader/backhoe. Table 4.2-11 compares the allowable emission rates to the maximum daily on-site construction emissions during construction of the concrete rectangular channel representative project.

Table 4.2-11
Concrete Rectangular Channel Localized
Significance Thresholds Analysis for Construction Emissions

Pollutant	Maximum Construction Emissions (pounds/day)[a]	LST Criteria (pounds/day)[b]	Exceeds LST?
NO_2	20	162	No
CO	14	661	No
Respirable Particulate Matter (PM_{10})	1	4	No
Fine Particulate Matter ($PM_{2.5}$)	1	3	No

Sources: For maximum construction emissions, see Appendix C for complete results; for LST criteria, see SCAQMD 2008.
Note: Construction emissions estimates rounded to nearest pound.

As shown in Table 4.2-11, construction activities would not generate emissions in excess of site-specific LSTs during concrete rectangular channel construction.

As presented in Tables 4.2-8 through 4.2-11, SCAQMD LST thresholds for PM_{10} and $PM_{2.5}$ could be exceeded during construction of the water quality and debris basins, but not for the linear facilities such as the storm drains and concrete channels. There are sensitive receptors in proximity to the debris basins and water quality basins, and the above analysis shows that the debris basin and water quality basin construction could result in localized impacts related to particulate matter to sensitive receptors. However, with implementation of **MM AIR-1**, requiring that dust generated by grading and construction activities be kept to a minimum with a goal of retaining dust on the site, potential impacts to nearby sensitive receptors associated with project-generated particulate matter would be reduced or avoided. Therefore, with implementation of **MM AIR-1**, impacts related to exposure of sensitive receptors to PM_{10} and $PM_{2.5}$ levels are considered **less than significant**.

Carbon Monoxide Hotspots

Localized CO hotspots may occur when CAAQS for CO are exceeded at roadway intersections during times of peak traffic congestion. The Lake Elsinore monitoring station measures levels of CO, which are well below the state standards. The use of oxygenated fuels is a factor in low CO levels in the Riverside County region and the greater California area.

Future construction of MDP facilities would generate roadway traffic, when workers and trucks would be traveling to and from the project site, and during operation for periodic maintenance. The number of daily vehicle trips that would be generated during future construction and operation would not add a permanent increase to local traffic volumes because the Project does not propose MDP facilities that would generate a substantial number of routine vehicle trips. Thus, the Project would not contribute to traffic congestion at intersections in the Project area. As Riverside County ambient CO concentrations

are very low and the Project would not be expected to create or contribute substantially to regional ambient CO, potential impacts associated with CO hotspots would be **less than significant**.

4.2.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures that could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to reduce or eliminate impacts.

As discussed above, construction of a water quality basin would result in NO_x emissions above the SCAQMD threshold. For the construction of any water quality basin (or an activity of similar magnitude), implementation of **MM AIR-1** and **MM AIR-2** would be required in order to reduce the emissions of PM_{10} and $PM_{2.5}$ and NO_x, respectively. For all other components (i.e., channels, storm drains, debris basins) of the MDP, when they are constructed, only **MM AIR-1** shall be required.

MM AIR-1 For all MDP facilities, to minimize impacts related to particulate matter (PM_{10} and $PM_{2.5}$) generation from construction activities, consistent with SCAQMD Rule 403, the District shall ensure that fugitive dust generated by grading and construction activities will be kept to a minimum, with a goal of retaining dust on the site. The contractor shall be required to comply with the applicable provisions of SCAQMD Rule 403 and implement appropriate fugitive dust control measures that include watering, stabilized construction access to reduce tracking of mud or dirt onto public roads, covering trucks hauling loose materials off site, and street sweeping.

MM AIR-2 The following measures shall be adhered to by the District and its contractors during project grading and construction to reduce NO_x from construction equipment related to water quality basins (or an activity of similar magnitude):

a. All off-road construction equipment with engines rated at greater than 100 horsepower shall be equipped with California Air Resources Board certified Tier 3 or better engines. Records shall be maintained by the contractor and provided to the District to verify the horsepower, model year, and tier of all equipment engines.

b. The contractor shall maintain construction equipment in tune per the manufacturer's specifications and make available maintenance records to the District upon request.

4.2.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Implementation of the above mitigation measures will reduce air pollutant emissions generated during construction of the Project. Potentially significant impacts related to construction-generated NO_x emissions generated by water quality basin construction and potential localized impacts on sensitive

receptors would be reduced with implementation of **MM AIR-1** and **MM AIR-2**; however, impacts would remain significant and a Statement of Overriding Considerations would be required for the NO_x exceedance. Additionally, although construction of a representative project for the debris basins and water quality basins show that the LSTs for PM_{10} and $PM_{2.5}$ would be exceeded, with incorporation of **MM AIR-1**, impacts would be reduced to less than significant levels.

4.2.8 References

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4.3 Biological Resources

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to wildlife movement, candidate, sensitive, and special status species, riparian habitat and other sensitive natural community, jurisdictional waters, native resident and migratory fish and wildlife species, conflicts with local policies or ordinances protecting biological resources, and potential impact on the relationship of the Project to an adopted habitat conservation plan.

Dudek reviewed the existing biological resources and species within the vicinity of the Project boundary using GIS tools that provided a compilation of the California Department of Fish and Game[1] (CDFG) California Natural Diversity Data Base (CDFG 2011), the California Native Plant Society Inventory of Rare and Endangered Species Plants (CNPS 2011), U.S. Fish and Wildlife Service (USFWS) data (USFWS 2011), and the *Western Riverside County Multiple Species Habitat Conservation Plan* (MSHCP; County of Riverside 2003a). Dudek biologists conducted a reconnaissance-level general assessment of biological resources of the Master Drainage Plan (MDP) facilities on January 11, 2011 (Dudek 2011).

4.3.1 Setting and Project Baseline

The watershed within the Project boundary includes existing residential, commercial, agriculture, and open space. The Project boundary is generally located within the eastern slopes of the Santa Ana Mountains, Lake Elsinore to the north, Bryant Street and Sheila Lane to the east, and Riverside Drive to the west (see Figure 4.3-1). The watershed within the Project boundary is composed of undeveloped natural slopes and drainages descending toward Lake Elsinore.

The Project area lies within the unincorporated County of Riverside, the City of Lake Elsinore, and the City of Wildomar. The climate is semiarid Mediterranean, characterized by hot summers, mild winters, and low humidity. The annual average measured precipitation at Lake Elsinore, which is a good representation of the Project area, is 12.09 inches.

Six vegetation communities (non-native grassland, Riversidean sage scrub, Diegan sage scrub, chaparral, coast live oak woodland, and residential/urban/exotic) have been identified within the Project boundary. Table 4.3-1 outlines the vegetation communities within the Project boundary (see also Figure 4.3-2).

[1] As of January 2013, the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW). Where referring to documents/guidance published before the official name change, CDFG is used in this document; for all references after 2012, CDFW is used.

Table 4.3-1
Existing On-Site Vegetation Communities and Land Covers

Vegetation Communities and Land Covers	Associated Species	Acreage
Non-native grassland	Shortpod mustard Filaree Telegraph weed Cheeseweed Fiddleneck Dove weed	178.5
Riversidean sage scrub	California buckwheat California sagebrush Hairy yerba santa Deerweed White sage Laurel sumac Elderberry Open herbaceous layer composed of filaree, tocolate, shortpod mustard, fiddleneck, and various bromes	165.3
Diegan sage scrub	California sagebrush California buckwheat White sage Laurel sumac Deerweed Tocolate	526.0
Chaparral	Chamise Laurel sumac White sage Black sage California buckwheat Ceanothus	4,263.4
Coast live oak woodland	Coast live oak California sycamore Laurel sumac Toyon Hairy yerba santa Holly-leaved redberry Sparse herbaceous understory including California croton, filaree, and tocolate	535.5
Urban/exotic/residential	Residential lots Exotic landscape species	2,340.9

Source: Dudek 2011.

A list of plant and wildlife species observed during the reconnaissance-level site review conducted by Dudek biologists on January 11, 2011, that are located within the Project boundary is outlined in Table 4.3-2 and Table 4.3-3.

Table 4.3-2
Existing On-Site Plant Species

Plant Species	
Adenostoma fasciculatum (chamise)	*Marah macrocarpus* var. *macrocarpus* (wild-cucumber)
Alnus rhombifolia (white alder)	*Mimulus aurantiacus* (bush monkey flower)
Amsinckia menziesii (Menzies's fiddleneck)	**Nicotiana glauca* (tree tobacco)
Artemisia californica (California sagebrush)	**Olea europaea* (olive)
Artemisia douglasiana (Douglas' mugwort)	*Opuntia littoralis* (coastal prickly-pear)
Baccharis salicifolia (mulefat)	*Paeonia californica* (California peony)
**Bromus madritensis* (foxtail chess)	*Platanus racemosa* (California sycamore)
**Centaurea melitensis* (tocalote)	*Quercus agrifolia* (coast live oak)
Croton californicus (California croton)	*Quercus kelloggii* (California black oak)
Croton setigerus (doveweed)	*Rhamnus ilicifolia* (holly-leaf redberry)
Cylindropuntia ramosissima (pencil cholla)	**Rumex crispus* (curly dock)
Eriogonum fasciculatum (California buckwheat)	*Salix lasiolepis* (arroyo willow)
**Erodium cicutarium* (redstem filaree)	**Salsola tragus* (Russian thistle)
**Eucalyptus* sp. (eucalyptus)	*Sambucus nigra* (blue elderberry)
Heteromeles arbutifolia (toyon)	*Salvia apiana* (white sage)
Heterotheca grandiflora	*Salvia mellifera* (black sage)
**Hirschfeldia incana* (shortpod mustard)	**Schinus molle* (Peruvian peppertree)
Lotus scoparius var. *scoparius* (deerweed)	*Solanum xanti* (chaparral nightshade)
Malosma laurina (laurel sumac)	**Washingtonia robusta* (Mexican fan palm)
**Malva parviflora* (cheeseweed)	—

Source: Dudek 2011.

Table 4.3-3
Existing On-Site Wildlife Species

Plant Species	
Buteo jamaicensis (red-tailed hawk)	*Dendroica coronata* (yellow-rumped warbler)
Psaltriparus minimus (bushtit)	*Polioptila caerulea* (blue-gray gnatcatcher)
Ardea alba (great egret)	*Chamaea fasciata* (wrentit)
Corvus corax (common raven)	*Calypte anna* (Anna's hummingbird)
Aphelocoma californica (western scrub-jay)	*Thryomanes bewickii* (Bewick's wren)
Melozone crissalis (California towhee)	*Troglodytes aedon* (house wren)
Passerculus sandwichensis (savannah sparrow)	*Sayornis nigricans* (black phoebe)
Pipilo maculatus (spotted towhee)	*Tyrannus vociferans* (Cassin's kingbird)

Table 4.3-3
Existing On-Site Wildlife Species

Plant Species	
Zonotrichia leucophrys (white-crowned sparrow)	*Canis latrans* (coyote)
Zonotrichia atricapilla (golden-crowned sparrow)	*Odocoileus hemionus* (mule deer)
Carpodacus mexicanus (house finch)	*Lynx rufus* (bobcat)
Spinus psaltria (lesser goldfinch)	*Thomomys bottae* (Botta's pocket gopher)
Tachycineta thalassina (violet-green swallow)	*Dipodomys* sp. (kangaroo rat)
Eremophila alpestris (horned lark)	*Sylvilagus audubonii* (desert cottontail)
Toxostoma redivivum (California thrasher)	*Microtus californicus* (California vole)
Callipepla californica (California quail)	*Spermophilus beecheyi* (California ground squirrel)
Baeolophus inornatus (oak titmouse)	—

Source: Dudek 2011.

The coastal sage scrub and chaparral areas contain suitable habitat for slender-horned spineflower and Parry's spineflower, which are sensitive plants known to occur in the area. The coastal sage scrub community also supports habitat for sensitive species such as California gnatcatcher, the annual grassland community supports potential habitat for burrowing owl, and the oak woodlands and riparian communities support potential habitat for nesting raptors and riparian birds such as least Bell's vireo, yellow-breasted chat, and yellow warbler.

Relationship to the MSHCP

The Project is located within the MSHCP Plan Area (Figure 4.3-3). Specifically, some of the MDP facilities are located within Criteria Cells 5038, 5140, 5240, and 5342 (refer to Table 4.3-4). Since the District is a Permittee, as described in Section 13.4 of the MSHCP Implementation Agreement, it is obligated to be an active participant in the MSHCP implementation process. Under the MSHCP, as long as a project is determined to be consistent with the MSHCP, impacts (i.e., "take"), are granted to any of the 146 species Covered by the MSHCP that may occur within the project footprint. This means that most of the species that may occur within the Project boundary do not have to be specifically surveyed or mitigated for, as long as future proposed MDP facilities can be deemed consistent with the MSHCP.

The MDP facilities are considered a Covered Activity pursuant to Section 7.3.7 of the MSHCP. As stated in Section 7.3.7 of the MSHCP, flood control facilities (improvements and new construction) that are undertaken by a Permittee (the District and the Cities of Lake Elsinore and Wildomar are all Permittees within the MSHCP) are Covered Activities. Covered Activities are those activities that were considered when the MSHCP was being prepared. The impacts associated with these activities have already been considered in the contemplated buildout of the MSHCP Reserve. Therefore, Covered Activities are not required to set aside land to be Conserved as part of the MSHCP Reserve. Since the Project is a

Covered Activity, the proposed MDP facilities would not be required to set aside lands that would contribute to the MSHCP Conservation Area.

The MDP facilities are located within Rough Step Unit 5 and Rough Step Unit 8 of the MSHCP. Rough Step is the tracking system built into the MSHCP to track how conservation efforts keep up with approved development. Rough Step tracking only applies within the Criteria Area, and as shown on Figure 4.3-3, there is a small area of the Project that is affected by the Criteria Area, and therefore by Rough Step.

Rough Step Unit 5 encompasses 91,734 acres within the southwestern corner of western Riverside County and includes the Santa Rosa Plateau, the Tenaja Corridor, and Murrieta Creek. Rough Step Unit 5 is bounded by Interstate 15 (I-15) to the northeast, San Diego County to the south, and the Santa Ana Mountains in the Cleveland National Forest to the west. Within Rough Step Unit 5, there are 24,326 acres within the Criteria Area. Key vegetation communities within Rough Step Unit 5 include coastal sage scrub; grasslands; riparian scrub, woodland, and forest; Riversidean alluvial fan sage scrub; and woodlands and forests. In 2011, all vegetation communities were "in" Rough Step except for coastal sage scrub, which is "out" of Rough Step by 1 acre.

Rough Step Unit 8 encompasses 50,408 acres within the west-central region of western Riverside County and includes the Cities of Lake Elsinore and Canyon Lake, the Alberhill Area, San Jacinto River, Horsethief Canyon, and Temescal Wash. Rough Step Unit 8 is bounded by the Santa Ana Mountains to the west, I-215 to the east, Bundy Canyon Road to the south, and Rough Step Unit 7 to the north. Within Rough Step Unit 8, there are 22,690 acres within the Criteria Area. Key vegetation communities within Rough Step Unit 8 include coastal sage scrub; grasslands; riparian scrub, woodland, and forest; and Riversidean alluvial fan sage scrub. In 2011, all vegetation communities were "in" Rough Step except for grasslands, which is "out" of Rough Step.

No specific development of the MDP facilities is proposed at this time. Most of the facilities are located within existing rights-of-way. Future proposed MDP facilities within a Criteria Cell would need to address whether development of the MDP facility would interfere with the status of Rough Step Unit 5 or Rough Step Unit 8 at the time the specific MDP facility is being proposed.

All MDP facilities are subject to compliance with Section 6.1.2 (impacts to riparian and/or riverine resources), Section 6.1.3 (impacts to any Narrow Endemic Plant Species Survey Area (NEPSSA)), Section 6.3.2 (impacts to any Criteria Area Species Survey Area (CASSA) and/or Burrowing Owl Survey Area), and Section 6.1.4 (conflicts with the Urban/Wildlands Interface Guidelines) of the MSHCP. Suitable habitat is present within the Project boundary for the following NEPSSA species: California Orcutt grass, many-stemmed dudleya, Munz's onion, Wright's trichocoronis, and San Diego ambrosia (see Figure 4.3-4a and Figure 4.3-4b). Suitable habitat is present within the Project boundary for the following CASSA species: Davidson's saltscale, little mousetail, Parish's brittlescale, smooth tarplant, and

San Jacinto Valley crownscale (see Figure 4.3-5a and Figure 4.3-5b). The Project boundary is also located within a Burrowing Owl Survey Area (see Figure 4.3-6a and Figure 4.3-6b).

Table 4.3-4 lists which MDP facility is located within a Criteria Cell, NEPSSA area, CASSA area, and/or Burrowing Owl Survey Area. When MDP facilities within a MSHCP Criteria Cell are proposed in the future, they will be required to submit a Joint Project Review (JPR) to the Western Riverside Regional Conservation Authority (RCA) for MSHCP Consistency compliance (see Figure 4.3-3). Requirements for focused surveys to be included in a JPR submittal will be outlined in Section 4.3.6, Mitigation Measures. For all MDP facilities, regardless if they are in a Criteria Cell, the District or project proponent will be required to demonstrate MSHCP Compliance and be required to prepare a biological resources report, as outlined in Section 4.3.6, Mitigation Measures, which could include focused surveys as well.

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
A	Proposed	Line A	Line A system begins at the proposed Line A Debris Basin. The system consists of adding flood walls ranging from 0.5 to 1.5 ft in height to existing Lime Street Channel from upstream end of Line A to Laguna Avenue. Existing 42 in RCP in Hill Street will be removed and replaced with 72 in RCP.	No	No	No	No
		Line A WQ Basin	Located at the northwest corner of the intersection of Hill Street and Grand Avenue. The water quality basin would require a connection to the existing drainage system of the existing tract located at the southwest corner of the intersection of Grand Avenue and Hill Street.	No	No	No	No
	Existing	Line A (Lime Street Channel)	Upstream end of Lime Street Channel located approximately 330 ft west of the intersection of Jamieson and Orange Street, extending northeasterly to Laguna Avenue then transitioning into a 42 in RCP along Hill Street.	No	No	No	No
B	Proposed	Line B (Ortega Channel)	Line B system consists of adding 1 ft floodwalls to existing Ortega Channel Outlet, from Grand Avenue northeasterly to the Lake and a debris basin upstream of existing Ortega Channel.	No	No	No	No
		Line B WQ Basin	Located near the southwest corner of the intersection of Ortega Highway and Grand Avenue. The water quality basin would require a connection to the existing	No	No	No	No

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
			drainage system of the tract located at southwest corner of the intersection of Grand Avenue and Ortega Highway.				
B	Existing	Ortega Channel	Upstream end located approximately 650 ft south of the intersection of Shoreline and Lighthouse Drive, extending northerly towards Ortega Highway, extending approximately 550 ft along Ortega Highway, then extending northwesterly approximately 850 ft parallel to Lake Terrace Drive, then extending northeasterly parallel to Serena Way.	No	No	No	No
C	Proposed	Line C	The most upstream portion of Line C is at the intersection of Grand Avenue and Windward Way. The system heads southeast along Grand Avenue approximately 1,500 ft, junctions with line C-1, then outlets to Lake Elsinore.	No	No	No	**Yes**
		Line C-1	The upstream portion of Line C-1 is at the intersection of Grand Avenue and the entrance to Butterfield Elementary. The system heads northwest along Grand Avenue for approximately 800 ft, junctions with Line C.	No	No	No	**Yes**
D	Proposed	Line D	The RCP begins approximately 900 ft southwest of the intersection of Union and Santa Rosa Drive. The system travels northeast along Santa Rosa Drive and traverses Grand then outlets to Lake Elsinore.	No	No	No	No

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
E	Proposed	Line E	The upstream inlet begins at the future alignment of Union Avenue just south of Esther Street. RCP would head northeast under Esther street then along the property line of APN 381-280-002, 003, 006, 007, 024 to Grand Avenue then outlet to Lake Elsinore.	No	No	No	No
F	Proposed	Line F	Line F runs through the geographic low (possible location for a future street). The alignment would extend towards Grand Avenue and outlet to Lake Elsinore. A basin is proposed upstream of proposed Line F.	No	No	No	**Yes**
		Line F-1	Line F-1 inlet is located approximately 300 ft west of the intersection of Akely and Gillette Street. The alignment extends northwesterly approximately 500 ft where it junctions with Line F.	No	No	No	No
G	Proposed	Line G	Line G inlet begins at the intersection of Deeble Entrance and Grand Avenue. The system heads northwest along Grand Avenue and then extends northeasterly towards Lake Elsinore under a private driveway and outlets to the Lake.	No	No	No	No
		Line G WQ Basin	Located at the southwest corner of the intersection of Adelfa Street and Grand Avenue. The water quality basin would require a connection to the existing drainage system of the tract located at southeast corner of the intersection of Grand Avenue and Adelfa Street.	No	No	No	**Yes**

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
H	Proposed	Line H (Adelfa Channel)	Line H (Adelfa Channel) inlet begins at a vacant parcel (APN 383-06-039) and extends northwest towards Zellar Street. The alignment continues along Zellar and extends northeasterly towards Cottrell. Line H continues northeasterly along Cottrell and extends northeasterly onto Blackwell Boulevard, where the alignment continues along the street heading north towards the lake.	No	No	No	No
	Proposed	Line H-1	Line H-1 inlet begins approximately 130 ft south of the intersection of Adelfa and Cottrell. Line H-1 continues northeasterly for approximately 260 ft, northerly for approximately 300 ft, then northeasterly for approximately 200 ft and junctions with Line H at the intersection of Adelfa and Cottrell.	No	**Yes**	No	No
		Line H-2	Line H-2 inlet begins near the intersection of Anthony Avenue and Brand Street, extends approximately 320 ft along Anthony Avenue. The alignment continues northeasterly towards Cottrell to the intersection of Cottrell and Landerville where Line H-2 junctions with Line H.	No	No	No	No
		Lakeland Village Channel	Inlet begins at proposed basin outlet. Proposed open channel extends northeasterly towards the upstream end of the existing Lakeland Village Channel. Existing culverts located at Grand Avenue,	No	**Yes**	No	**Yes**

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
			Raley Avenue, Sutherland Avenue, Brightman Avenue, Mackay Avenue, Bobrick Avenue, Hays Avenue, and Nelson Avenue will be removed and replaced with proposed 12 ft W × 4 ft H RCBs. A 12 ft W × 4 ft H rectangular channel is proposed from Grand Avenue to the Lake to replace the existing 7 ft W × 4.5 ft H rectangular channel.				
	Existing	Lakeland Village Channel	From the outlet, a 7 ft W × 4.5 ft H rectangular channel extends southwesterly towards Grand Avenue. The rectangular channel transitions into a 12 ft W × 4 ft H rectangular channel and continues to extend southwesterly parallel to Baldwin Boulevard for approximately 1,850 ft.	No	No	No	No
I	Proposed	Line I	Debris basin is located upstream of proposed Line I. Line I inlet is located at approximately 250 ft south of the intersection of Hayes and Wood Street. Alignment travels northeast along Wood Street, northwest along Broomall Avenue, northeast along Downman Street, northwest along Brightman Avenue, then northeast along Lorimer Street where it junctions with Line I-1 at the intersection of Lorimer Street and Brightman Avenue. Line I continues northeast along Lorimer Street until it outlets into the lake.	No	**Yes**	No	**Yes**

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
		Line I WQ Basin	Located at the northwest corner of the intersection of Lorimer Street and Grand Avenue. The water quality basin would require a connection to the existing drainage system of the tract located at the northeast corner of the intersection of Lorimer Street and Grand Avenue.	No	**Yes**	No	**Yes**
		Line I-1	Line I-1 begins at the intersection of Baldwin and Brightman Avenue and runs along Brightman to the junction of Line I at Lorimer Street.	No	No	No	No
J	Proposed	Line J	Line J inlet is located at the intersection of Benner Street and Brightman Avenue. The line extends northeasterly towards Turner Street and then continues north along Turner to Lake Elsinore.	5038	**Yes**	**Yes**	**Yes**
K	Proposed	Line K	From the outlet, the alignment extends southwesterly for approximately 1,480 ft towards Grand Avenue, then easterly along Grand for approximately 1,260 ft then southwesterly along Ginger Lane for approximately 1,100 ft to the proposed debris basin.	5038	**Yes**	No	**Yes**
		Line K-1		5038	No	**Yes**	**Yes**
L	Proposed	Line L	From the outlet, the proposed rectangular channel extends southeasterly for approximately 400 ft and then southerly for approximately 2,000 ft to the headworks.	No	**Yes**	No	**Yes**

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
			Proposed alignment includes a 7 ft W × 7 ft H RCB culvert under Grand Avenue.				
M	Proposed	Line M	From the junction with Line L, a proposed 15 ft W × 8 ft H RCB extends easterly then transitions into a 7 ft W × 7 ft H RCB that extends southwesterly along Gregory Place towards Grand Avenue. Alignment continues southeasterly under Grand Avenue then continues southeasterly under Koves Road and then southwesterly for approximately 1,560 ft to the inlet.	No	**Yes**	No	**Yes**
N	Proposed	Line N	From the outlet, the alignment extends southwesterly towards Grand Avenue then southeasterly along Grand Avenue then southwesterly along Morrell Lane for approximately 2200 ft where Lateral N-1 junctions with Line N. The alignment continues southeasterly for approximately for 620 ft and terminates at Line N Debris Basin.	5140	**Yes**	**Yes**	**Yes**
		Lateral N-1	From Lateral N-1 inlet, the alignment extends northwesterly for approximately 1000 ft until it junctions with Line N.	No	**Yes**	No	**Yes**
O	Proposed	Line O-20	Line O-20 alignment begins at the outlet as a 50 ft W x 5 ft H rectangular channel and extends southwesterly along Ontario Way until it connects to the existing 84-in RCP on TR 24138. Line O-20 alignment continues at the upstream end of the	5140	**Yes**	**Yes**	**Yes**

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
			existing 84-in RCP and extends southeasterly along Grand Avenue towards Borchard Drive then continues along Borchard Drive until it junctions with the proposed debris basin.				
		Line O-10	Line O-10 alignment begins at the existing Corydon Channel as a 14 ft W x 8 ft H rectangular channel then extends southwesterly towards Grand Avenue where it continues westerly along Grand Avenue to Skylark Drive and continues southwesterly for approximately 920 ft to meet the proposed debris basin.	5342	**Yes**	**Yes**	**Yes**
O	Existing	Corydon Channel	Upstream end begins as a double 14 ft W x 8 ft H RCB at Union Street then extends northeasterly for approximately 490 ft and then junctions with Palomar Channel.	5240	**Yes**	**Yes**	**Yes**
		Palomar Channel	Upstream end begins as a 14 ft W x 4.2 ft H RCB at Corydon Road and extends along Old Coach Road terminating at Palomar Street.	5240	**Yes**	**Yes**	**Yes**
		Existing 84 in RCP	Upstream end begins at Grand Avenue then extends northeasterly towards Lake Elsinore for approximately 3400 ft along Ontario Way.	5140	**Yes**	**Yes**	**Yes**

Table 4.3-4
MDP Facilities Relationship to MSHCP Requirements

Watershed	Proposed/ Existing	Facility Name	Facility Description	Within Criteria Cell	Within NEPSSA	Within CASSA	Within Burrowing Owl Survey Area/ Potential Burrowing Owl Habitat
P	Proposed	Channel A	Channel A alignment begins approximately 340 northwest of Batson Lane and extends easterly approximately 1630 ft towards Corydon Road where it junctions with the existing Palomar Channel.	5342	No	**Yes**	No
	Existing	Sedco–Bryant Street Storm Drain	Upstream end begins at Palomar Street, extends southwesterly along Bryant Street and continues northwesterly approximately 1000 ft parallel to Union Street where it junctions with proposed Channel A.	5342	No	No	No
			Upstream end begins at the debris basin and extends northeasterly towards Grand and continues northwesterly along Grand for approximately 1000 ft where it junctions with the existing channel.	5342	**Yes**	No	**Yes**

Source: County of Riverside 2003.

Jurisdictional Resources

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged and/or fill materials into waters of the United States. The term "waters of the United States" is defined in the ACOE regulations at 33 CFT 328.3(a) as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:
    a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    b. From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or
    c. Which are used or could be used for industrial purpose by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.
9. Waste treatments systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

In the absence of wetlands, the limits of the ACOE jurisdiction in non-tidal waters, such as intermittent streams, extends to the ordinary high water mark, which is defined in 33 CFR 328.3(e) as "that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear,

natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider characteristics of the surrounding areas."

The term "wetlands" (a subset of "waters of the United States") is defined in Title 33 of the Code of Federal Regulations as "those areas that are inundated or saturated by surface or ground water 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)). In 1987 the ACOE published the *Corps Wetlands Delineation Manual* (Wetlands Delineation Manual), a manual to guide its field personnel in determining jurisdictional wetland boundaries. In December 2006, the ACOE issued a special public notice of availability of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement* (Arid West Supplement; ACOE 2008). Both the Wetland Delineation Manual and the Arid West Supplement were used to guide the delineation and evaluate on-site soils.

The methodology set forth in the Wetland Delineation Manual generally requires that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. A wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the *National List of Plant Species that Occur in Wetlands*, Reed, P.B., Jr. 1988, *U.S. Fish and Wildlife Service Biological Report 88(26.10)*;
- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year (ACOE 1987).

Pursuant to Division 2, Chapter 6, Sections 1600–1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." The CDFW definition of "lake" includes "natural lakes or man-made reservoirs."

CDFW jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. The CDFW Legal Advisor has prepared the following option:

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects, and riparian vegetation will be treated like natural waterways…
- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses, should be treated by [CDFW] as natural waterways…
- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions.

CDFW jurisdiction closely mirrors that of the ACOE. Exceptions include CDFW's exclusion of isolated wetlands (those not associated with a river, stream, or lake), the addition of artificial stock ponds and irrigation ditches constructed in uplands, and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetlands status.

The Project boundary contains numerous drainage and other aquatic features, including various water quality basins and debris basins, and the MDP facilities will outlet into Lake Elsinore at several locations. Based on the reconnaissance-level biological assessment of the MDP facilities, there are MDP facilities that would require a detailed jurisdictional delineation and potential permitting through the ACOE and CDFW. Once a formal jurisdictional delineation is conducted, potential impacts to waters of the United States or waters of the state could be assessed. Table 4.3-5 lists the MDP facilities that have been identified based on reconnaissance-level surveys that would require a formal jurisdictional delineation in order to assess potential impacts.

Table 4.3-5
MDP Facilities Requiring Jurisdictional Delineation

Line
Hill Street/Line A
Ortega Channel Outlet
Line D
Line F
Line F-1
Lakeland Village Channel
Proposed Open Channel associated with the Lakeland Village Channel
Line I
Line K
Line K-1
Line L

Table 4.3-5
MDP Facilities Requiring Jurisdictional Delineation

Line
Line M
Line N
Lateral N-1
Line O-20
Line O-10
Channel A
Corydon Channel
Bryant Street Storm Drain
Line N Water Quality Basin
Proposed Open Channel south of Stoneman Street
All proposed debris basins

4.3.2 Related Regulations

Federal

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) and subsequent amendments, provide for the conservation of endangered and threatened species and the habitats on which they depend. A federally endangered species is one facing extinction throughout all or a significant portion of its geographical range. A federally threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally threatened or endangered species on a site generally imposes severe constraints on development; particularly if development would result in a take of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history. The Project will avoid known occurrences of listed plants and habitat for listed wildlife species or otherwise mitigate potential impacts to these species.

Clean Water Act

The U.S. Environmental Protection Agency (EPA) regulates water quality under the Clean Water Act (CWA) (also known as the Federal Water Pollution Control Act). Enacted in 1972 and significantly amended in subsequent years, the CWA is designed to restore and maintain the chemical, physical, and biological integrity of waters in the United States. The CWA provides the legal framework for several water quality regulations, including National Pollutant Discharge Elimination System (NPDES) Permits,

effluent limitations, water quality standards, pretreatment standards, anti-degradation policy, non-point source discharge regulation, and wetlands protection.

The CWA requires NPDES permits for the discharge of pollutants to waters of the United States from any point source. In 1987, the CWA was amended to require that the EPA establish regulations for permitting of municipal and industrial stormwater discharges under the NPDES permit program. The EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by an NPDES permit. On January 29, 2010, the Santa Ana Regional Water Quality Control Board (RWQCB) issued a fourth-term area-wide NPDES MS4 Permit to the District (the principal Permittee), the County of Riverside and the cities of Beaumont, Calimesa, Canyon Lake, Corona, Hemet, Lake Elsinore, Moreno Valley, Menifee, Norco, Perris, Riverside, San Jacinto, and Wildomar (Permittees). The Santa Ana MS4 Permit is for the portion of the Santa Ana River watershed located within Riverside County (Order No. R8-2010-0033, NPDES Permit No. CAS 618033).[2] The Permittee's stormwater programs are designed to ensure compliance with this permit. Surface runoff from the project site is permitted under the municipal NPDES permit issued to the County of Riverside.

The EPA has delegated the responsibility for administration of portions of the CWA to state and regional agencies. The CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents, such as lead, suspended sediment, and fecal coliform bacteria, or they are narrative statements that represent the quality of water supporting a particular use.

Clean Water Act Section 404 Permit – ACOE

The ACOE regulates discharges of dredged or fill material into waters of the United States pursuant to Section 404 of the federal CWA. In order to obtain a Section 404 permit, applicants must demonstrate that the discharge of dredged or fill materials would not significantly degrade the nation's waters and there are no practicable alternatives less damaging to the aquatic environment. Applicants are also required to describe steps taken to minimize impacts to water bodies and wetlands and provide appropriate and practicable mitigation, such as restoring or creating wetlands, for any remaining, unavoidable impacts. Permits will not be granted for proposals that are found to be contrary to the public interest. Compliance with the Endangered Species Act and/or Section 106 of the National Historic Preservation Act may also be required before a Section 404 permit can be issued.

[2] It should be noted that Order No. R8-2010-0033 (NPDES No. CAS 618033), approved in January 2010, superseded Order No. R8-2002-0011 except for enforcement purposes and in order to meet the provisions contained in Division 7 of the California Water Code and provisions of the federal Clean Water Act.

Migratory Bird Treaty Act

According to the Migratory Bird Treaty Act (MBTA) administered by the USFWS, the removal of active nests, eggs, or nestlings is unlawful. A violation of the MBTA may occur on, but is not limited to, projects that involve clearing or grubbing of migratory bird nest habitat during the nesting season, and demolition or reconstruction where bird nests are present. This period is especially important due to the heightened presence of eggs or young that are essential to the survival of the species. Consequently, prior to initiating a project that includes potential bird habitat removal, it is generally recommended that a nesting bird survey be done if that habitat removal is proposed to be completed during the nesting season (generally February 1 to August 31).

State

California Endangered Species Act

California Fish and Game Code, Section 2050 et seq., establishes that it is the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The California Endangered Species Act (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. CESA requires state lead agencies to consult with the CDFW during the California Environmental Quality Act (CEQA) process to avoid jeopardy to threatened or endangered species. CESA prohibits any person from taking or attempting to take a species listed as endangered or threatened (Fish and Game Code, Section 2080). Section 2080 of the Fish and Game Code provides the permitting structure for CESA. The take of a state-listed endangered or threatened species or candidate species will require incidental take permits as authorized by CDFW.

The MDP facilities will be reviewed on a project-by-project basis when they are proposed in the future. Since this is a PEIR, future MDP facilities will demonstrate how the MDP facility will avoid listed plants and habitat for listed wildlife species or outline mitigation measures (refer to Section 4.3.6) that would mitigate potential impacts to these species. For future MDP facilities being proposed within a Criteria Cell, under the MSHCP, as long as the MDP facility is determined to be consistent with the MSHCP, impacts (i.e., take), are granted to any of the 146 species Covered by the MSHCP that may occur within the MDP facility footprint.

As stated above, the District is a Permittee to the MSHCP and will be required to ensure the MDP facilities comply with the MSHCP. For future MDP facilities located outside a Criteria Cell, depending on the jurisdiction, either the County of Riverside or the Cities of Lake Elsinore or Wildomar will determine whether the MDP facility is consistent with the MSHCP.

Clean Water Quality 401 Certification

Section 401 of the CWA requires that any person applying for a federal permit or license which may result in a discharge of pollutants into waters of the United States must obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations, and restrictions. No license or permit may be issued by a federal agency until certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. CWA Section 404 permits and authorizations are subject to Section 401 certification by the RWQCB. A Clean Water Quality 401 Certification may be required for the MDP facilities listed in Table 4.3-5.

Porter-Cologne Water Quality Control Act

A Waste Discharge Requirement (WDR) is necessary when a project will result in temporary or permanent impacts to water features that are not regulated under Section 404 of the federal CWA. These features are regulated by the RWQCB as "waters of the state" in accordance with the Porter-Cologne Water Quality Control Act. The RWQCB needs to evaluate the impact to the quality of waters. Specifically, "quality of waters" refers to chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water that affect its use. The application process generally includes submittal of an application form, supplemental information like a biological resources report, project site plans, and any other reports or information about the MDP facilities' impacts to waters of the state. A general WDR may be issued for projects that will result in impacts to less than 400 linear feet and 0.2 acre of state jurisdictional waters, under Water Quality Order No. 2004-0004-DWQ. The RWQCB typically includes additional water quality requirements or conditions in the WDR that would be required to be implemented. Obtaining the WDR is required prior to impacts within the waters of the state.

Streambed Alteration Agreements

The CDFW is responsible for protecting, conserving and managing wildlife, fish and plant resources in the State of California. Under the Fish and Game Code, Section 1602, an entity is required to notify CDFW of any activity that may modify a river, stream or lake. Portions of the MDP facilities have traditional streambed indicators such as a defined bed and bank and may be associated with what was once a natural drainage channel. Those MDP facilities are therefore considered under the jurisdiction of the CDFW pursuant to Section 1602 of the California Fish and Game Code. A Streambed Alteration Agreement may be required of the MDP facilities listed in Table 4.3-5. If a Streambed Alteration Agreement with CDFW is needed, then CDFW will most likely require mitigation in the form of on-site, off-site, or in-lieu fee mitigation, or combination of all.

Local

Western Riverside County MSHCP

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in Western Riverside County. This plan is one of several large, multi-jurisdictional habitat-planning efforts in Southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP will allow the County of Riverside and its cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal endangered species acts.

The MSHCP serves as a habitat conservation plan pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001 (Fish and Game Code, Section 2800 et seq.). The MSHCP allows the participating jurisdictions to authorize take of plant and wildlife species identified within the plan area. The USFWS and CDFW have authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the wildlife agencies have granted take authorization for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP conservation area, in exchange for the assembly and management of a coordinated MSHCP conservation area.

The MSHCP is a criteria-based plan and does not rely on a hardline preserve map. Instead, within the MSHCP Plan Area, the MSHCP reserve will be assembled over time from a smaller subset of the Plan Area referred to as the Criteria Area. The Criteria Area consists of Criteria Cells (Cells) or Cell Groupings, and flexible guidelines (Criteria) for the assembly of conservation within the Cells or Cell Groupings. Cells and Cell Groupings also may be included within larger units known as Cores, Linkages, or Non-Contiguous Habitat Blocks.

As stated previously, the District is a Permittee to the MSHCP and will be required to ensure the MDP facilities comply with the MSHCP.

Riverside County Oak Tree Management Guidelines

In March 1993, the County of Riverside issued an Oak Tree Management Guidelines intended to address the treatment of oak woodlands in areas where zoning and/or general plan density restrictions will allow the effective use of clustering. The guidelines are generally considered to be the most effective where minimum lot sizes of 2.5 acres or larger or where oak woodlands are concentrated in a relatively small portion of a project site. The guidelines include recommendations for oak inventories, land use designs to cluster home sites in order to reduce impacts to oaks, and mitigation measures for oak conservation.

The MDP facilities will mostly be within roads rights-of-way and the proposed water quality basins and debris basins are not anticipated to be located near oak woodlands. Should some of the MDP facilities be located near oak woodlands, the specific MDP facility shall comply with the Riverside County Oak Tree Management Guidelines.

Riverside County General Plan

The biological resources section of the Riverside County General Plan (GP) (Riverside County 2003b) provides policies to address effects of prospective development on biological resources. The following policies are applicable to the Project:

Open Space Policy 6.1: During the development review process, ensure compliance with the Clean Water Act's Section 404 in terms of wetlands mitigation policies and polices concerning fill materials in jurisdictional wetlands.

Open Space Policy 17.2: Enforce the provisions of applicable MSHCPs, if adopted, when developing transportation or infrastructure projects that have been designated as covered activities in the applicable MSHCP.

Open Space Policy 18.1: Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs, if adopted.

City of Wildomar General Plan

The City of Wildomar has incorporated Riverside County's General Plan. Therefore, the above policies related to the Riverside County General Plan also apply to the City of Wildomar.

City of Lake Elsinore General Plan

The biological resources section of the City of Lake Elsinore GP (City of Lake Elsinore, 2011) provides goals and policies to address effects of prospective development on biological resources. The following policies are applicable to the Project:

Policy 1.1: The City shall continue to participate in the Western Riverside County MSHCP, the LEAPS program, and the Implementation Agreement; with a strategy that focuses on quality assemblage of conservation acreage. The City shall work toward the lower end of the conservation acreage range as promised by the County during the adoption of the MSHCP by the City.

Policy 1.4: Encourage revegetation with native plants compatible with natural surrounding habitat where soils have been disturbed during construction, and discourage plants identified in the MSHCP as unsuitable for conservation areas.

Policy 1.8: The City shall consult with the RCA and adjacent jurisdictions to ensure proper adherence to MSHCP guidelines and to allow for a maximum level of regional interconnection of trail systems. The City shall reduce, modify or add to the regional interconnections and linkage based on new biological analysis brought forward during the CEQA and LEAP processes.

Policy 2.1: Biological resources analyses of proposed projects shall include discussion of potential impacts to any plant or wildlife species that is officially listed as threatened or endangered by the U.S. Fish and Wildlife Service and/or the CDFW but not covered by the MSHCP.

Policy 2.2: Development or modification shall be discouraged in areas containing riparian habitat of high functions and values or corridors with 80% of more of natural native habitat that link larger patches of natural native habitat containing 80% or more native plant species. Further, development in areas described for conservation, including areas planned for riparian/riverine restoration included in the MSHCP, shall also be discouraged.

4.3.3 Comments Received in Response to the Notice of Preparation

Comment letters were received from CDFG dated September 29, 2011, and from Linda Ridenour dated October 11, 2011, in response to the NOP. The contents of these letters are included in Appendix A.

4.3.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly, and based on the IS, the Project would have a significant impact on biological resources in the following if the Project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on biological resources involved within a jurisdictional water features as defined by federal, state, or local regulations (e.g., Section 404 of the Clean Water Act, Section 401 of the Clean Water Act, Section 1602 of California Fish and Game Code, Porter-Cologne Water Quality Control Act, etc.) through direct removal, filing, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.5 Environmental Impacts Before Mitigation

The following analysis is programmatic. Since there are no specific MDP facilities being proposed for disturbance or construction by approval of this PEIR, the following is an analysis of the potential known resources within the Project boundary, and how future MDP facilities will be analyzed in light of what is presented below in the future. The District, City of Lake Elsinore, and City of Wildomar will use the following analysis and mitigation measures, if applicable, in guiding their future study and analysis.

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

Special-Status Plant Species

Based on the reconnaissance level surveys conducted for the MDP facilities, areas that have suitable habitat for special status plants are located in the northeastern portions of the Project area. Approximately one-third of the Project area is within NEPSSA survey areas and approximately one-quarter of the Project area is within CASSA survey areas (refer to Figure 4.3-4a, Figure 4.3-4b, Figure 4.3-5a, and Figure 4.3-5b). Suitable habitat is present within the Project boundary for the following NEPSSA species: California Orcutt grass, many-stemmed dudleya, Munz's onion, Wright's trichocoronis, and San Diego ambrosia. Suitable habitat is present within the Project boundary for the following CASSA species: Davidson's saltscale, little mousetail, Parish's brittlescale, smooth tarplant, and San Jacinto Valley crownscale. Most of the proposed MDP facilities will be within existing road rights-of-way and construction requires a limited area of linear construction impact. However, for the MDP facilities that do fall within NEPSSA/CASSA areas (refer to Figures 4.3-4a, Figure 4.3-4b, Figure 4.3-5a, and Figure 4.3-5b; Table 4.3-4), focused surveys within suitable NEPSSA/CASSA habitat areas will be required when specific projects are proposed for construction during the appropriate flowering season. If these plants are found to occur within the construction footprint in the future, impacts to these species may be considered significant. However, with implementation of Mitigation Measure (**MM**) **BIO-1**, which

requires mitigation in the form of species preservation, creation, restoration, or relocation to occur, future impacts to sensitive special status plant species are considered to be **less than significant**.

Special-Status Wildlife Species

Based on the reconnaissance-level surveys conducted for the MDP facilities within the Project boundary, no special-status species were observed during the time of the surveys. Special-status wildlife species likely to occur within the Project boundary are listed in Table 4.3-4. Despite the fact that the Project area is located in a predominantly disturbed environment, special-status native species, primarily birds, may occur in less than optimal and/or disturbed conditions, and may forage over open areas present within the Project boundary. The MDP facilities could impact disturbed habitats potentially suitable for several species of birds (i.e., California gnatcatcher, least Bell's vireo, yellow-breasted chat, yellow warbler, and burrowing owl). However, with implementation of **MM BIO-1**, **MM BIO-2**, and **MM BIO-3**, future impacts to sensitive special -status plant species and bird species are considered to be **less than significant with mitigation incorporated.**

In order to be consistent with the MSHCP, the proposed Project will need to ensure it does not adversely impact riparian and/or riverine resources (Section 6.1.2 of the MSHCP) without adequate mitigation, does not impact any special-survey species (Section 6.1.3 and 6.3.2 of the MSHCP) without mitigation, and does not conflict with the Urban/Wildlands Interface Guidelines (Section 6.1.4 of the MSHCP). The Project area does contain suitable habitat for riparian bird species that pursuant to Section 6.1.2 of the MSHCP would require focused bird surveys when specific facilities are proposed. Based on conditions during initial habitat assessments conducted in 2010, those MDP facilities that contain suitable habitat for riparian birds that would need to have focused surveys include Palomar Channel, Line C-1, and the existing facility along Ortega Channel, which is adjacent to existing riparian habitat.

The Project area also contains trees, shrubs, ground cover, and structures that provide suitable habitat for nesting migratory birds. Most of the nine debris basins proposed in the Project are located within sage scrub communities which might be suitable for California gnatcatcher. Suitable Riversidean sage scrub habitat for California gnatcatcher is found within a small portion of the proposed storm drain and open channel located along Line D, Line F-1, Stoneman Street, Lakeland Village, Ortega Basin, and Line A. Most of the debris basins and some water quality basins contain suitable habitat for nesting raptors or burrowing owls. Suitable raptor nesting is located along Shadow Trails Lane and Bryant Street Storm Drain. Oak woodlands along Line K, Line K-1, along Lateral N-1, Ginger Lane, Line A, and Norrell Lane provide additional habitat for raptor nesting. Riparian habitat and existing drainages along Line L and below Ontario Way also provide suitable nesting habitat for raptors.

Portions of the Project area are within the Burrowing Owl Survey Area of the MSHCP (see Figure 4.3-6a and Figure 4.3-6b; Table 4.3-4). Most proposed water quality basins and some proposed debris basins are located within annual grasslands that contain suitable habitat for burrowing owl. Future habitat

assessments and focused surveys (if suitable habitat/burrows are present) shall be required for MDP facilities located within the MSHCP Burrowing Owl Survey Area per **MM BIO-1** and **MM BIO-3**. Construction activities could adversely impact burrowing owls if active nests are located near the proposed MDP facilities at the time of construction. Construction noise and activity may disrupt normal breeding and nesting patterns or activities of these species. Implementation of **MM BIO-1** and **MM BIO-3** would reduce impacts to burrowing owls to **less than significant.**

Habitat assessments conducted in 2010 indicated that suitable burrowing owl habitat was located at the following facilities: Line F-1, Line G, Lakeland Village Channel, Line L, Line N, Palomar Channel, and Channel A.

At the time any of these MDP facilities identified as having suitable habitat to be designed, the District, City of Lake Elsinore, or City of Wildomar shall have a qualified biologist conduct a habitat assessment and focused surveys if needed for burrowing owls in order to comply with Section 6.3.2 of the MSHCP. For any facility not listed above or in Table 4.3-4 as having suitable burrowing owl habitat, a habitat assessment shall be completed in order to determine that conditions of the site have not changed from when this document and analysis was compiled. However, given the developed nature of the majority of the Project area, it is not expected that MDP facilities not already identified would become suitable burrowing owl habitat in the future. Nevertheless, **MM BIO-1** reflects the requirement for suitable habitat to be assessed in the future. Additionally, **MM BIO-3** requires pre-construction surveys for burrowing owls, pursuant to Species Objective 6 of the MSHCP.

In addition to **MM BIO-1**, existing regulations are also designed to protect and limit impacts to birds. For example, the MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). In addition, Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. This regulation, along with mitigation measures **MM BIO-1** and **MM BIO-2**, will reduce impacts to sensitive or special-status species to **less than significant.**

If any vegetation or structures are to be removed during the nesting season (February 1 to August 31), facility-specific nesting bird surveys shall be conducted first to determine the presence/absence of active nests. If active nests are identified, appropriate avoidance buffers should be established (see **MM BIO-2**). Implementation of **MM BIO-2** is required to reduce potential impacts to sensitive and protected bird species to **less than significant levels**.

MM BIO-1 through **MM BIO-3** shall be implemented to ensure surveys are conducted during the appropriate season when specific MDP facilities are proposed for design and construction, and to ensure that MSHCP compliance for Section 6.3.2 is attained for future Project implementation. Incorporation of these mitigation measures ensures that when future MDP facilities are proposed, potential impacts to

biological resources through compliance with Section 6.3.2 of the MSHCP will be addressed and impacts are considered **less than significant with mitigation incorporated**.

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

Riparian habitat is present within the Project boundary, and is identified with special conditions in the Riparian and Riverine Policy Section 6.1.2 of the MSHCP. This section of the MSHCP requires identification of riparian/riverine habitats and avoidance of these habitats, where possible. If avoidance is not possible of riparian vegetation, then a mitigation plan which typically includes restoration, creation or enhancement either on or off site is provided. Future MDP facilities will be required to comply with Section 6.1.2 of the MSHCP and provide mitigation as appropriate as described in **MM BIO-4**. Based on the reconnaissance level biological assessment conducted on the Project site, there is riparian habitat located within the Project boundary (refer to Figure 4.3-7a and Figure 4.3-7b).

There is approximately 9.8 acres of riparian habitat within the Project boundary (Figure 4.3-7a and Figure 4.3-7b). Specifically, the existing facility at Palomar Channel is within riparian habitat; the proposed MDP facility Line C-1 is a storm drain adjacent to riparian habitat and the existing facility along Ortega Channel is adjacent to existing riparian habitat. Given the proximity to riparian habitats and the riparian/riverine areas along lakeshore, and that riparian vegetation can grow up quickly over the years, by the time some of the MDP facilities are built, there may be riparian vegetation in areas that do not support it at this time. In order to address this future potential for a changed condition, as mentioned above, the District, City of Lake Elsinore, or City of Wildomar will need to assess each MDP facility's final alignments for impacts to riparian and/or riverine habitats. A habitat assessment shall be conducted once final alignments are known and those results shall be compared to the analysis conducted herein. If the Project area does not support riparian vegetation which is consistent with the determination herein, no further surveys are needed. For the MDP facilities above that do have the potential for impacts to riparian vegetation, the MSHCP compliance analysis needs to include an assessment of impacts and include focused riparian bird surveys if warranted pursuant to Section 6.1.2 requirements.

If the MDP facilities mentioned above cannot avoid riparian/riverine habitat during the construction, the MDP facility would be required per Section 6.1.2 of the MSHCP to prepare a Determination of Biologically Equivalent or Superior Preservation (DBESP) (i.e., mitigation plan) including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options, to offset the loss of functions and values as they pertain to the MSHCP covered species.

The majority of the MDP facility alignments do not support riparian habitat areas; however, since the alignments or features currently convey water to downstream resources in the MSHCP Conservation Area, the Project area would be considered to support riverine resources as defined in the MSHCP. Per Section 6.1.2 of the MSHCP, water flowing to downstream resources should not be altered in quantity or quality in such a way that would affect downstream resources. Since the proposed Project is to construct flood conveyance facilities in locations that currently convey water during storm events, the Project would improve the water quality being discharged during storm events by containing the erosive conditions, and allowing the majority of the stormwater to be cleaned in the proposed water quality basins prior to discharge to Lake Elsinore. The water that is currently being conveyed to Lake Elsinore during storm events will not be cut off or prevented from entering Lake Elsinore. Instead, the Project will ensure erosion, siltation and urban pollution is curtailed and improved over current conditions. Therefore, since the Project will not limit or negatively change the quality of water that is currently being conveyed through the Project area and into Lake Elsinore, there are no impacts to riverine habitats and it is not expected that mitigation or DBESPs would be needed to address riverine impacts alone. Dewatering of riparian areas can be caused by direct or indirect impacts. The MDP facilities do not anticipate any de-watering of any potential riparian areas because it will not alter the velocity, volume, or seasonal flow of the Lake Elsinore 100-year floodplain and its tributaries. The area within the Project boundary is mostly developed and construction of future MDP facilities are not expected to result in substantial changes to the existing local hydrology. The riparian areas identified near Palomar Channel, Line C-1, and the existing facility along Ortega Channel outlet receive rain fall or sheet flow which supports these areas would continue to receive direct rain fall and sheet flow during small storm events. It would be during the larger storm events that stormwater would be collected and conveyed through the MDP facilities. Additionally, the riparian areas that are existing are isolated patches and are not connected to any larger conservation area. Impacts to riparian habitat will be addressed and mitigated through compliance with Section 6.1.2 of the MSHCP (**MM BIO-4**) as well as through regulatory permitting requirements from ACOE, RWQCB, and CDFW (**MM BIO-5**).

Compliance with mitigation measures **MM BIO-4** and **MM BIO-5**, and Section 6.1.2 of the MSHCP reduces potential impacts to riparian habitats and associated species from the Project to **less than significant** levels.

Would the Project have a substantial adverse effect on biological resources involved within a jurisdictional water features as defined by federal, state, or local regulations (e.g., Section 404 of the Clean Water Act, Section 401 of the Clean Water Act, Section 1602 of California Fish and Game Code, Porter-Cologne Water Quality Control Act, etc.) through direct removal, filing, hydrological interruption, or other means?

On January 11, 2011, Dudek evaluated the MDP facilities for the potential to support jurisdictional waters under the federal Clean Water Act, California Fish and Game Code, and Porter-Cologne Water

Quality Act. MDP facilities with potentially jurisdictional features are listed in Table 4.3-5. Since the Project is a long-term plan that will not be built out for several years, it is not reasonable to obtain regulatory permits for any impacts to jurisdictional features at this point in time. Instead, the analysis herein will identify the MDP facilities that based on the reconnaissance level analysis conducted to date, indicate that permits may be required in the future.

In addition to the altering and fill that may occur with Project implementation to jurisdictional features, there will also be impacts associated with the transition of currently unlined ditches and open areas conveying stormwater to lined, concrete facilities which do not allow any infiltration or natural conditions to occur in the drainage systems. These impacts will be evaluated on a case by case basis, depending on the resources and conditions present when the specific MDP facility is proposed for permitting. Mitigation for this loss will be coordinated with the regulatory agencies and could include off-site mitigation, conservation or restoration/creation.

Once the District, City of Lake Elsinore, or City of Wildomar is ready to start preparing design drawings of a specific MDP facility, specific jurisdictional delineations will need to be conducted by a qualified biologist on the MDP facilities listed in Table 4.3-5, to determine whether features would be subject to the jurisdictions of the ACOE, RWQCB, and CDFW (see **MM BIO-5**). If regulatory permits are needed for an MDP facility, mitigation may be required as determined by the various regulatory agencies. Typical mitigation for the type of MDP facilities proposed would most likely include a combination of the following: creation of riparian or wetland habitat either within MDP facilities themselves, or off-site, restoration of riparian or wetland habitat, enhancement of habitat, and/or payment of in lieu fees to an established mitigation bank. With implementation of **MM BIO-5**, potential impacts to federally protected wetlands are reduced to **less than significant** levels.

Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

There are no established migratory corridors or nursery sites within the Project boundary. The Project area is within the MSHCP Plan Area which overall consists of proposed and existing cores connected by linkages within Western Riverside County. The Project area coincides with Existing Core B, Existing Core E, and Proposed Extension of Existing Core 3. Existing Core B is composed of the Cleveland National Forest, which lines the western border of the MSHCP Plan Area. Within the MSHCP Plan Area Existing Core B consists of two large and two small blocks of Public/Quasi-Public Lands, mainly owned by the U.S. Forest Service, which are considered part of the MSHCP Conservation Area.

Existing Core B is connected to Existing Core A (Prado Basin/Santa Ana River) in the north via two Constrained Linkages (Proposed Constrained Linkage 1 and Proposed Constrained Linkage 2), in the center by Proposed Linkage 1 to the Lake Mathews/Estelle Mountain area, and in the south to the

Tenaja Corridor (Proposed Linkage 9). Existing Core B represents the second largest habitat block in the Plan Area and is located only 1.6 miles from the nearest connected Core. Studies of mountain lion movement within Existing Core B indicated that this Core provides both Live-In and Linkage Habitat for this mammal, which requires very large blocks of intact Habitat. Existing Core B likely provides linkage area for other mammals such as mountain lion and bobcat in addition to the Cooper's hawk, southern California rufous-crowned sparrow, Bell's sage sparrow, golden eagle, turkey vulture, yellow warbler, mountain quail, downy woodpecker, purple martin, California spotted owl, tree swallow, mountain lion, Palmer's grapplinghook, prostrate spine flower, graceful tarplant, and small-flowered microseris. Management entities in this existing Core include the U.S. Forest Service.

Existing Core E consists of Lake Elsinore, located in the west-central region of the MSHCP Plan Area. Existing Core E is connected to other MSHCP conserved lands via Proposed Extension of Existing Core 3 (Lake Elsinore Soils). This Core provides Live-In Habitat for Cooper's hawk, tricolored blackbird, southern California rufous-crowned sparrow, burrowing owl, American bittern, ferruginous hawk, Swainson's hawk, mountain plover, northern harrier, yellow warbler, white-tailed kite, California horned lark, peregrine falcon, bald eagle, yellow-breasted chat, loggerhead shrike, black-crowned night heron, mountain quail, osprey, double-crested cormorant, white-faced ibis, purple martin, tree swallow, least Bell's vireo, San Jacinto Valley crownscale, prostrate spineflower, Palmer's grapplinghook, and Engelmann oak, and likely provides for movement of common mammals such as bobcat. Urban Development partially constrains Existing Core E; however some natural lands remain along the border of the Core. Since this is an existing Core with no new Reserve Assembly anticipated, treatment and management of edge conditions along Existing Core E will be necessary to ensure that it provides Habitat and movement functions for species using the Core.

Proposed Extension of Existing Core 3 (Lake Elsinore Soils) consists of two blocks of land extending from the southern border of Existing Core E (Lake Elsinore). The northern portion of the proposed extension is also connected to Proposed Linkage 8. Proposed Extension of Existing Core 3 conserves soils of the Traver series, which is important to the maintenance of several species of Narrow Endemic Plants. The northern portion of the extension also provides for movement of species along the lower San Jacinto River to Proposed Linkage 8. Together with Existing Core E, Proposed Extension of Existing Core 3 provides Habitat for shorebird use. Since surrounding land uses include city (Lake Elsinore) and community Development, management of edge conditions in this area will be necessary to maintain high quality Habitat in this area.

There are no specific MSHCP linkages that have been identified for the Project area. The Cores listed above are not intended to link through the Project area to other conservation areas. Many of the MDP facilities lie within road rights-of-way and/or are within developed areas. Thus, it is not anticipated that the construction and maintenance of future MDP facilities would impede the movement of any native resident or migratory fish or wildlife species within the reserve features of the MSHCP outlined above. Future MDP facilities that lie within MSHCP Criteria Cells will consider any ways the MDP facility can avoid species impacts or outline mitigation measures for any applicable species/habitat impacts.

Therefore, since there are no specific wildlife movement corridors within the Project boundary that would be affected by the MDP facilities because they are located in developed areas, impacts to wildlife movement are considered **less than significant** without mitigation incorporated.

Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Biological resource policies are listed in Section 4.3.2. The MDP facilities will not interfere with the County of Riverside or cities of Lake Elsinore and Wildomar implementing these policies. Additionally, Riverside County has an Oak Tree Management Guideline policy for impacts to oak woodlands. The MDP facilities will mostly be within road rights-of way and the proposed water quality basins and debris basins are not anticipated to be located near any identified oak woodlands. Should some of the MDP facilities be located near oak woodlands in the future, the specific MDP facility shall comply with the Riverside County Oak Tree Management Guidelines. The MDP facilities shall meet the goal of applicable policies or ordinances protecting biological resources within the County of Riverside, City of Lake Elsinore, and City of Wildomar. Impacts are therefore considered to be **less than significant** without mitigation incorporated.

Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

As stated previously, the MSHCP is an HCP and NCCP of which the District, City of Lake Elsinore, and City of Wildomar are Permittees. The Project is located within the MSHCP Plan Area and a portion of the MDP facilities are located in the Criteria Area, specifically within Criteria Cells 5038, 5140, 5240, and 5342 (see Figure 4.3-3; Table 4.3-4). Per the MSHCP, projects proposed in the Criteria Area are subject to the JPR process through the RCA (see **MM BIO-6**). Since this is a Program EIR, there are no specific projects proposed at this time; evaluation of MSHCP consistency through the JPR process of specific impacts for specific alignments will happen when funding is available for specific MDP facility design. Without specificity of the MDP facilities design, timeliness of survey data and mitigation is compromised. The District, City of Lake Elsinore, or City of Wildomar shall ensure that each subsequent and future MDP facility within the MSHCP Plan area will conduct its own MSHCP Consistency analysis. For MDP facilities located outside MSHCP Cells, the District or other MSHCP Permittee (i.e., City of Lake Elsinore or City of Wildomar) shall conduct its own MSHCP Consistency Analysis as part of that Project's approval process. For MDP facilities that occur in Cells, or a portion is in a Cell, a JPR will need to be prepared by the District or other MSHCP Permittee and provided to the RCA for review pursuant to Section 6.6.2 of the MSHCP (**MM BIO-6**). Part of the forthcoming JPRs would be to assess how the MDP facility affects Reserve Assembly, and other Plan requirements. However, since the District is a Permittee to the MSHCP, its activities are considered Covered Activities per Section 7.3.7 of the MSHCP, which means no specific requirements for land Conservation would be required of the MDP facilities.

Each MDP facility is also subject to be reviewed for consistency with the other Plan requirements in Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pool), Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.3.2 (Additional Survey Needs and Procedures), and Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface) of the MSHCP. The analysis of consistency with each of these four sections of the MSHCP will be conducted by the District, City of Lake Elsinore, or City of Wildomar for each MDP facility proposed, and contained with the JPR analysis.

None of the MDP facilities lie within Public Quasi-Public lands.

Additionally, since there are potential biological impacts associated with the Project, a biological resources assessment shall be prepared by a qualified biologist during the design process of the MDP facilities (**MM BIO-7**). For MDP facilities located within a Criteria Cell, the biological resources report shall be included as part of the JPR application. The biological resources report shall include a MSHCP Consistency Analysis and Findings pursuant to Sections 6.1.2, 6.1.3, 6.3.2, and 6.1.4 of the MSHCP. A discussion of the Project's consistency on a programmatic level with these MSHCP sections follows.

Consistency with MSHCP Section 6.1.2

Section 6.1.2 of the MSHCP addresses preservation of riparian, riverine, vernal pools, and fairy shrimp habitats. Riparian habitats are specifically defined by the MSHCP under Section 6.1.2. The MSHCP defines riparian/riverine areas as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." In addition, riverine areas (i.e., streams) include areas that "do not contain riparian vegetation, but that have water flow for all or a portion of the year, and contain biological functions and values that contribute to downstream habitat values for covered species inside the MSHCP Conservation Area." As previously mentioned, the MDP facilities listed in Table 4.3-5 support riverine/riparian habitat and would be evaluated for potential impacts/avoidance and any applicable mitigation when they are proposed in the future.

Based on the reconnaissance level biological assessment conducted within the Project boundary, there is riparian habitat located within the Project boundary (refer to Figure 4.3-7a and Figure 4.3-7b). There is approximately 9.8 acres of riparian habitat within the Project boundary. Specifically, the existing facility at Palomar Channel is within riparian habitat; the proposed storm drain is adjacent to riparian habitat along Line C-1; and the existing facility along Ortega Channel is adjacent to riparian habitat.

The MSHCP defines vernal pools as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season..." For assessment of suitable fairy shrimp (Riverside, vernal pool, and Santa Rosa fairy shrimp) habitat not artificially created, mapping and a description of the functions and values of

the mapped areas with respect to the fairy shrimp species listed above shall be provided. The Project area is steep along the foothills and consists of mainly sandy, rocky soils given the alluvial conditions. There may be alkaline soils that could support vernal pools and fairy shrimp closer to the lake edge. When specific MDP facilities are proposed, there should be an assessment of suitable habitat for vernal pools and fairy shrimp (**MM BIO-8**). The assessment should consider species composition, topography/hydrology, and soils analysis, where appropriate. If vernal pools and suitable fairy shrimp habitat are identified within the Project area, and the proposed Project design does not incorporate avoidance of the identified pools and/or fairy shrimp, then a DBESP along with mitigation measures to offset the loss of the values and functions of these areas shall be prepared (**MM BIO-8**).

If an avoidance alternative is not feasible when specific MDP facilities are designed and planned, then a DBESP shall be made by the Permittee (District, City of Lake Elsinore, or City of Wildomar) to ensure replacement of any lost functions and values of Habitat as it relates to Covered Species. If a DBESP is needed, then it shall include the following information:

- Definition of the project area.
- A written project description, demonstrating why an avoidance alternative is not possible.
- A written description of biological information available for the project site including the result of resource mapping.
- Quantification of unavoidable impacts to riparian/riverine areas and vernal pools associated with the project, including direct and indirect effects.
- A written description of project design features and mitigation measures that reduce indirect effects, such as edge treatments, landscaping, elevation difference, minimization and/or compensation through restoration or enhancement.
- A finding demonstrating that although the proposed project would not avoid impacts, with proposed design and compensation measures, the project would be biologically equivalent or superior to that which would occur under an avoidance alternative without these measures, based on one or more of the following factors:
    - Effect on Conserved Habitats;
    - Effects on the species listed in Section 6.1.2 of the MSHCP; and
    - Effects on riparian linkages and function of the MSHCP Conservation Area.

Any DBESP prepared must be approved by the Permittee, and then forwarded to the CDFW and USFWS for a 60-day review period. If the future MDP facility is located in a Criteria Cell, then the DBESP shall be included in the JPR as well.

Consistency with MSHCP Section 6.1.3 (NEPSSA)

Section 6.1.3 sets forth survey requirements for certain narrow endemic plants. Portions of the Project area are within a NEPSSA survey area for the following species: California Orcutt grass, many-stemmed dudleya, Munz's onion, Wright's trichocoronis, and San Diego ambrosia. Based on the site reconnaissance conducted by qualified biologists, it was determined that suitable habitat for California Orcutt grass, many-stemmed dudleya, Wright's trichocoronis, and San Diego ambrosia (see Figure 4.3-4a and Figure 4.3-4b; Table 4.3-4) is located within some of the potential MDP facility alignments. None of the other NEPSSA species were identified as having suitable habitat within the Project boundary.

Therefore, pursuant to Section 6.1.3, since suitable habitat has been identified for California Orcutt grass, many-stemmed dudleya, Wright's trichocoronis and San Diego ambrosia, focused surveys for these species will be required in the future for the MDP facilities referenced on Table 4.3-4. When the specific Projects listed on Table 4.3-4 in a NEPSSA suitability area are proposed, a focused survey conducted by a qualified biologist during the appropriate blooming period will be required. The focused survey shall include survey results in mapped and text form along with information on the habitat and soils present on site, date of surveys, precipitation data for that year, and estimation of population.

If NEPSSA plants are identified within the specific MDP facility alignment, then the District, City of Lake Elsinore, or City of Wildomar shall attempt to avoid 90% of those areas to provide for long-term conservation value for those species until it is demonstrated that conservation goals for the particular species are met.

If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species has not yet been demonstrated, the Permittee (District, City of Lake Elsinore, or City of Wildomar) must prepare a DBESP. The DBESP shall demonstrate that although the MDP facility would exceed the 10% NEPSSA impact threshold, with proposed design and compensation measures, it would result in an overall MSHCP Conservation Area design and configuration biologically equivalent or superior. Equivalency Findings in the DBESP should include:

- Definition of the project area.
- A written project description.
- A written description of biological information available for the project site including the results of Narrow Endemic Plant Species surveys.
- Quantification of unavoidable impacts to Narrow Endemic Plant Species associated with the project, including direct and indirect effects, documenting that the 90% thresholds shall be met.
- A written description of project design features that reduce indirect effects, such as edge treatments, landscaping, elevation differences; minimization and/or compensation through restoration or enhancement.
- A summary conclusion, including findings of consistency with the 90% threshold.

Any DBESP prepared must be approved by the Permittee, and then forwarded to the CDFW and USFWS for a 60-day review period. If the future MDP facility is located in a Criteria Cell, then the DBESP shall be included in the JPR as well.

MM BIO-1 has been included in order to outline how Section 6.1.3 compliance will occur.

Consistency with MSHCP Section 6.3.2 (Additional Survey Areas)

Section 6.3.2 of the MSHCP addresses additional survey requirements (in this case CASSA plants and Burrowing Owl Survey Area). Suitable habitat is present within the Project boundary for the following CASSA species: Davidson's saltscale, little mousetail, Parish's brittlescale, smooth tarplant, and San Jacinto Valley crownscale (see Figure 4.3-5a and Figure 4.3-5b; Table 4.3-4). The MDP facilities is also located within a Burrowing Owl Survey Area (see Figure 4.3-6a and Figure 4.3-6b; Table 4.3-4).

Section 6.3.2 sets forth survey requirements for certain CASSA species. As shown on Table 4.3-4, there are MDP facilities that are within the CASSA survey area. Therefore, pursuant to Section 6.2.3, when specific MDP facilities are located within suitable habitat area for little mousetail, smooth tarplant, and San Jacinto Valley crownscale, focused surveys for these species will be required in the future for the MDP facilities referenced in Table 4.3-4.

Section 6.3.2 sets forth survey requirements for burrowing owls. As shown in Table 4.3-4, MDP facilities that include suitable habitat for burrowing owls within MSHCP Burrowing Owl Survey Areas include Line C, Line C-1, Line F, Line F-1, Line G WQ Basin, Lakeland Village Channel, Line I, Line J, Line K, Line L, Line M, Line N, Lateral N-1, Line 0-20, Line 0-10, Corydon Channel, Palomar Channel, Existing 84-inch RCP, Channel 1A, and Sedco–Bryant Street Storm Drain (Table 4.3-4). Suitable habitat has been identified and since it is known that burrowing owls can occupy a variety of open habitats, even those that appear to moderately disturbed, all future MDP facilities within the Burrowing Owl Survey Area shall conduct a pre-construction survey for resident burrowing owls by a qualified biologist within 30 days prior to commencement of grading and construction activities (see **MM BIO-3**).

Regardless for CASSA plants or burrowing owls, the focused survey shall include survey results in mapped and text form along with information on the habitat and soils present on site, date of surveys, precipitation data for that year, and estimation of population.

If CASSA plants and/or burrowing owls are identified within the specific MDP facility alignment, then the District, City of Lake Elsinore, or City of Wildomar shall attempt to avoid 90% of those areas to provide for long-term conservation value for those species until it is demonstrated that conservation goals for the particular species are met. If species are identified within the specific MDP facility alignment, then the District, City of Lake Elsinore, or City of Wildomar shall attempt to avoid 90% of those areas to provide for long-term conservation value for those species until it is demonstrated that conservation goals for the particular species are met. For the burrowing owl, pursuant the MSHCP Species Objectives for the Burrowing Owl, if the MDP facility falls within a Criteria Cell, and more than 3 pairs of burrowing owls

are found on over 35 acres that is non-contiguous with MSHCP Conservation Areas, then conservation measures need to be proposed. If less than 3 pairs are found, then the owls can be relocated subject to coordination with the RCA, CDFW, and USFWS. Findings of equivalency shall be made to demonstrate that the 90% standard has been met. Information to be included in the Equivalency Findings is the same as those described for Section 6.1.3 above. If it is determined that the 90% threshold cannot be met and achievement of overall MSHCP conservation goals for the particular species has not yet been demonstrated, the Permittee (District, City of Lake Elsinore, or City of Wildomar) must prepare a DBESP. The DBESP shall demonstrate that although the MDP facility would exceed the 10% impact threshold, with proposed design and compensation measures, it would result in an overall MSHCP Conservation Area design and configuration biologically equivalent or superior.

Any DBESP prepared must be approved by the Permittee, and then forwarded to the CDFW and USFWS for a 60-day review period. If the future MDP facility is located in a Criteria Cell, then the DBESP shall be included in the JPR as well.

Consistency with MSHCP Section 6.1.4

Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlife Interface*, outlines the minimization of indirect effects associated with locating development in proximity to the MSHCP Conservation Area. To minimize these effects, guidelines in Section 6.1.4 of the MSHCP shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following: drainage, toxics, lighting, noise, invasive species, barriers, and grading/land development. Future proposed MDP facilities would need to demonstrate adherence to the guidelines of the MSHCP Section 6.1.4 that show the MDP facilities would minimize indirect effects associated with the development of the MDP facilities. The following include standard measures for compliance with Section 6.1.4 of the MSHCP:

1. Incorporate measures to control the quantity and quality of runoff from the site entering the MSHCP Conservation Area. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into MSHCP Conservation Areas. The proposed project will include measures required through the NPDES requirements, to ensure that the quality and quality of runoff discharged to MSHCP conservation areas are not altered from the existing conditions.
2. The use chemicals or generation of bioproducts (i.e.) manure, which are potentially toxic or may adversely affect wildlife species, habitat or water quality shall not result in discharge to the MSHCP Conservation Area. The greatest risk is from pesticide overspray and run-off.
3. Although not anticipated, if any night lighting is used during construction, lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

4. Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards.
5. No landscaping is expected to be included with the MDP facilities, but should some landscaping be considered, ensure that the invasive, non-native plant species listed in Table 6-2 of the MSHCP are not used for the portions of the project that are adjacent to the MSHCP Conservation Area. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography and other features.
6. Proposed access to MDP facilities adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping into the MSHCP Conservation Areas. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or appropriate mechanisms. Manufactured slopes associated with the proposed site development shall not extend into the MSHCP Conservation Area.

Section 7.3.7 of the MSHCP – Flood Control Facilities

Within the MSHCP Criteria Area, flood control facilities (improvements and new construction) that are undertaken by a Permittee are considered Covered Activities. Since the District and cities of Lake Elsinore and Wildomar are all Permittees under the MSHCP, and since Section 7.3.7 contemplated projects like the Lakeland Village Project, the proposed MDP facilities would be considered Covered Activities. Also, as a Covered Activity pursuant to Section 7.3.7 of the MSHCP, the proposed MDP facilities would not be required to set aside lands for MSHCP Conservation.

Section 7.5.3 of the MSHCP – Construction Guidelines

Pursuant to Section 7.3.7 requirements, future construction of the MDP facilities located within the Criteria Area shall comply with the applicable following construction guidelines as outlined in Section 7.5.3 of the MSHCP:

- Plans for water pollution and erosion control will be prepared for MDP facilities involving the movement of earth in excess of 50 cubic yards. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control. Plans will be reviewed and approved by the County of Riverside and participating jurisdiction prior to construction.

- Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
- Short-term stream diversions will be accomplished by use of sand bags or other methods that will result in minimal in-stream impacts. Short-term diversions will consider effects on wildlife.
- Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off site.
- Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
- No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
- The footprint of disturbance will be minimized to the maximum extent Feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
- Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.
- The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
- During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland Habitats occupied by Covered Species that are outside of the project footprint will be avoided.
- Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
- Training of construction personnel will be provided.
- Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
- When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all

phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.

- Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
- Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.

Standard Best Management Practices (Appendix C of the MSHCP)

Pursuant to Section 7.3.7 of the MSHCP, future proposed MDP facilities shall comply, as applicable, with the following standard best management practices:

1. A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
2. Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
4. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
5. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.

7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
11. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
12. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
13. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
15. The Permittee (District, City of Lake Elsinore, City of Wildomar) shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

Future proposed MDP facilities within the MSHCP Criteria Area will be required to submit a JPR to the RCA to demonstrate compliance with 6.1.2, 6.1.3, 6.3.2, 6.1.4 of the MSHCP and adhere to the construction guidelines set forth in Section 7.5.3 and Appendix C of the MSHCP, outlined above (**MM BIO-6**). For MDP facilities not in Criteria Cells, it will up to the Permittee (District, City of Lake Elsinore or City of Wildomar) to prepare the MSHCP Consistency Analysis and Findings pursuant to Sections 6.1.2, 6.1.3, 6.3.2, and 6.1.4 of the MSHCP. Therefore, with compliance with the MSHCP and implementation of **MM BIO-6**, impacts are considered to be **less than significant**.

4.3.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures which could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to eliminate or reduce the potential significant adverse impacts to special-status species and loss of foraging habitat. The following measures shall be implemented to eliminate or reduce potentially significant impacts to biological resources to below the level of significance.

MM BIO-1 Suitable habitat has been identified within the Project boundary within the NEPSSA, CASSA, and Burrowing Owl Survey Areas (see Table 4.3-4). All MDP facility alignments and impact footprints shall be reviewed by the District, City of Lake Elsinore, or City of Wildomar during project design in order to determine if suitable habitat conditions have changed from the analysis contained herein. If no changes have occurred, and no suitable habitat is present for CASSA species, NEPSSA species, or burrowing owls, then no further surveys are needed. For the MDP facilities identified as having suitable habitat on Table 4.3-4, those facilities will require habitat assessments and focused surveys conducted by a qualified biologist during the appropriate season. If species are found to be present in the footprint, further measures as recommended by the District's, City of Elsinore's, or City of Wildomar's qualified biologist shall be taken to avoid or minimize adverse project effects to these species and their habitat. Per Section 6.3.2 of the MSHCP, the District, City of Lake Elsinore or City of Wildomar shall avoid 90% of the areas providing long-term conservation value for the target species. For burrowing owls, if owls are found in the impact area of an MDP facility, Species Objective 5 from the MSHCP shall be implemented. If avoidance is not feasible, then individual projects will require the approval of a Determination of Biologically Equivalent or Superior Preservation (DBESP) pursuant to the requirements of Section 6.3.2 of the MSHCP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, relocation and/or payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options.

MM BIO-2 In order to avoid violation of the MBTA and California Fish and Wildlife Code, the District, City of Lake Elsinore and/or City of Wildomar shall ensure that site-preparation activities (removal of trees and vegetation) shall be avoided, to the greatest

extent possible, during the nesting season (generally February 1 to August 31) of potentially occurring native and migratory bird species. If site-preparation activities are proposed during the nesting/breeding season (generally February 1 to August 31), a pre-activity field survey shall be conducted by the District's, City of Lake Elsinore's or City of Wildomar's qualified biologist to determine if active nests of species protected by the MBTA or the California Fish and Wildlife Code are present in the construction zone. If active nests are not located within the a future MDP facility alignment and appropriate buffer (i.e., within 500 feet of an active listed species or raptor nest, 300 feet of other sensitive or protected bird nests (non-listed), or within 100 feet of sensitive or protected songbird nests), construction may be conducted during the nesting/breeding season. However, if active nests are located during the pre-activity field survey, no grading or heavy equipment activity shall take place within at least 500 feet of an active listed species or raptor nest, 300 feet of other sensitive or protected (under MBTA or California Fish and Wildlife Code) bird nests (non-listed), or within 100 feet of sensitive or protected songbird nests until the nest is no longer active.

MM BIO-3 All future MDP facilities within the mapped survey area Burrowing owls shall have a qualified biologist conduct a pre-construction survey for resident burrowing owls within 30 days prior to commencement of grading and construction activities. If ground-disturbing activities in these areas are delayed or suspended for more than 30 days after the pre-construction survey, the area shall be resurveyed for owls. Take of active nests shall be avoided. The pre-construction survey and any relocation activity will be conducted following accepted protocols and in coordination with the Regional Conservation Authority (RCA), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service.

MM BIO-4 As Permittees to the MSHCP, the District, City of Lake Elsinore, or City of Wildomar shall ensure that the construction of each future MDP facility shall be compliant with Section 6.1.2 of the MSHCP and documented as such. For areas not excluded as artificially created, the MSHCP requires 100% avoidance of riparian/riverine areas. If avoidance is not feasible, then individual projects will require the approval of a DBESP including appropriate mitigation, i.e., on-site or off-site enhancement, restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options, to offset the loss of functions and values as they pertain to the MSHCP Covered Species. If riparian vegetation will be impacted, then focused surveys for least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo will be required if suitable habitat is present. If avoidance is not feasible, then individual projects will require the approval of a DBESP including appropriate mitigation, i.e., on-site or off-site enhancement,

restoration, establishment (creation), preservation, payment into habitat mitigation banks or in lieu fee programs, or a combination of one or more of these options.

MM BIO-5 The District, City of Lake Elsinore, or City of Wildomar shall conduct Project-specific jurisdictional delineations to determine the limits of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board, and CDFW jurisdiction for the MDP facilities listed in Table 4.3-5. Impacts to jurisdictional waters will need to be verified by the corresponding regulatory agency. If impacts are anticipated, then jurisdictional water will either a) be completely avoided or b) necessary permits from requisite jurisdictions will be obtained. Obtaining permits may include mitigation for impacts, which would most likely include similar mitigation to that offered in a DBESP such as restoration, creation and enhancement of resources in exchange for impacts from the project (same as **MM HYDRO-4**). The District, the City of Lake Elsinore, or the City of Wildomar shall be responsible for obtaining required regulatory permits for any jurisdictional features prior to ground disturbance.

MM BIO-6 MDP facilities located within MSHCP Criteria Cells will require submittal of a JPR to the RCA by the District, City of Lake Elsinore, or City of Wildomar as Permittees to the MSHCP for review and approval to illustrate that the MDP facility does not affect the Reserve Assembly, demonstrate consistency with Sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2, and demonstrate that the appropriate surveys and applicable mitigation measures (refer to **MM BIO-1** through **MM BIO-5**, and **MM BIO-8**) have been conducted.

MM BIO-7 A biological resource assessment shall be prepared by a qualified biologist during the design phase of each MDP facility. The biological resource assessment shall include project location, project description, regulatory context, methods for field surveys including weather, dates, and time of surveys, mapping, and results of the biological assessment. Since the Project is located within the Western Riverside County MSHCP Plan Area, the biological resources assessment shall also include a MSHCP Consistency Analysis and Findings pursuant to Sections 6.1.2, 6.1.3, 6.3.2, and 6.1.4 of the MSHCP. For MDP facilities located within a Criteria Cell, the biological resource assessment shall be included as part of the JPR application.

MM BIO-8 As Permittees to the MSHCP, the District, City of Lake Elsinore, or City of Wildomar shall ensure where appropriate, future MDP facilities shall be surveyed for vernal pools and/or fairy shrimp habitat and documented as such. For areas not excluded as artificially created, the MSHCP requires 100% avoidance of vernal pools and fairy shrimp habitat. If avoidance is not feasible, then individual projects will require the approval of a DBESP including appropriate mitigation to offset the loss of functions and values as they

pertain to the MSHCP covered species. Vernal pools and other seasonal ponding depressions will also need to be evaluated for Riverside and Vernal pool fairy shrimp.

4.3.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Based on the required compliance with the MSHCP for all future MDP facilities, required permits from ACOE, RWQCB, and CDFW for jurisdictional resources, and proposed mitigation measures identified in Section 4.3.6 potential adverse impacts associated with special-status species and their habitat and federally-protected wetlands are reduced to a less than significant level with implementation of the mitigation measures provided in Section 4.3.6.

4.3.8 References

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County of Riverside. 2003b. *General Plan Environmental Impact Report*.

Dudek. 2011. *Environmental Constraints Analysis*. February 9, 2011.

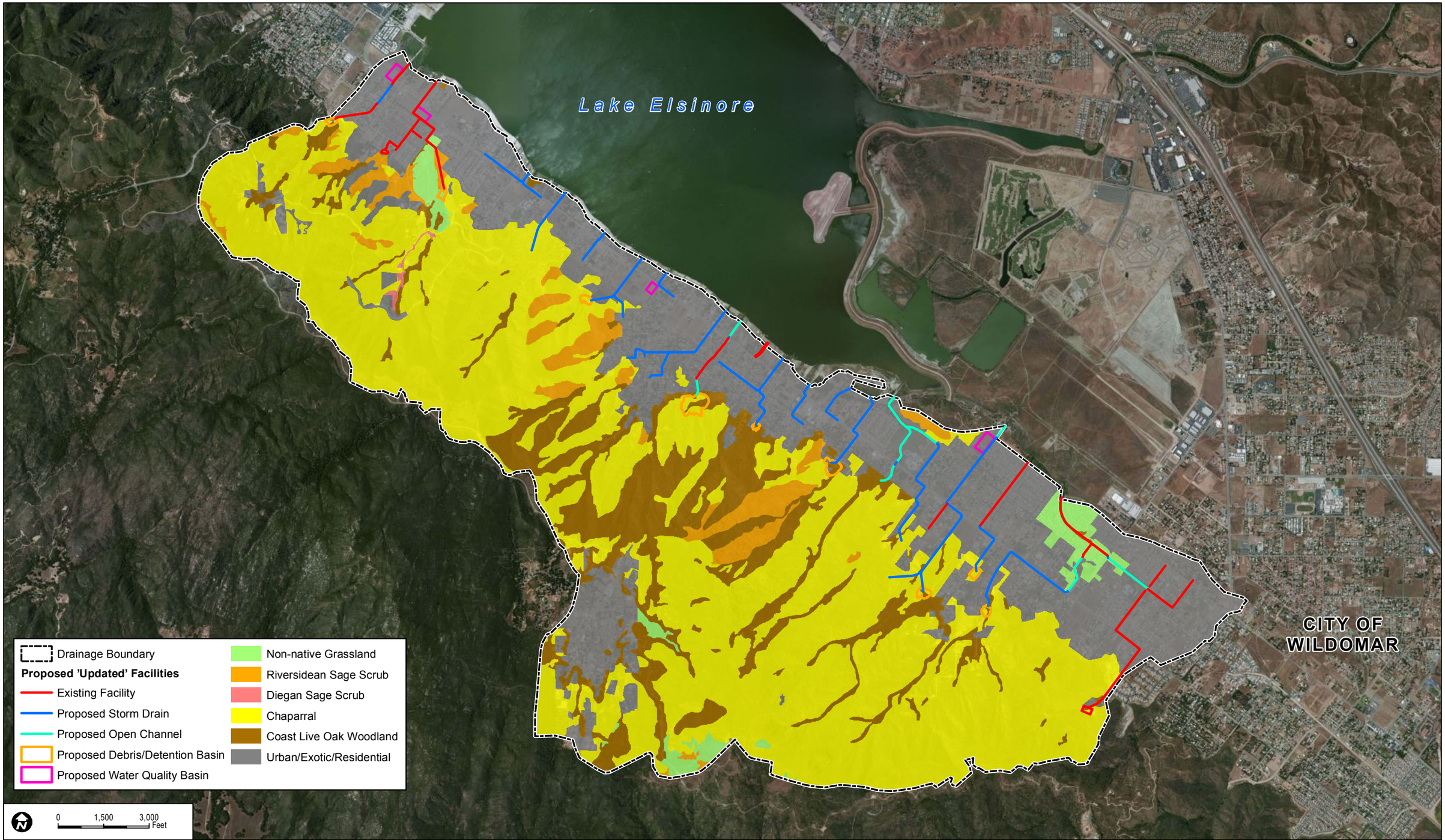


SOURCE: Riverside County Flood Control and Water Conservation District 2012; Bing Maps

FIGURE 4.3-1

Lakeland Village MDP Boundary

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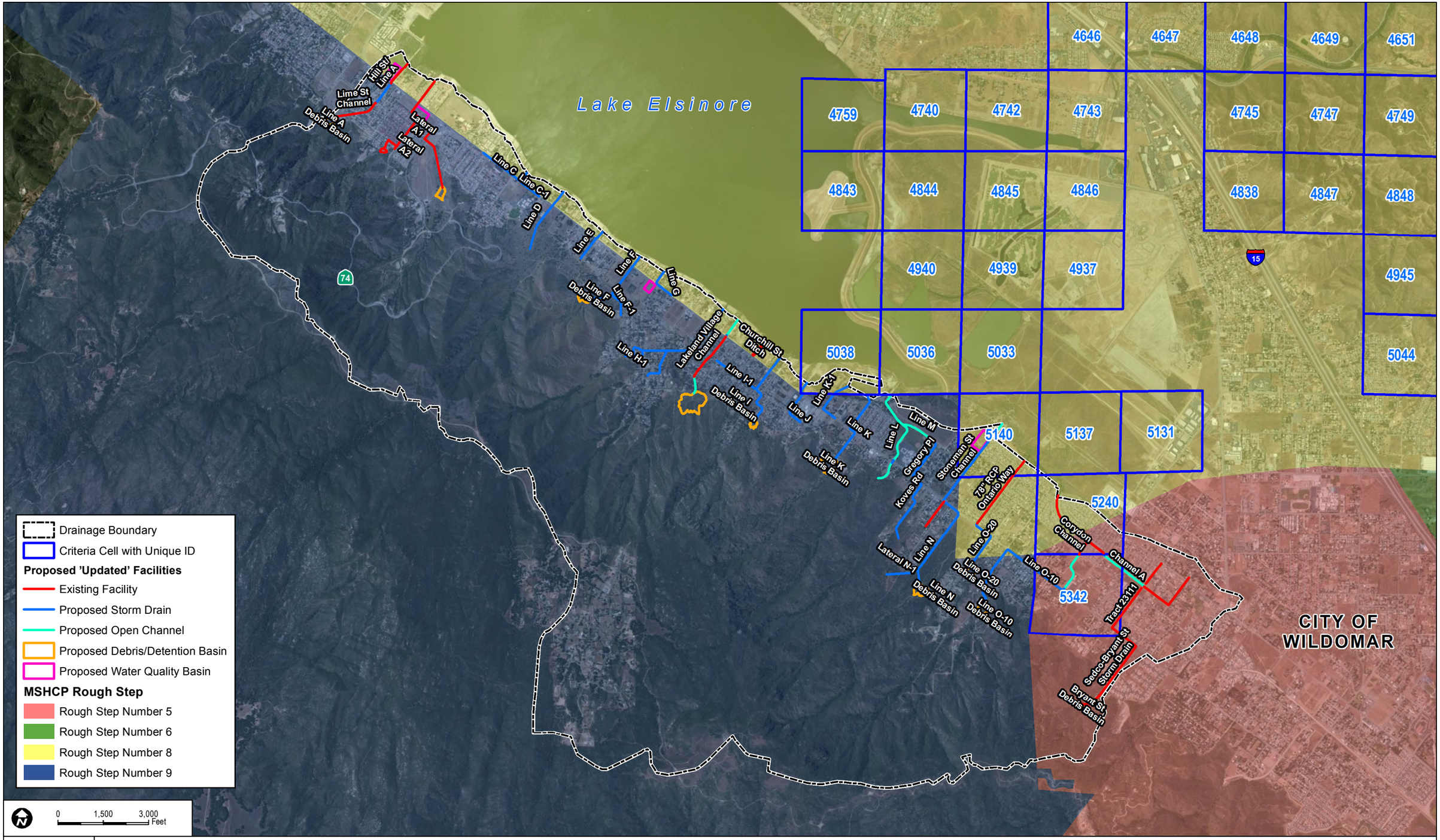
SOURCE: Riverside County Flood Control and Water Conservation District 2012; Riverside County 2012; Bing Maps

FIGURE 4.3-2

Vegetation Map

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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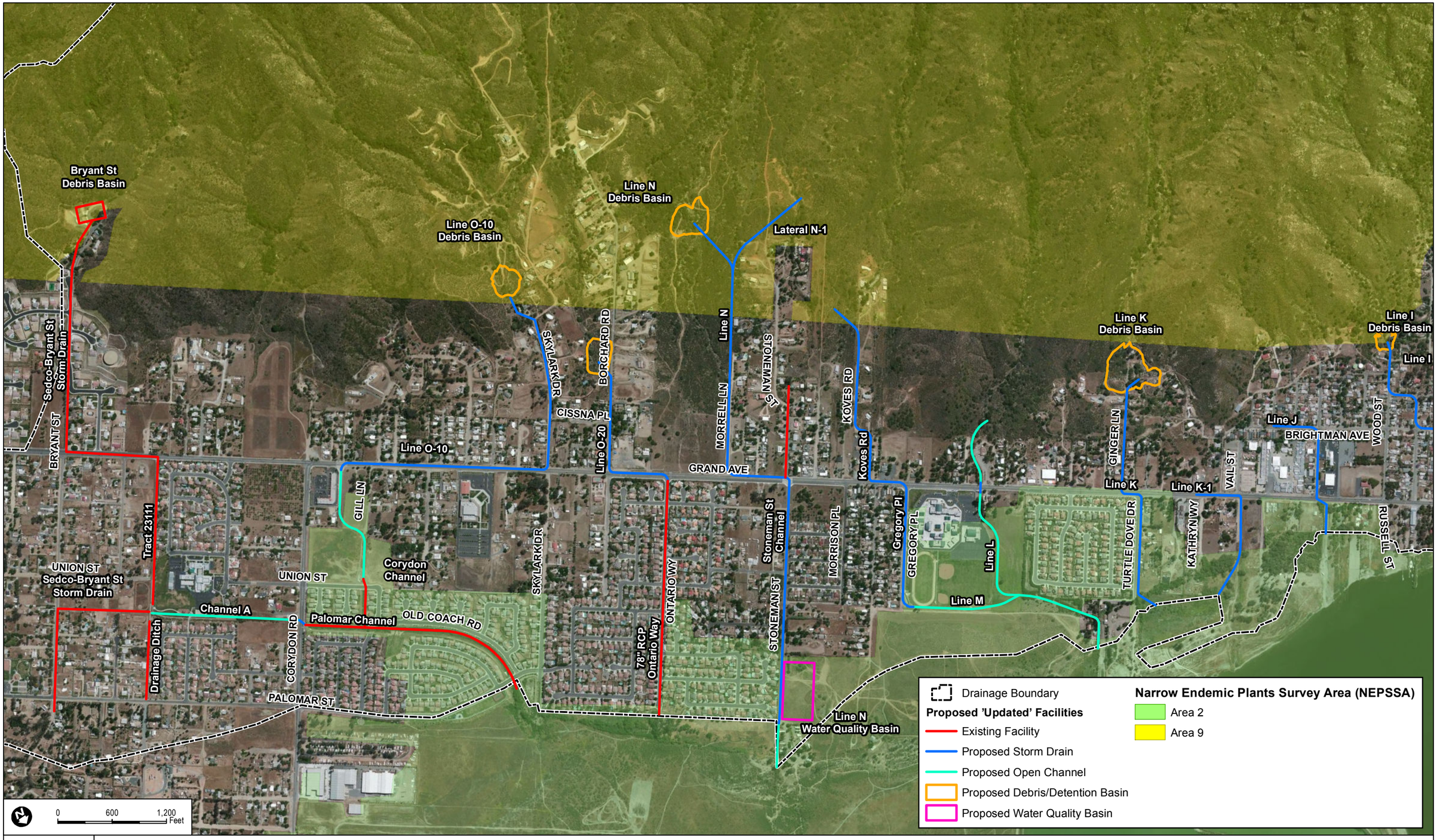
SOURCE: Riverside County Flood Control and Water Conservation District 2012; Riverside County 2012; Bing Maps

FIGURE 4.3-3

MSHCP Criteria Area

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 4.3-4a

Narrow Endemic Plants Survey Area (NEPSSA) Survey Area (Left)

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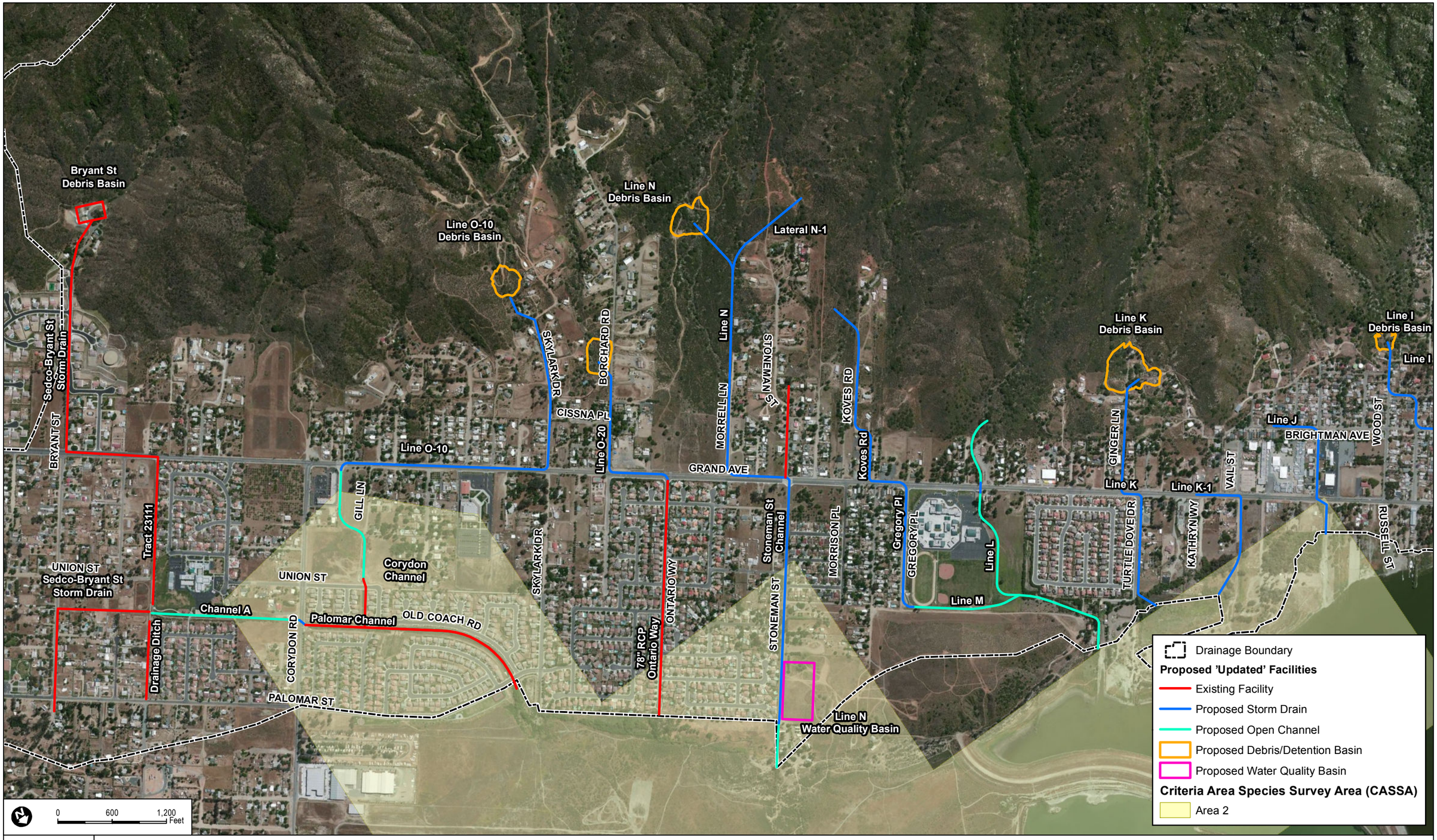
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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 4.3-4b

Narrow Endemic Plants Survey Area (NEPSSA) Survey Area (Right)

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 4.3-5a

Criteria Area Species Survey Area (CASSA) Survey Area (Left)

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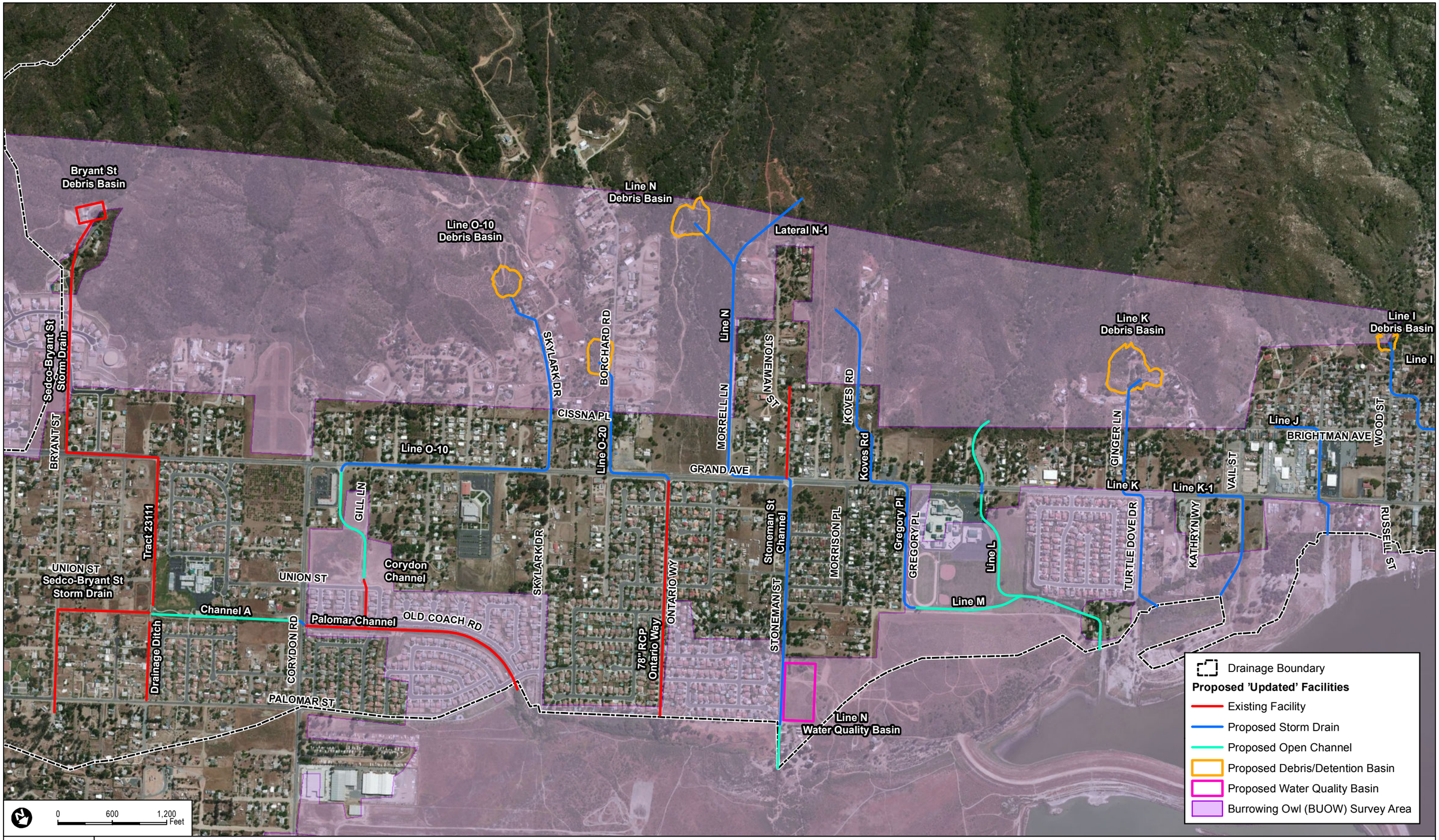
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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 4.3-5b

Criteria Area Species Survey Area (CASSA) Survey Area (Right)

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SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 4.3-6a

Burrowing Owl (BUOW) Survey Area (Left)

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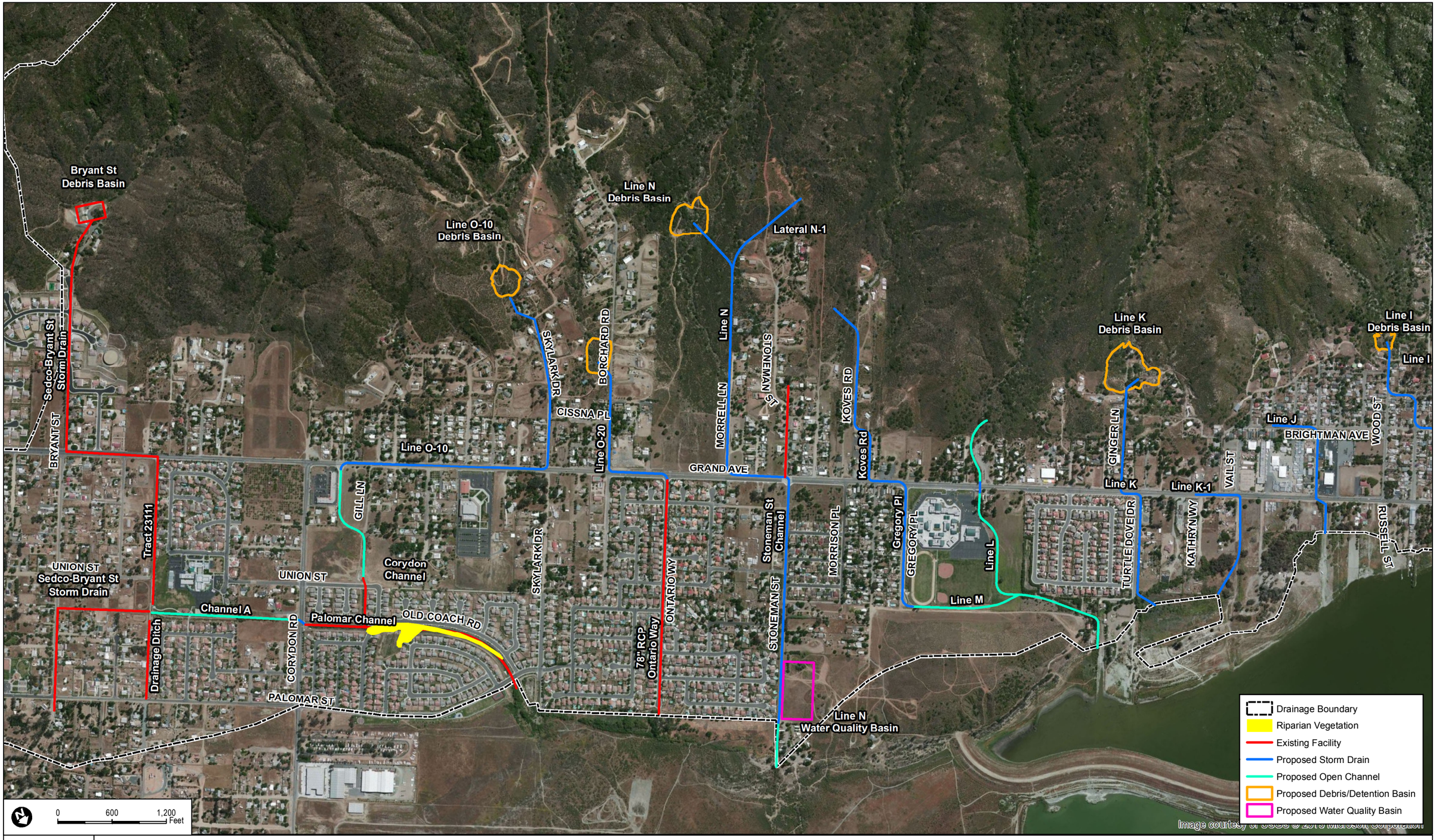
SOURCE: Riverside County Flood Control and Water Conservation District 2012; County of Riverside MSHCP; Bing Maps

FIGURE 4.3-6b

Burrowing Owl (BUOW) Survey Area

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SOURCE: Riverside County Flood Control and Water Conservation District 2010; County of Riverside MSHCP; Digital Globe 2008

FIGURE 4.3-7a

Vegetated Riparian Habitats (Left)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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SOURCE: Riverside County Flood Control and Water Conservation District 2010; County of Riverside MSHCP; Digital Globe 2008

FIGURE 4.3-7b

Vegetated Riparian Habitats (Right)

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4.4 Cultural Resources

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts related to substantial adverse change in the significance of a historical resource as defined in the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15064.5), substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5, and directly or indirectly destroying a unique paleontological resource or site or unique geologic feature.

Potential impacts from the Project on disturbance of human remains were found to be less than significant in the IS and therefore are not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

Cultural resources include archaeological resources (both prehistoric and historic), historic architectural resources (physical properties, structures, or built items), and traditional cultural resources (those important to living Native Americans for religious, spiritual, heritage, or traditional reasons). Though not specifically cultural, paleontological resources (prehistoric life, fossils) are also considered. The assessment of cultural resource considerations for the Project area is based on results of an archaeological site records and literature search of the California Historical Resources Information System at the Eastern Information Center (EIC), conducted on January 20, 2011, by Dudek.

4.4.1 Setting and Project Baseline

Cultural Setting

As discussed in the Riverside County General Plan and the Riverside County Integrated Project Final Program Environmental Impact Report (County of Riverside 2003; County of Riverside TLMA n.d.), the cultural history of Riverside County is divided chronologically into three periods: prehistoric, ethnohistoric, and historic. Native American culture predominates in the prehistoric and ethnohistorc periods of County history, beginning with the settlement of the Southern California region 10,000 to 12,000 years ago and extending through time to initial Euro-American settlement in the late 18th century when the mission system was established, disrupting native life ways. Most natives were removed to reservations set aside in Riverside County and nearby vicinities, further disrupting, and to a large extent, ending, the persistence of native life ways.

Prior to Spanish colonization in the late 18th century, the geographic area within the Project boundary was inhabited by the Luiseño and possibly other Native Americans (possible previous occupation by the Juaneño based on their place names and creation myths and overlapping use or influence by adjacent groups including the Gabrielino, Serrano, and Cahuilla (City of Lake Elsinore 2011). Luiseño is derived from the Mission San Luis Rey and has been used in Southern California to refer to Takic-speaking people associated with the mission. The Luiseño territory comprised of 1,500 square miles of Southern California.

Specifically, the Pechanga Tribe asserts that the Project area is part of the Tribe's aboriginal territory, as evidenced by the existence of Luiseño place names, *tóota yixélval* (rock art, pictographs, petroglyphs, cupules), named villages and habitation areas, traditional landscapes, Traditional Cultural Properties, and tangible and intangible cultural resources within the Project boundary (Pechanga Tribe 2013). Lake Elsinore is known to the Tribe as *Páayaxchi;* this name is also the name of a village known to exist within the Project boundary.

With the independence of Mexico in the early 19th century, the mission period came to an end, and it became common practice for large land grants to be issued to those friendly with the Nationalistic Mexican cause. The ranchero, Julian Manriquez, received the grant for Rancho La Laguna (which encompassed approximately 20,000 acres) and established a rancho in the area in the early 1844. The Mexican period soon ended with the Treaty of Guadalupe-Hidalgo in 1848, which ceded much of the southwest to the United States, including all the lands around La Laguna, the City of Lake Elsinore's historic name. Gold deposits were discovered in the region shortly after the war's end. In 1858, Augustin Machado acquired Rancho La Laguna and became the first landowner to call the lakeshore home since the Indians.

With the construction of the Atchison, Topeka, & Santa Fe Railroad and the discovery of mineral ores in the late 19th century, immigration began to increase significantly to the lake area. Many people also visited looking for recreational opportunity. Also, mining played an important role in the economic and social development within the area from the Gold Rush to the present day. Tin ore, coal, clay, and minor amounts of gold have historically been extracted from the area. The most prosperous mine was the Good Hope Mine which produced over $2 million worth of gold during its working years. Coal was also discovered in the 1880s and was used to process gold, operate fire kilns, and to heat homes. Given the railroad and attraction of Lake Elsinore for recreation and gold mining prospects, Lake Elsinore experienced development along the lake shore.

As a result of its historical evolution, the area surrounding Lake Elsinore encompasses significant prehistoric and historical archaeological sites in addition to a rich record of fossil life. The Elsinore Naval Military Academy and the Adobe Machado House Butterfield Stage Stop (also known as P-7230 – Juan Machado Home/Rippley Ranch), are community recognized significant historical resources according to the city of Lake Elsinore's General Plan Draft PEIR.. The Adobe Machado House Butterfield Stage Stop is located near the Line A Water Quality (WQ) Basin. Based on the EIC records search, P-8663/CA-RIV-6176H was also identified as cultural resources within the Project boundary. P-8663/CA-RIV-6176H is a wooden pumphouse located near Stoneman Street Channel.

Based on the confidential records search, prehistoric archaeological sites are within the Project boundary and include lithic scatters, habitation sites, and bedrock milling features. Lithic scatters are flaking stations that may indicate possible opportunistic quarrying activities or tool reduction stations. Habitation Sites are temporary camps or transition areas that exploit an immediate or seasonal

resource. Habitation sites are usually located near watercourses and its tributaries. Associated artifact assemblages may include, but are not limited to, ground stone, lithic debitage, and bedrock milling features. Bedrock milling features are grinding stations that are typically located along watercourses and its tributaries near exposed bedrock outcrops typically granite or granodiorite with suitable resources in the area for processing.

The Pechanga Tribe Ethnography of the Lake Elsinore Area (2013) stated that there are villages and named places recorded within the Project boundary. Some of the places refer to gathering areas, while others recall specific events important to the Luiseño culture and history.

Paleontological Setting

Paleontological resources are the fossilized biotic remains of ancient environments. They are valued for the information they yield about the history of the earth and its past ecological settings. Figure 4.4-1 illustrates the paleontological resources sensitivity mapping within the Project boundary. As depicted in Figure 4.4-1, the valley floor surrounding most of Lake Elsinore and the upper regions in the southeasterly portion as well as the fan deposits flanking the Santa Ana Mountains within the Project boundary are of undetermined paleontological sensitivity. The valley floor and upper regions within the central and westerly portion of the Project are considered to have low paleontological sensitivity.

The Society of Vertebrate Paleontology has defined the two categories of potential paleontological sensitivity for geologic units as follows:

- Low: Geologic units are assigned to this category when few significant nonrenewable vertebrate, invertebrate, or plant fossils have been recovered from the same unit nearby.
- Undetermined: Geologic units are assigned to this category when there is little or no past history available to base a sensitivity assessment on.

Archaeological Records Search Results

Dudek conducted a records search of the California Historical Resources Information System at the EIC, University of California, Riverside, on January 20, 2011. The records search was conducted to identify all recorded archaeological sites and investigations within 1 mile of the proposed Master Drainage Plan (MDP) facilities. The records search identified not only archaeological sites, but historic resources, and previous cultural resource surveys within the Project area. The EIC records search is divided up into two categories: recorded resources and previous cultural studies. The EIC records indicate that 57 recorded cultural resources have been documented within the Project area and 68 previous cultural resource studies have been conducted within 1 mile of the proposed MDP facilities.

In addition to the EIC records search, a search of the Native American Heritage Commission's Sacred Land File was conducted on February 10, 2011, in order to determine the location of any sacred and/or burial sites within the Project boundary. The search did not indicate the presence of Native American sacred heritage resources within the Project boundary.

Generally speaking, the proposed water quality and debris basins are located within undeveloped or minimally developed areas. There is the potential that intact, previously undisturbed prehistoric cultural resources are located within the footprint of the proposed water quality and debris basins that have not been previously surveyed.

Based on the records search, of the four proposed water quality basins, three are located in areas that have been previously studied:

- Line A WQ Basin
- Line B WQ Basin
- Line N WQ Basin.

The remaining unstudied water quality basin, Line G WQ Basin, will require further study when specific projects and disturbance are proposed.

In addition to the previous survey areas identified, the EIC records search also identified several recorded cultural resources near future MDP facilities. A wooden pumphouse, recorded in the records search, is located within the northern portion of the proposed Line N WQ basin. The pumphouse may date to the late 19th or early 20th century. The remains of a residence that may have been constructed in the 1940s or 1950s and was at least partially constructed of adobe brick has been identified in the upslope of the pumphouse. The Juan Machado Home/Ripley Ranch, listed on the records search, is listed in the Office of Historic Preservation Directory of Properties in the Historic Properties Directory File as potentially eligible for inclusion on the National Register of Historic Places (NRHP). This resource is located immediately adjacent to the proposed Line A WQ basin.

Another recorded site is located near proposed Line O-10 Debris Basin. The site is a prehistoric bedrock milling station. Nine grinding holes were observed on one boulder but other grinding/milling features were noted in the "site area." Flakes and ground stone artifacts were observed on the ground surface. The site record indicates that the area has been heavily disturbed by grading for house pads and roads but that intact deposits may be present. The area surrounding this debris basin has not been the subject to previous surveys.

Of the nine proposed debris basins, only three have been previously studied:

- Line A Debris Basin

- Line B Debris Basin
- Line N Debris Basin.

The majority of the Lakeland Village Debris Basin has been previously studied.

Therefore, the following remaining five debris basins may need to be further evaluated when specific projects and disturbance are proposed in the future:

- Line F Debris Basin
- Line K Debris Basin
- Line N Debris Basin
- Line O-20 Debris Basin
- Line O-10 Debris Basin.

4.4.2 Related Regulations

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 established the NRHP as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. Properties listed in the NRHP, or determined eligible for listing, must meet certain criteria for historical significance and possess integrity of form, location, and setting. Significance is determined by four aspects of American history or prehistory recognized by the NRHP criteria:

- Association with events that have made a significant contribution to the broad pattern of our history; or
- Association with the lives of persons significant in our past; or
- Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- Has yielded, or has the potential to yield, information important to the prehistory or history.

Eligible properties must meet at least one of the above criteria and exhibit integrity. The integrity of a subject property is measured by the degree to which the resource retains its historical properties and conveys its historical character. Integrity also depends on the degree to which the original fabric has been retained, and the reversibility of any changes to the property.

Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.

State

California Public Resources Code (Section 5097.98)

California Public Resources Code, Section 5097.98, addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the CEQA Guidelines. The Project will be required to comply with California Public Resources Code, Section 5097.98, should any unknown human remains be discovered during site disturbance.

California Health and Safety Code Sections 7050.5, 7051, 5052, and 7054

Sections 7050.5, 7051, 5052, and 7054 of the Health and Safety Code collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. The Project will be required to comply with these sections of the Health and Safety Code.

California Register of Historical Resources

The California Register of Historical Resources is an authoritative guide to identifying the state's historical resources. It establishes a list of those properties which are to be protected from substantial adverse change (California Public Resources Code, Section 5024.1).

A historical resource may be listed in the California Register of Historical Resources if it meets any of the following criteria:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

b. Is associated with the lives of persons important in our past.

c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

d. Has yielded, or may be likely to yield, information important in prehistory or history.

Senate Bill 18

The Local and Tribal Intergovernmental Consultation process, commonly known as Senate Bill (SB) 18 was signed into law in September of 2004 and took effect on March 1, 2005. Senate Bill 18 established responsibilities for local governments to contact, provide notice to, refer plans to, and consult with California Native American Tribes. The purpose of this consultation process is to protect the identity of the cultural place and to develop appropriate and dignified treatment of the cultural place in any subsequent project. The consultation is required whenever a General Plan, Specific Plan, or Open Space Designation is proposed for adoption or to be amended. As part of the application process, California Native American Tribes must be given the opportunity to consult with the applicant (if applicable) of the Project and with the Riverside County Flood Control and Water Conservation District (District), the City of Lake Elsinore, or the City of Wildomar for the purpose of preserving, mitigating impacts to, and identifying cultural places located on project land within District or City of Lake Elsinore or Wildomar jurisdiction. The Project does not include a General Plan Amendment or Specific Plan Amendment or include an Open Space Designation; therefore, SB 18 does not apply to the Project.

California Public Resources Code Section 5097.5 and Section 30244

California Public Resources Code, Section 5097.5, prohibits "knowing and willful" excavation upon, removal, destruction, injury, and defacement of any historic or prehistoric ruins, burial grounds, or archaeological or vertebrate paleontological site situated on public lands (lands under state, county, city, district, or public authority ownership or jurisdiction, or the ownership or jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on archaeological or paleontological resources that occur as a result of development on public lands.

Local

Riverside County Historical Commission – County Historic Landmark Program

The power to identify and advise the Riverside County Board of Supervisors (Board) concerning historical matters is assigned to the Riverside County Historical Commission (Commission) by Resolution No. 2005-345. The Commission was established by Board Resolution on May 6, 1968. The resolution of 1968 was amended on March 15, 1971; May 4, 1982 (Resolution 82-131); and September 13, 2055 (Resolution 2005-345). The Commission operates under established bylaws approved by the Board on September 13, 2005.

Pursuant to the County resolution establishing the County Historical Commission, its purpose is to "advise the Board of Supervisors in historic matters of the County of Riverside…; to discover and identify persons, events, and places of historical importance within Riverside." Pursuant to this charge, the Commission established criteria and procedures to identify and recognize historic landmarks in

Riverside County. Such identification and recognition does not convey any regulatory authority to the Commission over properties assigned landmark status.

The Commission adopted Riverside County Historic Landmark criteria and procedures in 2008 that outline the criteria for historic landmark designation and the procedures for application and review.

Riverside County General Plan

Riverside County's General Plan (County of Riverside 2003) includes a section on cultural and paleontological resources and provides policies regarding the treatment and preservation of cultural, historical, and paleontological resources within the County. The following policies are applicable to the Project:

Open Space Policy 19.2: Review all proposed development for the possibility of archaeological sensitivity.

Open Space Policy 19.6: Enforce the Historic Building Code so that historical buildings can be preserved and used without posing a hazard to public safety.

Open Space Policy 19.8: Require that whenever existing information indicates that a site proposed for development may contain biological, cultural, paleontological, or other scientific resources, a report shall be filed stating the extent and potential significance of the resources that may exist within the proposed development and appropriate measures through which the impacts of development may be mitigated.

Open Space Policy 19.9: Require that when existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor site grading activities, with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department documenting any paleontological resources that are found during the course of site grading.

City of Wildomar General Plan

The City of Wildomar has incorporated Riverside County's General Plan. Therefore, the above policies related to the Riverside County General Plan also apply to the City of Wildomar.

City of Lake Elsinore General Plan

The City of Lake Elsinore General Plan (City of Lake Elsinore 2011) includes a section on cultural and paleontological resources and provides goals, policies, and implementation programs regarding the

treatment and preservation of cultural, historical, and paleontological resources within the City. The following policies are applicable to the Project:

Policy 6.1: Encourage the preservation of significant archeological, historical, and other cultural resources located within the City.

Policy 6.3: When significant archaeological sites or artifacts are discovered on a site, coordination with professional archeologists, relevant state agencies, and concerned Native American tribes regarding preservation of sites or professional retrieval and preservation of artifacts prior to development of the site shall be required. Because ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices, developers should waive any and all claims to ownership and agree to return all Native American ceremonial items and items of cultural patrimony that may be found on a project site to the appropriate tribe for treatment. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act.

Policy 6.4: If archaeological excavations are recommended on a project site, the City shall require that all such investigations include Native American consultation, which shall occur prior to project approval.

Policy 7.1: Consult with California Native America tribes prior to decision-making processes for the purpose of preserving cultural places located on land within the City's jurisdiction that may be affected by the proposed plan, in accordance with State requirements.

Policy 8.1: For development in areas delineated as "High" or "Undetermined" potential sensitivity for paleontological resources, require the project applicant to hire a certified paleontologist, who must perform a literature search and/or survey and apply the relevant treatment for the site as recommended by the Society of Vertebrate Paleontology.

Policy 9.1: Require the developer to obtain a professional, qualified historian to conduct a literature search and/or survey for any project that entails demolition or modification of an existing structure that may be of historical value in relation to the City's cultural heritage.

Policy 10.1: Continue to implement the Historic Preservation Guidelines that guide historic preservation efforts as set forth in the Historic Elsinore Design Guidelines and the Downtown Master Plan (Society of Vertebrate Paleontology 2011).

4.4.3 Comments Received in Response to the Notice of Preparation

A comment letter was received from the NAHC dated September 19, 2011, in response to the NOP. The contents of this letter are included in Appendix A.

4.4.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on cultural resources if the Project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.4.5 Environmental Impacts Before Mitigation

The following analysis is programmatic. Since no specific facilities are being proposed for disturbance or construction by approval of this PEIR, the following is an analysis of the potential known resources within the Project boundary, and how future facilities will be analyzed in light of what is presented below in the future. The District, City of Lake Elsinore, or City of Wildomar will use the following analysis and mitigation measures, if applicable, in guiding their future study and analysis.

Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

As discussed in Section 4.4.1, Setting and Project Baseline, most of the MDP facilities are located in existing disturbed/developed areas, as most of the MDP facilities are located in road rights-of-way, and therefore, limited new disturbance will occur as a result of the Project. Therefore, future MDP facilities that are proposed within existing road rights-of-way would have a less than significant impact to historical resources since these areas have already been previously disturbed and no further studies/surveys would be required. The proposed water quality and debris basins, however, are located in mainly undisturbed areas. Significant effects upon historic structures or features are evaluated by determining the presence or absence of historic status with respect to the MDP facility in question, and then determining the potential for Project implementation to affect the structure or feature if it possesses historic status.

As previously discussed, Juan Machado Home/Rippley Ranch, is listed in the Office of Historic Preservation Directory of Properties in the Historic Properties Directory File as potentially eligible for

inclusion on the NRHP. Additionally, based on the information provided by the Pechanga Tribe, the area around this adobe structure may contain sensitive archaeological resources. The Line A WQ Basin is proposed immediately adjacent to this resource; therefore, further studies and analysis will be conducted prior to final design of this facility so that avoidance of this cultural resource can be evaluated. If avoidance is not feasible, Mitigation Measures (**MM**) **CUL-1** through **MM CUL 8** shall reduce impacts to less than significant.

Also, as previously mentioned, P-8663/CA-RIV-6176H, a wooden pumphouse, may date back to the late 19th or early 20th century. The remains of a residence that may have been constructed in the 1940s or 1950s and partially constructed of adobe brick were identified upslope of the pumphouse. Since the Line N WQ Basin is being proposed near the wooden pumphouse, this resource would need to be further evaluated prior to final design of this facility so that avoidance of this cultural resource can be evaluated. If avoidance is not feasible, mitigation measures **MM CUL-1** through **MM CUL-8** shall reduce impacts to less than significant.

If construction of MDP facilities is within road rights-of-way and underground, then the Project will not result in the destruction or relocation of the known historic resources listed above. The MDP facility alignment that was used in the records search is conceptual at this time. When specific MDP facilities are proposed in the future, and the MDP facility changes include expansion of rights-of-way and/or aboveground structures that would impact known historic resources, then field surveys and additional analysis shall be prepared per mitigation measures **MM CUL-1**, **MM CUL-2**, and **MM CUL-3**. With the implementation of mitigation measures **MM CUL-1**, **MM CUL-2**, and **MM CUL-3**, impacts to historical resources will be reduced to **less than significant with mitigation incorporated**.

Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

There are some MDP facilities located in proximity to known archaeological resources. There are also MDP facilities, specifically the basins, that are in relatively undisturbed areas that have not been subject to past surveys, and so it is unknown whether or not there are resources that could be impacted by the Project. Even though some facilities have been subject of surveys before, for any MDP facility, implementation of **MM CUL-1**, **MM CUL-2**, and **MM CUL-3** will ensure that the site is surveyed ahead of impacts. Conducting surveys closer to when impacts will occur will allow for avoidance to be considered in final design of the MDP facility and any refinements to mitigation measures can be implemented at that point in time. That said, there are also MDP facilities located in existing roads and/or road rights-of-way that would disturb already disturbed lands, and the likelihood of finding archaeological resources would be very low. For all the MDP facilities, **MM CUL-6** through **MM CUL-8** will be required, so that if any remains or artifacts are uncovered during construction activities, then work must stop and the property authorities contacted.

A recorded archaeological site is located near proposed Line O-10 Debris Basin. The site is a prehistoric bedrock milling station. Nine grinding holes were observed on one boulder but other grinding/milling features were noted in the area of this site. Flakes and ground stone artifacts were observed on the ground surface. The site record indicates that the area has been heavily disturbed by grading for house pads and roads but that intact deposits may be present. The area surrounding this debris basin has not been the subject to previous surveys. Prior to final design of this facility, further cultural resource surveys need to be conducted to determine if the debris basin can avoid this resource. If avoidance is not feasible, mitigation measures **MM CUL-1** through **MM CUL-8** shall reduce impacts to less than significant.

As requested by the NAHC, when specific MDP facilities are proposed, the project proponent for the MDP facility shall conduct a Sacred Lands file search with the NAHC. Implementation of **MM CUL-1** through **MM CUL-6** will be required to be implemented for the MDP facilities not located within existing roads or road rights-of-way. For any MDP facilities located in existing road rights-of-way, **MM CUL-7** and **MM CUL-8** will also ensure that if any unknown resources are encountered, that work will stop and the appropriate measures will be taken to protect the resource. Implementation of **MM CUL-1** through **MM CUL-8** will reduce potential impacts to cultural resources to **less than significant with mitigation incorporated**.

Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

According to Figure 4.4-1, the majority of MDP facilities are within Low and Undetermined areas of Paleontological Resources. A portion of the Stoneman Street Channel and the Stoneman WQ Basin are located in an area considered to have High Potential of Paleontological Resources per Figure 4.4-1. The City of Lake Elsinore's Policy 8.1 requires surveys and study of project impacts on paleontological resources for projects within High and Undetermined areas and implementation of proper measures to reduce impacts. Since some of the MDP facilities are located within the City of Lake Elsinore and within the High and Undetermined Paleontological Resources area, future proposed MDP facilities within the Project boundary would be required to prepare a literature search and/or survey by a certified paleontologist (**MM CUL-9** and **MM CUL-10**).

Compliance with federal, state, and local regulations pertaining to paleontological resources and compliance with City of Lake Elsinore's Cultural Resources Policy 8.1, at a programmatic level, will prevent future MDP facilities from resulting in significant impacts to paleontological resources. Specific MDP facilities that are proposed for construction in the future must demonstrate that the Project will not result in significant impacts to paleontological resources through implementation of **MM CUL-9** and **MM CUL-10**. Therefore, impacts will be considered **less than significant with mitigation incorporated**.

4.4.6 Mitigation Measures

The CEQA Guidelines require an Environmental Impact Report to describe feasible mitigation measures which could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to eliminate or reduce the potential significant adverse impacts to historical resources, archaeological resources, and paleontological resources. The following measures shall be implemented to reduce potentially significant impacts to cultural resources to below the level of significance.

MM CUL-1 Prior to final design of flood control facilities, a cultural resources survey not within an existing road rights-of-way shall be completed by a qualified archaeologist. The survey shall include an updated site records search at the Eastern Information Center (EIC) to locate all previously recorded archaeological sites within the proposed construction area of Master Drainage Plan (MDP) facilities. The survey shall assess the direct and indirect impact of the MDP facility. Consultation with the Pechanga Band of Luiseño Indians (Pechanga Tribe) shall be initiated at the beginning of the survey to request additional site information and requested participation in the Project. If the record search indicates that the area has been surveyed and the study is not older than 5 years, a reconnaissance survey shall verify the condition and location of any previously recorded archaeological sites. If previously recorded sites are relocated during the survey, any changes in site condition shall be documented on appropriate State Department Parks and Recreation (DPR) forms, documented in the final technical study as described further in **MM CUL-3** and submitted to the EIC and the Pechanga Tribe (upon request). Any prehistoric or historic sites identified during the survey shall be recorded on appropriate DPR forms, discussed and described in the technical study, and submitted to the EIC and the Pechanga Tribe (upon request).

MM CUL-2 If the cultural resources survey determines that construction of an MDP facility would potentially impact a prehistoric or historic archaeological site and avoidance is not feasible, the Riverside County Flood Control and Water Conservation District (District), City of Lake Elsinore, or City of Wildomar shall have a qualified archaeologist develop a testing program which includes the excavation of shovel test pits and/or test units, in consultation with the Pechanga Tribe. The testing program shall fully define the boundaries of surface and subsurface materials, evaluate the integrity and significance of the site and collect surface and subsurface artifacts. The program shall include mapping of all site features, artifacts, and excavation locations. Related laboratory work shall be conducted to treat the materials that are recovered from the archaeological investigations in consultation with the Tribe.

If construction of an MDP facility would potentially impact a historic architectural resource structure because the MDP facility cannot be moved to avoid the resource, a

survey of the structure by a qualified architectural historian shall be required to assess the structure's significance. A review of primary and secondary documentary sources, such as tax assessor records, historic fire insurance maps, city directories, aerial photographs, and local building permit files, shall be conducted. The assessment shall take into account any events with which the structure is associated, any persons who may have lived in the structure, distinctive architectural characteristics, methods of construction, or association with a notable architect/designer. The assessment by the architectural historian shall recommend to the District, the City of Lake Elsinore, or the City of Wildomar guidelines to assist in the maintenance, repair, and renovation of the resource, if applicable.

MM CUL-3 For MDP facilities not within existing roads or road rights-of-way that have prepared a cultural resources survey per **MM CUL-1** and **MM CUL-2** described above, a technical report shall be prepared that documents all of the information gathered from the survey, data gathered from the testing program of prehistoric or historic archaeological sites, and consultation efforts with the Pechanga Tribe. The report shall identify any significant cultural resources and evaluate the potential impacts to those resources, providing an analysis based upon a regional, landscape viewpoint. If any site evaluated would be impacted by construction of a proposed component, additional project-specific mitigation measures shall be required to reduce the level of impacts. These mitigation measures shall include one of the following or a combination thereof:

a. Redesign of the proposed component to avoid the significant cultural resource, thereby avoiding significant impacts.

b. A data recovery program to recover sufficient cultural materials to exhaust the research potential of the site such that construction shall no longer represent a significant impact.

MM CUL-4 A data recovery program shall be required whenever avoidance from construction of MDP facilities has been demonstrated to be infeasible. The data recovery program shall include the excavation of a sufficiently large percentage of a subsurface deposit such that the research potential of the deposit will be exhausted. Typically, a 5% sample of the deposit will be required; however, sample sizes in the data recovery program will be determined on a per site basis in consultation with the Pechanga Tribe. Laboratory analysis and research shall be conducted to catalog all recovered materials and interpret the data. Interpretation of the site shall take into account the traditional beliefs and customs of the Tribe.

MM CUL-5 Indirect impacts may be identified where construction of MDP facilities would occur adjacent to a significant resource. In cases where construction activities are planned adjacent to known cultural resources, temporary fencing shall be placed around the site boundary by the Project archaeologist and the Pechanga Tribe prior to the start of construction activities to prevent access to the site. All temporary fencing shall be removed once the construction activities are completed.

MM CUL-6 Ground disturbances associated with construction of proposed MDP facilities that contain recorded archaeological sites identified in the cultural records survey (**MM CUL-1** and **MM CUL-2**) and archaeological sites identified in the technical report (**MM CUL-3**), regardless of significance, shall be monitored by a qualified archaeologist. Monitoring of construction activities shall ensure that any materials uncovered during construction activities are identified and adequately recorded. If the site is prehistoric, a local Native American observer shall also be retained by the District, the City of Lake Elsinore, or the City of Wildomar to monitor construction activities.

Not all MDP facilities will be constructed by the District. For District-administered contracts, monitors from the Tribe shall be allowed to monitor grading and ground-disturbing activities pursuant to the executed Master Cultural Resources Treatment and Tribal Monitoring Agreement between the Pechanga Tribe and the District. Additionally, the hired contractor would use the District's plans and specifications, which would include all the mitigation measures outlined in this section.

For MDP facilities located in the cities of Lake Elsinore and Wildomar where those jurisdictions will have lead agency authority over the project constructing the MDP facility, the cities can utilize the mitigation measures outlined herein, or prepare its own California Environmental Quality Act (CEQA) document with mitigation measures and/or incorporation conditions of approval in its project approval process that addresses monitoring activities within proximity to recorded archaeological sites.

MM CUL-7 A pre-construction workshop shall be conducted by a qualified archaeologist for an MDP facility not located within roads or roads right-of-way. The workshop shall address the following: review the types of archaeological resources that may be uncovered; provide examples of common archaeological artifacts to examine; describe why monitoring is required; identify monitoring procedures; describe what would temporarily stop construction and for how long; describe a reasonable worst-case resource discovery scenario (i.e., discovery of intact human remains or a substantial midden deposit); and describe reporting requirements and the responsibilities of the construction supervisor and crew. The workshop shall make attendees aware of prohibited activities, including unauthorized collecting of artifacts, which can result in impact on cultural resources.

The following mitigation measure has been included in order to address accidental discoveries of archaeological resources not identified in cultural resources surveys.

MM CUL-8 In the event cultural remains are encountered during construction of any MDP facilities, work shall stop immediately until a qualified archaeologist is retained to determine the potential significance of the find. If the remains are prehistoric, the District, the City of Lake Elsinore, or the City of Wildomar shall contact the Pechanga Tribe and abide by the District and Pechanga Master Agreement related to treatment of resources unexpectedly uncovered. Measures per the Master Agreement between the District and the Pechanga Tribe shall include giving all cultural items, including ceremonial items and archaeological items to the Pechanga; waiving ownership of any items found in favor of the Pechanga; no photography shall be taken of any articles found; and no destructive testing shall occur on ceremonial and/or sacred objects and human remains unless permission is granted by the Pechanga Tribe.

The following mitigation measures are provided to reduce potential impacts to paleontological resources to less than significant levels:

MM CUL-9 A literature search, and/or paleontological resources field survey (or surveys) by a certified paleontologist shall be completed prior to construction of any MDP facility that lie within the High or Undetermined potential sensitivity paleontological resource area. Relevant treatment for the site as recommended by the Society of Vertebrate Paleontology shall be applied, if needed. If the results of such survey (or surveys) identify the presence of potentially significant paleontological resources, avoidance or other appropriate measures (such as excavation, analysis, and interpretation of resources) potentially leading to curation in perpetuity in a facility that meets the standards of the State of California Guidelines for the Curation of Archaeological Collections and 36 CFR 79, shall be implemented.

MM CUL-10 In the unlikely event that paleontological resources such as vertebrate, plant, or invertebrate fossils are discovered during construction or site disturbance, work shall stop within the area of the discovery and the District, along with possibly the County of Riverside, the City of Lake Elsinore, or the City of Wildomar Planning Department, shall be contacted so that a qualified paleontologist can be consulted to determine the extent or quality of the find and make recommendations for further action, if necessary.

4.4.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Because this is a PEIR, specific MDP facilities are not being proposed at this time. As outlined above, there are some MDP facilities located in areas that may have more potential to impact cultural resources than others. For those MDP facilities located in sensitive areas, near known resources or unsurveyed areas, implementation of the mitigation measures identified in Section 4.4.6 would mitigate potential adverse impacts on cultural resources to levels below significance.

4.4.8 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

City of Lake Elsinore. 2011. *Draft General Plan.* Chapter 4.0 – Resource Protection and Preservation. Accessed November 30, 2011. http://issuu.com/cityoflakeelsinore/docs/chapter_4.0_-_resource_protection_and_preservation?mode=window&backgroundColor=%23222222.

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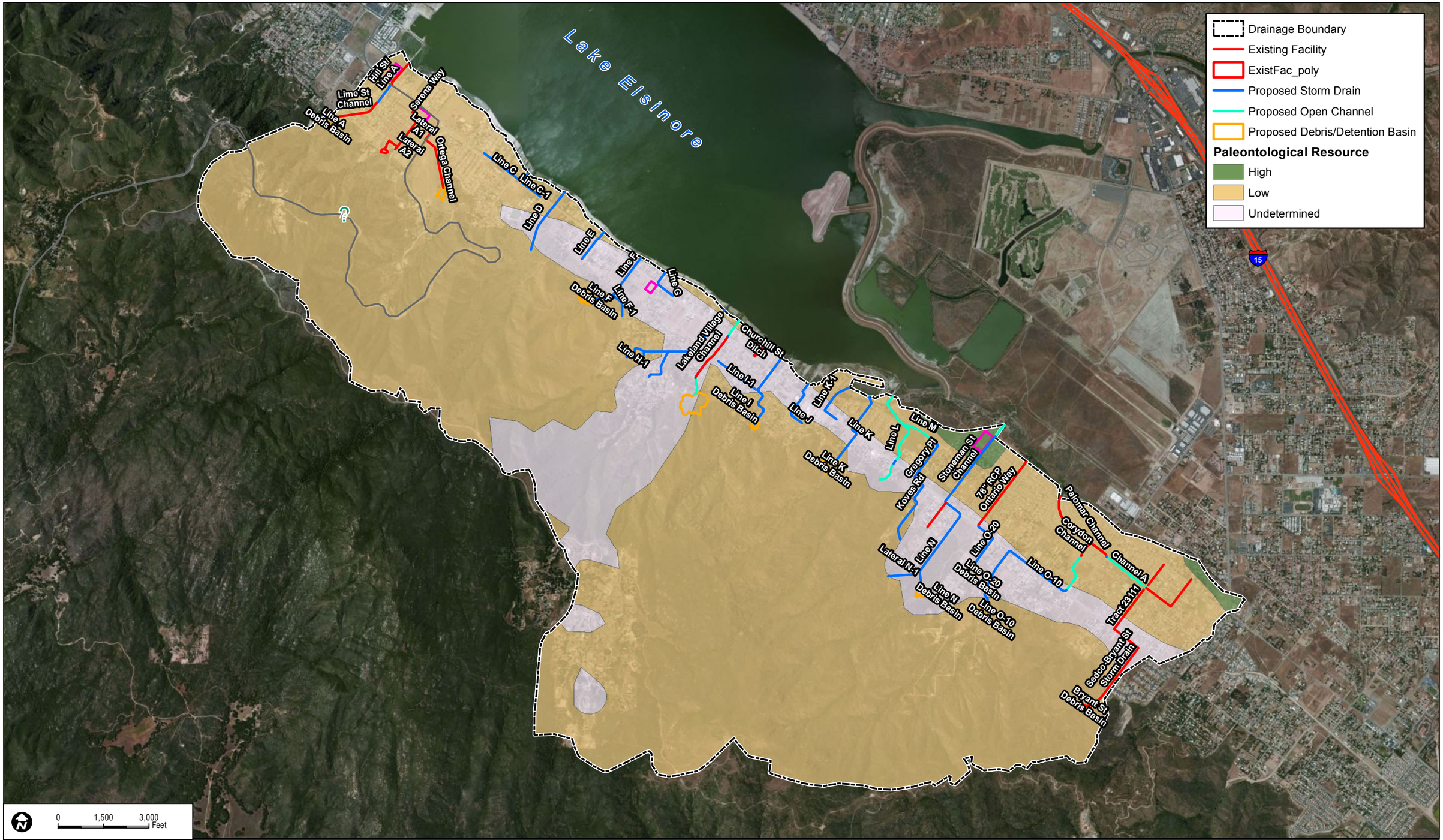
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Dudek. 2011. *Environmental Constraints Analysis*. February 9, 2011.

Pechanga Tribe. 2013. *Pechanga Tribe Ethnography of the Lake Elsinore Area – Páayaxchi and Its Surrounds*. February 8, 2013.

Society of Vertebrate Paleontology. 2011. "Policy Statements." Accessed November 30, 2011. http://www.vertpaleo.org/ConformableImpactMitigationGuidelinesCommittee.htm.

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SOURCE: Riverside County Flood Control and Water Conservation District 2010; Bing Maps

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FIGURE 4.4-1

Paleontological Resources

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.5 Geology and Soils

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to exposure of people or structures to potential substantial adverse effects, including seismic-related ground failure, landslides, mudflows, lateral spreading, subsidence, liquefaction, or collapse from implementation of the Project. Potential impacts from the Project on exposure of 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; strong seismic ground shaking; changes in topography; unstable soil conditions from excavation, grading or fill, or soil erosion; or the loss of topsoil, expansive soil, and soils being incapable of adequately supporting any structures, fill, or other improvements associated with the Project were found to be less than significant in the IS for the Project and are not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

A *Seismic and Geologic Hazards Review* (Appendix D) was prepared by Leighton Consulting Inc. in the preparation of this section of the PEIR.

4.5.1 Setting and Project Baseline

The Project area is generally located on the eastern slopes of the Santa Ana Mountains, west of the fault-controlled Elsinore–Temecula trough, within the Peninsular Ranges geomorphic province of California. The majority of the area is composed of undeveloped natural slopes and drainages descending toward Lake Elsinore. The low-lying areas along the west side of Lake Elsinore are generally developed and consist primarily of residential and local retail developments. Tectonic uplift of the plateau and subsequent erosion has resulted in remnants of the Miocene Age Santa Rosa Basalt capping the underlying Cretaceous Age granodiorite bedrock in this area. Specifically, the Project boundary is situated along the western fringe of the fault-controlled, down-dropped graben known as the Elsinore Trough. The most significant active fault zones that are capable of seismic ground shaking that can impact the MDP facilities include the following:

- **Elsinore Fault Zone –** This includes the local Wildomar Fault and Willard Fault segments, which pass through the eastern edge of the Project area. The Elsinore Fault Zone is capable of generating a Maximum Earthquake Magnitude (Mw) of 6.8 per the Richter scale.
- **San Jacinto Fault Zone –** This fault zone is located approximately 22 miles northeast of the Project boundary and is capable of generating earthquakes in excess of 7.1 Mw.
- **Newport-Inglewood Fault Zone –** This fault zone is located approximately 28 miles west of the Project boundary and is capable of generating earthquakes in excess of 6.9 Mw.
- **San Andreas Fault Zone –** This fault zone is located approximately 38 miles northeast of the Project boundary. It is considered the dominant active fault in California and is capable of generating earthquakes in excess of 7.4 Mw.

The Wildomar Segment of the Elsinore Fault Zone, an Alquist-Priolo Earthquake Fault Zone, traverses the far southeasterly portion of the Project area (see Figure 4.5-1). The County of Riverside also has zoned fault systems. One of Riverside County's zoned fault systems, the Willard Fault, is within the Project boundary (see Figure 4.5-1).

The Project area is underlain by numerous surficial deposits and/or bedrock units based on published geologic maps, as illustrated in Figure 4.5-2. The major surficial deposits and bedrock units that are most likely to be encountered during future construction of MDP facilities are described below:

- **Artificial Fill:** Artificial fills are generally referred to as undocumented fills or engineered (documented) fills. Undocumented fills are typically those fills that were placed without the review and testing of a geotechnical consultant. Engineered fills are those fills that were observed and tested by a geotechnical consultant. Most artificial fills within the Project boundary are expected to be engineered and placed during construction of existing public roads and private developments. The engineering characteristics and vertical or horizontal extent of these fills are site specific.
- **Young Alluvial-Fan Deposits:** These deposits generally consist of unconsolidated, bouldery, cobbly, gravelly, sandy, or silty alluvial fan deposits, and headward channel parts of alluvial fans (late Holocene).
- **Young Alluvial-Valley Deposits:** These are active and recently active fluvial deposits along valley floors. These deposits consist of unconsolidated sandy, silty, or clay-bearing alluvium within the lower elevations and near the present Lake Elsinore.
- **Old Alluvial-Fan Deposits:** These deposits generally consist of reddish-brown gravel and sand alluvial fan deposits; indurated, commonly slightly dissected.
- **Pauba Formation:** The Pauba-sandstone formation (Pleistocene) is poorly to moderately well indurated, extensively crossbedded, channeled and filled sandstone and siltstone that contains local intervening cobble-and-boulder conglomerate beds. This formation is generally found in the southern portion of the Project area.
- **Basalt of Elsinore Peak:** These vesicular basalt flows overlie Paleogene sandstone and are restricted to the Elsinore Peak area (Miocene).
- **Granodiorite-undifferentiated**: This is a Cretaceous age formation with intermediate composition granitic rocks, mainly biotite-hornblende and biotite granodiorite.
- **Heterogeneous granitic rocks**: This unit generally comprises the majority of the high slopes along the western half of the Project area. This Cretaceous age formation includes heterogeneous, compositionally diverse granitic rocks mostly of tonalitic and granodiorite composition, but includes some monzogranite and gabbro.
- **Mesozoic metasedimentary rocks-undifferentiated:** These are quartz-bearing metasedimentary rocks, chiefly biotite schist; includes unknown Mesozoic metasedimentary rocks and rocks of other designated Mesozoic units.

4.5.2 Related Regulations

Federal

U.S. Bureau of Reclamation

Established in 1902, the U.S. Bureau of Reclamation is an agency under the U.S. Department of the Interior, which oversees water resource management, specifically as it applies to the oversight and/or operation of numerous diversion, delivery and storage projects it built throughout the western United States for irrigation, water supply, and attendant hydroelectric power generation. Basins with embankments over 25 feet high or with an impounding capacity of 50 acre-feet or more, or that are over 6 feet in height and impound over 15 acre-feet of water, are considered to be dams (DSOD 2012, Water Code Sections 6002 and 6003). Some of the basins within the Project boundary are considered to be dams and will be designed in compliance with the U.S. Bureau of Reclamation's *Design of Small Dams* (BOR 1987).

State

California Department of Water Resources, Division of Safety of Dams

Since 1929, the State of California has supervised the construction and operation of dams to prevent failure, safeguard life, and protect property. The California Department of Water Resources, Division of Safety and Dams (DSOD) oversees the construction of dams that are over 25 feet high or have an impounding capacity of 50 acre-feet or more, or that are over 6 feet in height and impound over 15 acre-feet of water (DSOD 2012, Water Code Sections 6002 and 6003).

The DSOD reviews and approves permit applications to evaluate the safety of dams and reservoirs. DSOD staff provides independent review of facilities design and safety calculations. The DSOD may require the following: "data concerning subsoil and foundation conditions and the materials entering into construction of the dam or reservoir; investigations of, and reports on, subsurface conditions, involving such matters as exploratory pits, trenches and adits, drilling, coring, geophysical surveys, test to determine leakage rates, and physical tests to measure in place the properties and behavior of foundation materials at the dam or reservoir site; investigations of, and reports on, the geology of the dam or reservoir site and its vicinity, possible geologic hazards, availability and quality of construction materials, and other pertinent features; and/or other appropriate information as may be necessary" (DSOD 2012, Water Code Sections 6200 and 6203).

Seismic Hazards Mapping Act (1990)

The Seismic Hazards Mapping Act (SHMA) of 1990 (California Public Resources Code, Section 2690 et seq.) directs the Department of Conservation, California Geological Survey, to identify and map

areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards.

The SHMA provides a statewide seismic hazard mapping and technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other seismic hazards caused by earthquakes. Mapping and other information generated pursuant to the SHMA is to be made available to local governments for planning and development purposes. The state requires (1) local governments to incorporate site-specific geotechnical hazard investigations and associated hazard mitigation as part of the local construction permit approval process and (2) the agent for a property seller, or the seller if acting without an agent, to disclose to any prospective buyer if the property is located within a Seismic Hazard Zone. The State Geologist is responsible for compiling seismic hazard zone maps. The SHMA specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

Local

Standard Specifications for Public Works Construction

The *Standard Specifications for Public Works Construction*, known as the "Greenbook," was originally published in 1967. The 2012 Edition is the most recent Greenbook edition, which is updated every 3 years (Public Works Standards Inc. 2012). The Greenbook provides specifications that have general applicability to public works projects. Specifically, Section 300-6, Earthwork for Debris Dams and Basins, and Section 306, Underground Conduit Construction, pertains to the Project. Section 300-6 of the Greenbook includes discussion of protocols during earthwork for debris dams and basins including clearing and grubbing; stripping; basin excavation; compacted fills; and payment. Section 306 of the Greenbook includes discussion of protocols for underground conduit construction, including trench excavation, jacking operations, tunneling operations, cast-in-place non-reinforced concrete pipe, abandonment of conduits and structures, remodeling existing sewer facilities, curb drains, and microtunneling. The proposed MDP facilities specifications will be consistent with Sections 300-6 and 306 of the Greenbook.

Riverside County, City of Lake Elsinore, and City of Wildomar General Plans

Riverside County's General Plan, along with those of the Cities of Lake Elsinore and Wildomar, includes a section on seismic hazards and provides policies regarding the protection of people and structures from seismic activities and soil instability for development projects. None of these polices were deemed appropriate or applicable to the Project since these policies relate to future development proposals in those various jurisdictions that are not related to construction of flood control infrastructure.

4.5.3 Comments Received in Response to the Notice of Preparation

No comment letters were received during the NOP public comment period related to geology and soils.

4.5.4 Significance Threshold Criteria

The Riverside County Flood Control and Water Conservation District (District) has not established local California Environmental Quality Act (CEQA) significance thresholds as described in Section 15064.7 of the CEQA Guidelines (14 CCR 15000 et seq.). The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on geology and soils if the Project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction.
- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving landslides or mudflows.
- 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.

4.5.5 Environmental Impacts Before Mitigation

Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction?

One of the most common seismic-related ground failure events that most likely would occur within the Project boundary is liquefaction. According to Figure S-3 in Chapter 6: Safety Element of the Riverside County General Plan (County of Riverside 2003), potential for liquefaction is considered very high within portions of the Project boundary. The phenomenon of liquefaction may produce lateral spreading of soils adjacent to a body of water or water course (Lake Elsinore). Construction and/or improvements of the proposed MDP facilities include storm drains, concrete channels, water quality basins, and debris basins. The Project does not contain structures that would be inhabited by humans and therefore will not expose persons directly to substantial adverse effects from seismic-related ground failure such as liquefaction. However, the proposed debris and water quality basins, and the embankments associated with these features, could fail as a result of ground shaking and could indirectly expose humans and structures to adverse effects such as flooding if it were to occur during periods of high water levels in the basins. Most of the MDP facilities (i.e., storm drains) will be underground within road rights-of-way; therefore, seismic-related ground failure would not adversely affect their function and is not expected to

incur the risk of loss, injury, or death. Additionally, grading and earthwork construction for the proposed MDP facilities will comply with the Greenbook (Mitigation Measure (**MM**) **GEO-1**) and the DSOD regulations and policies for the basins over 25 feet high or that have an impounding capacity of 50 acre-feet or more, or over 6 feet in height and that impound over 15 acre-feet of water, as they are considered dams by the DSOD. Per Water Code Section 6200, construction of any new dam or reservoir or the enlargement of any dam or reservoir shall not be commenced until the owner has applied for and obtained from the DSOD written approval of plans and specifications.

Also, per Water Code Section 6120 and 6203, submittal of studies, data, tests, and investigations are required to address the failure of the dam structure for seismic and other loading conditions. For future basins that are considered dams and under the jurisdiction of DSOD, the District will be required to apply for and obtain from DSOD written approval of plans and specifications. The DSOD engineers and engineering geologists will review and approve plans and specifications for the design of dams and oversee their construction in order to ensure compliance with the approved plans and specifications as to reduce the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Furthermore, the U.S. Bureau of Reclamation includes an engineering manual for *Design of Small Dams* (BOR 1987), which includes criteria that must be met for earthfill dams. The proposed dams on future water quality or debris basins would be required to comply with the earthfill dam criteria outlined in the *Design of Small Dams* to ensure that the dam is safe and stable during all phases of construction and operation (**MM GEO-2**). Since this is a PEIR, no geotechnical specific studies have been done at this time since specific alignments are unknown and will be proposed in the future. A geotechnical report (field exploration and borings) will be prepared for future MDP facilities during the design phase of flood control facilities (**MM GEO-3**). Recommendations for remedial actions related to geotechnical concerns, if needed, that may be identified in a project-specific geotechnical report prepared in the future must be implemented by the District, the County of Riverside, the City of Lake Elsinore or the City of Wildomar. Therefore, since future basins will be designed in compliance with the Greenbook and DSOD regulations per **MM GEO-1** and **MM GEO-2**, and since the liquefaction and seismic risk will be assessed and remediated prior to construction per **MM GEO-3** and compliance with DSOD requirements for dams, impacts to seismic-related ground failure including liquefaction are considered to be **less than significant with mitigation incorporated**.

Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving landslides or mudflows?

According to Figure S-5 in Chapter 6: Safety Element of the Riverside County General Plan (County of Riverside 2003), portions of the Project boundary are located within an area of steep slopes (30% and greater) and within an area with documented subsidence. Portions of the Project boundary known to be at risk from landslides, rockfalls, subsidence, and ground fissuring have been mapped and are shown on Figure 4.5-3. The Project does not contain structures that would be inhabited by humans andtherefore will not expose persons directly to substantial adverse effects, including the risk of loss,

injury, or death involving landslides or mudflows. However, the proposed debris and water quality basins, and the embankments associated with these features, could fail as a result of ground shaking, and could indirectly expose humans and structures to adverse effects such as landslides or mudflows. Most of the MDP facilities (i.e., storm drains) will be underground within road rights-of-way and do not pose a risk of causing landslides and mudflows.

As discussed above, some of the future water quality and debris basin embankments may qualify as dams per the DSOD regulations.

Per Water Code Section 6200, construction of any new dam or reservoir or the enlargement of any dam or reservoir shall not commence until the owner has applied for and obtained from the DSOD written approval of plans and specifications. Also, per Water Code Sections 6120 and 6203, submittal of studies, data, tests, and investigations are required to address the failure of the dam structure for seismic and other loading conditions.

For future basins that are considered dams and under the jurisdiction of DSOD, the District will be required to apply for and obtain from DSOD written approval of plans and specifications. The DSOD engineers and engineering geologists will review and approve plans and specifications for the design of dams and oversee their construction in order to ensure compliance with the approved plans and specifications as to reduce the risk of loss, injury, or death involving landslides or mudflows to less than significant levels. Furthermore, the U.S. Bureau of Reclamation includes an engineering manual for *Design of Small Dams* (BOR 1987), which includes criteria that must be met for earthfill dams. The proposed dam basins would be required to comply with the earthfill dam criteria outlined in the *Design of Small Dams* to ensure that the dam is safe and stable during all phases of construction and operation (**MM GEO-2**). The proposed expansion of existing facilities and proposed storm drains, open channels, and basins will serve to decrease the potential adverse impacts from landslides or mudflows by providing a conduit within which these types of flows could be conveyed. Site-specific geologic review will also be performed to determine whether the potential for landsliding or slope instability exists for any future MDP facility (**MM GEO-3**). The dams will be designed in accordance with DSOD guidelines. The MDP facilities will be designed in accordance with the Greenbook, and the District will assess each MDP facility, especially those in the sloped areas of the Project boundary, by preparing a project-specific geotechnical analysis. Therefore, with incorporation of **MM GEO-2** (requiring compliance with DSOD requirements for dams) and **MM GEO-3**, impacts would be considered **less than significant with mitigation incorporated**.

Would the Project 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?

As discussed above, the Project will most likely decrease the potential adverse impacts from landslides or mudflows by providing a conduit within which storm flows, which are typically the cause of landslides or

collapse, could be conveyed. However, according to Figure S-5 in Chapter 6: Safety Element of the Riverside County General Plan (County of Riverside 2003), portions of the Project are located within an area with steep slopes (30% and greater) and within an area with documented subsidence. Lateral spreading is also a risk within the Project boundary, given the seismic constraints. Areas of the Project area known to be at risk from landslides, rock falls, subsidence, and ground fissuring have been mapped and are shown on Figure 4.5-3. In accordance with **MM GEO-3**, site-specific geologic review and remediation, if necessary, will be conducted prior to final design to determine whether the potential for landsliding or slope instability exists for any future facility. Potentially significant construction-related impacts associated with the Project include encountering unstable soil and rock conditions and exposure of oversize rock material during grading on undeveloped lands. Grading and earthwork construction for future MDP facilities will be required to conform to the Greenbook as outlined by a qualified geotechnical consultant, as required by **MM GEO-1**. Additionally, basins that meet the requirements to be considered a dam would fall under the jurisdiction of the DSOD. Per Water Code Section 6200, construction of any new dam or reservoir or the enlargement of any dam or reservoir shall not commence until the owner has applied for and obtained from the DSOD written approval of plans and specifications. Also, per Water Code Sections 6120 and 6203, submittal of studies, data, tests, and investigations are required to address the failure of the dam structure for seismic and other loading conditions. For future basins that are considered dams and under the jurisdiction of DSOD, the District will be required to apply for and obtain from DSOD written approval of plans and specifications. The DSOD engineers and engineering geologists will review and approve plans and specifications for the design of dams and oversee their construction in order to ensure compliance with the approved plans and specifications. Furthermore, the U.S. Bureau of Reclamation includes an engineering manual for *Design of Small Dams* (BOR 1987), which includes criteria that must be met for earthfill dams. The proposed dam basins would be required to comply with the earthfill dam criteria outlined in the *Design of Small Dams* to ensure that the dam is safe and stable during all phases of construction and operation (**MM GEO-2**). Each MDP facility would be required to adhere to the recommendations of the project-specific geological study and comply with the Greenbook in order to reduce potentially significant impacts. Future dams under the jurisdiction of the DSOD would be required to comply with the DSOD statutes and regulations. Therefore, with incorporation of **MM GEO-1**, **MM GEO-2** (requiring compliance with DSOD requirements for dams), and **MM GEO-3**, impacts related to risk of being located on an unstable unit would be considered **less than significant with mitigation incorporated**.

4.5.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures that could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to reduce or eliminate impacts related to unstable geologic conditions.

MM GEO-1 In order to ensure individual MDP facilities are placed on the least unstable areas, or designed in a way to address any unstable geologic conditions (i.e., liquefaction), grading and earthwork construction shall conform to *Standard Specifications for Public Works Construction* (the "Greenbook") and grading specifications shall be developed by a geotechnical consultant hired by the Riverside County Flood Control and Water Conservation District (District), the City of Lake Elsinore, or the City of Wildomar. Typical earthwork considerations include:

- Remedial grading requirements for any given site are determined based on a site-specific geotechnical investigation to provide stable ground for any proposed structures. Generally, the upper weathered formational materials or loose soils are removed until dense, relatively "non-compressible" soils (alluvium or Formation materials) are encountered.
- Topsoil and vegetation layers, root zones, and similar surface materials are typically not suitable for reuse as engineered fill and are normally stripped and either stockpiled for reuse in landscape areas or removed from the site. Most alluvial materials and bedrock materials are considered suitable for reuse as compacted engineer fills. However, excavations in the bedrock materials may generate oversize materials that are difficult to handle in engineered fills. Typically, cobbles and boulders larger than 6 inches in diameter are not placed in structural fill under settlement-sensitive improvements and may require special handling and grading procedures.

MM-GEO-2 In order to provide a safe and stable earthfill dam that would be associated with debris basins or water quality basins, during all phases of construction and operation, the following criteria must be met in accordance with the U.S. Department of the Interior, Bureau of Reclamation, *Design of Small Dams* (BOR 1987):

a. The embankment, foundation, abutments, and reservoir rim must be stable and must not develop unacceptable deformations under all loading conditions brought about by construction of the embankment, reservoir operation, and earthquake.

b. Seepage flow through the embankment, foundation, abutments, and reservoir rim must be controlled to prevent excessive uplift pressures; piping; instability; sloughing; removal of material by solutioning; or erosion of material into cracks, joints, or cavities. The amount of water lost through seepage must be controlled so that it does not interfere with planned Project functions.

c. The reservoir rim must be stable under all operating conditions to prevent the triggering of a landslide into the reservoir that could cause a large wave to overtop the dam.

d. The embankment must be safe against overtopping or encroachment of freeboard during occurrence of the IDF (inflow design flood) by the provision of sufficient spillway and outlet works capacity.

e. Freeboard must be sufficient to prevent overtopping by waves.

f. Camber should be sufficient to allow for settlement of the foundation and embankment, but not included as part of the freeboard.

g. The upstream slope must be protected against wave erosion, and the crest and downstream slope must be protected against wind and rain erosion.

MM GEO-3 In order to address risk of seismic activities such as land spreading or slope instability, future proposed MDP facilities will be assessed by the District, the City of Lake Elsinore, or the City of Wildomar through a qualified geologist to determine whether they are located in areas prone to these types of seismic activities. If so, a geotechnical report (field exploration and borings) shall be prepared during the design phase. The geotechnical report shall include a site-specific seismic evaluation to determine the intensity of ground shaking on the specific MDP facility. MDP facilities within a liquefaction hazard zone per the Riverside County General Plan shall also be evaluated for liquefaction-induced settlement. An analysis of lateral spreading affects to properties adjacent to the lake edge and where future MDP facilities are proposed as well as a review to determine whether the potential for landsliding or slope instability exists shall be performed by a qualified geologist and provided to the District during the design phase.

Additionally, future site-specific geologic review shall be performed to determine whether the potential for land sliding or slope instability exist, especially for MDP facilities located on the higher elevations of the Project boundary.

4.5.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Implementation of the mitigation measures outlined in Section 4.5.6 will reduce potentially significant impacts related to geology and soils to a less than significant level.

4.5.8 References

BOR (U.S. Bureau of Reclamation). 1987. *Design of Small Dams*. U.S. Department of the Interior, BOR. Accessed May 1, 2012. http://www.usbr.gov/pmts/hydraulics_lab/pubs/manuals_monographs.html.

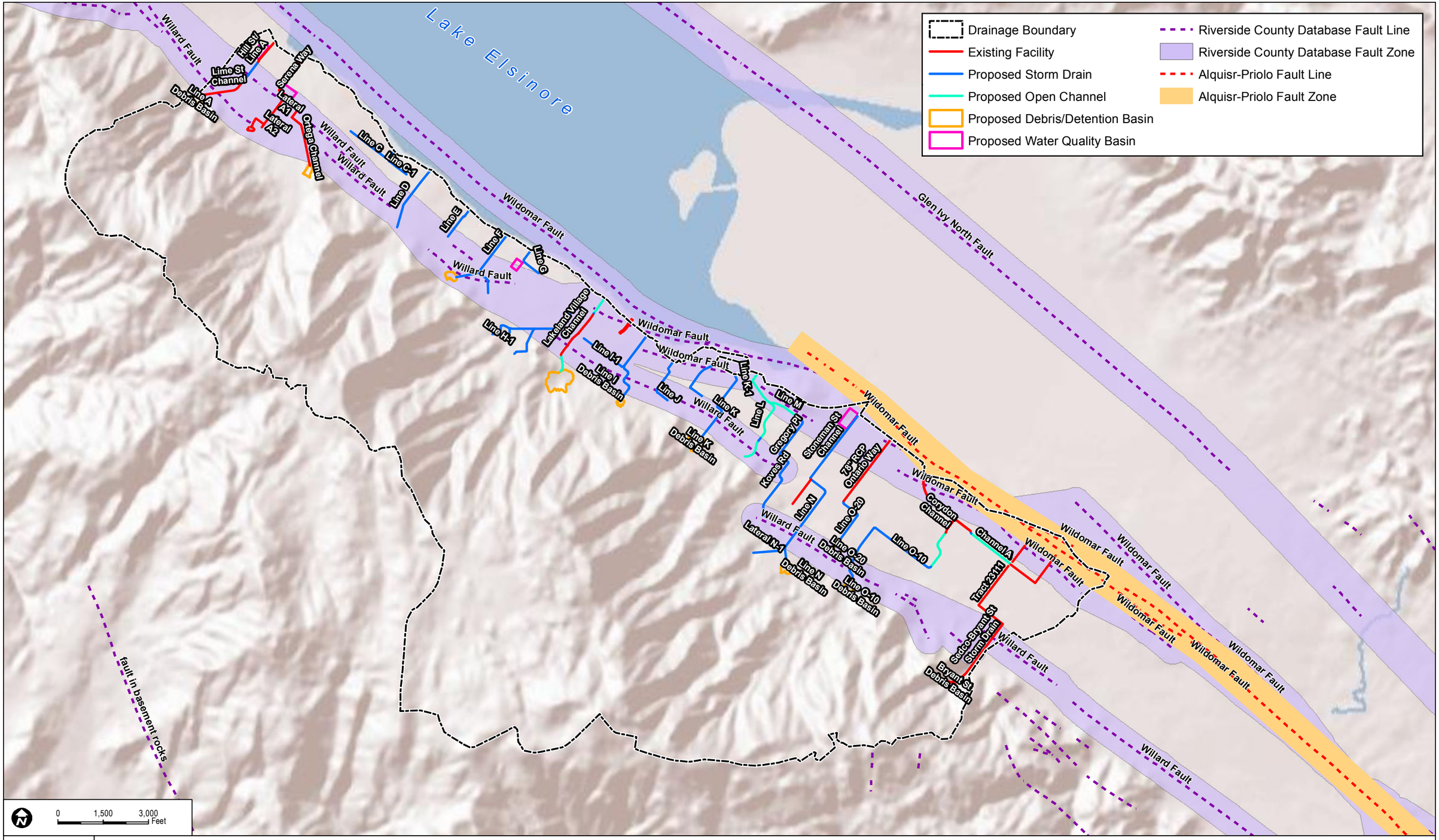
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DSOD (Division of Safety and Dams). *Statues and Regulations Pertaining to Supervision of Dams and Reservoirs.* 2012. California Department of Water Resources, DSOD. Accessed April 23, 2012. http://www.water.ca.gov/damsafety/docs/statutes-regulations.pdf.

Leighton Consulting Inc. 2011. *Seismic and Geologic Hazards Review*. March 22, 2011.

Public Works Standards Inc. 2012. *The "Greenbook": Standard Specifications for Public Works Construction*. BNI Publications Incorporated. January 20, 2012.

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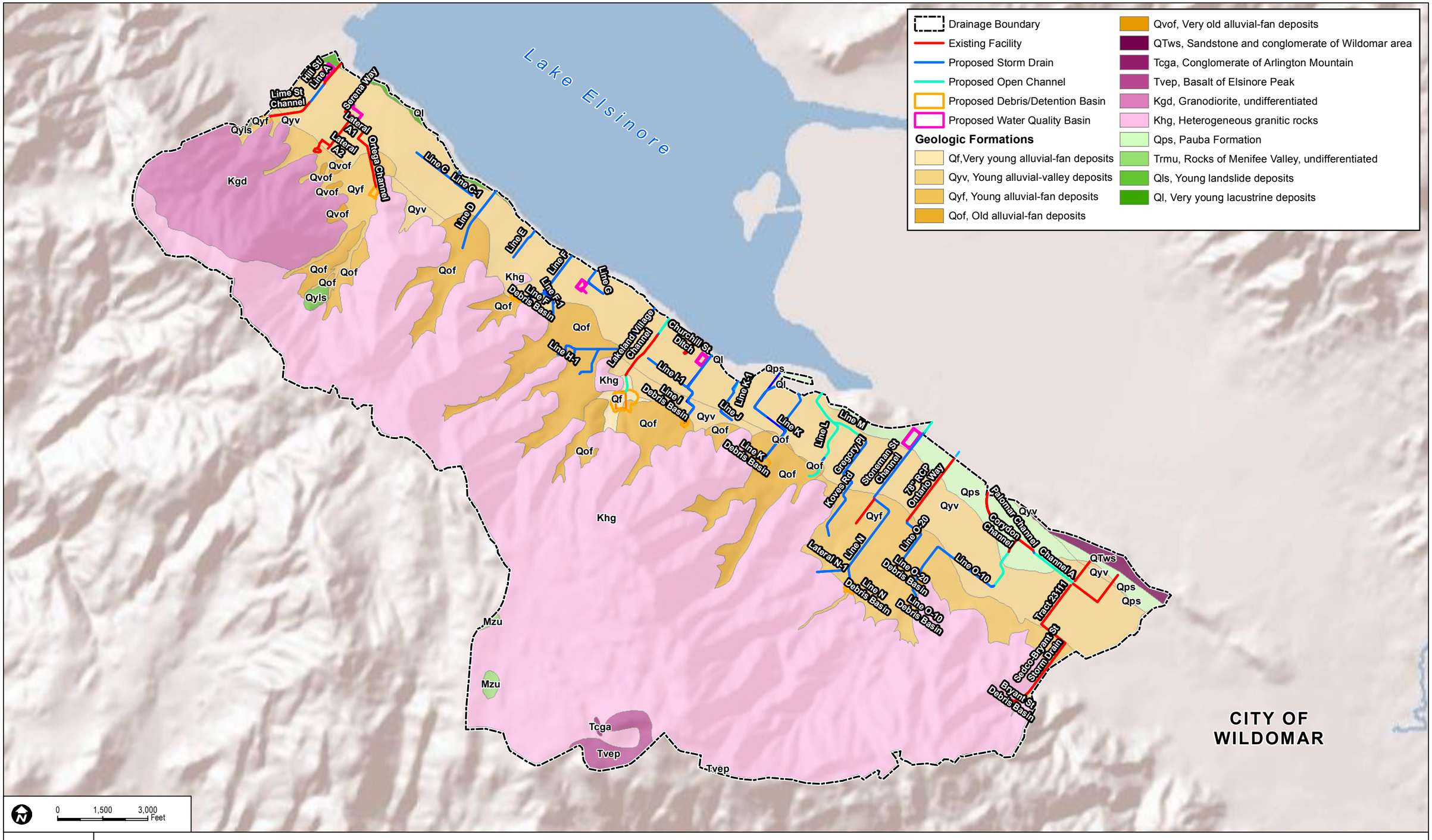
SOURCE: Leighton Consulting, Inc. (2011)

FIGURE 4.5-1

Fault Hazard

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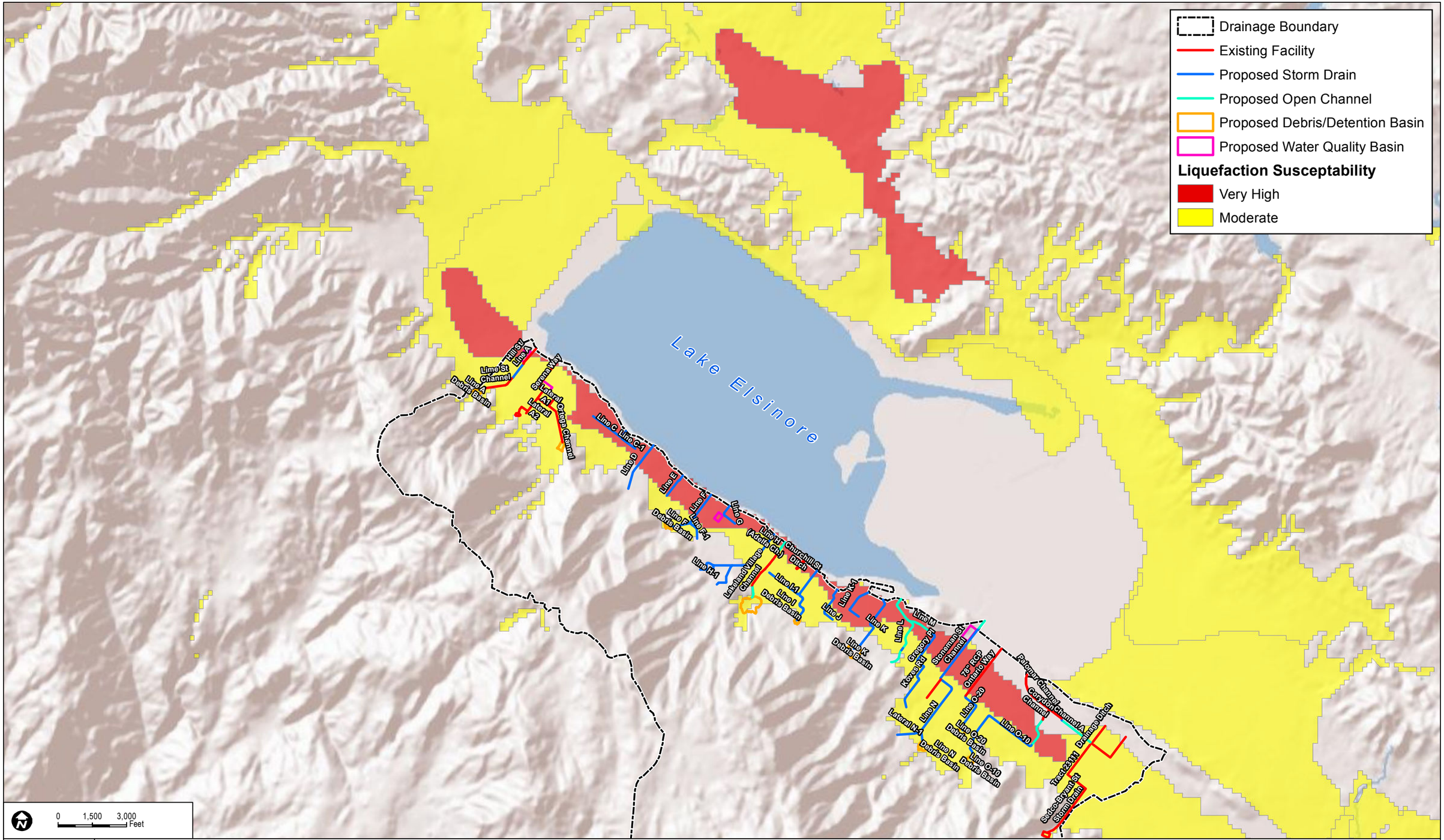
SOURCE: Leighton Consulting, Inc. (2011)

FIGURE 4.5-2

Regional Geology

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SOURCE: Leighton Consulting, Inc. (2011)

FIGURE 4.5-3

Liquefaction Hazard

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LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.6 Greenhouse Gas Emissions

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the public comment period, is related to the Project's potential impacts resulting from generation of greenhouse gas (GHG) emissions and potential conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the GHG emissions as a result of implementation of the Project.

Potential Project-generated emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1, available online (http://www.caleemod.com). Model results are included in this Draft PEIR as Appendix C.

4.6.1 Setting and Project Baseline

4.6.1.1 Physical Setting

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer) (EPA 2011). Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). The greenhouse effect traps heat in the troposphere through a threefold process: short-wave radiation emitted by the Sun is absorbed by the Earth; 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 this long-wave radiation 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.

Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor (H_2O). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil-fuel combustion, whereas CH_4 results mostly from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3), which are associated with certain industrial products and processes (CAT 2006).

The effect each GHG has on climate change is measured as a combination of the volume or mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP). The GWP varies between GHGs; for example, the GWP of CH_4 is 21, and the GWP of N_2O is 310. Total GHG emissions are expressed as a function of how much warming

would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of pounds or tons of "CO_2 equivalent" (CO_2E).[1]

According to the California Air Resources Board (CARB), some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high O_3 days, more large forest fires, and more drought years (CARB 2006). Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts.

The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2 degrees Celsius (°C) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming would occur, which would induce further changes in the global climate system during the current century. Changes to the global climate system and ecosystems and to California would include, but would not be limited to:

- The loss of sea ice and mountain snowpack resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (IPCC 2007)
- Rise in global average sea level primarily due to thermal expansion and melting of glaciers and ice caps, the Greenland and Antarctic ice sheets (IPCC 2007)
- Changes in weather that includes, widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic and aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2007)
- Decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California, by 70% to as much as 90% over the next 100 years (CAT 2006)
- Increase in the number of days conducive to O_3 formation by 25% to 85% (depending on the future temperature scenario) in high O_3 areas of Los Angeles and the San Joaquin Valley by the end of the 21st century (CAT 2006)
- High potential for erosion of California's coastlines and sea water intrusion into the Delta and levee systems due to the rise in sea level (CAT 2006).

[1] The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons CO_2E = (metric tons of a GHG) x (GWP of the GHG). For example, the GWP for CH_4 is 21. This means that emissions of 1 metric ton of methane is equivalent to emissions of 21 metric tons of CO_2.

4.6.1.2 Contributions to Greenhouse Gas Emissions

In 2008, the United States produced 6,957 million metric tons of CO_2E (MMT CO_2E) (EPA 2010a). The primary GHG emitted by human activities in the United States was CO_2, representing approximately 85% of total GHG emissions. The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 94% of the CO_2 emissions.

According to the 2008 GHG inventory data compiled by CARB for the California Greenhouse Gas Inventory for 2000–2008, California emitted 478 MMT CO_2E of GHGs, including emission resulting from out-of-state electrical generation (CARB 2010). The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. These primary contributors to California's GHG emissions and their relative contributions in 2008 are presented in Table 4.6-1, Greenhouse Gas Sources in California.

Table 4.6-1
Greenhouse Gas Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	% of Total
Agriculture	28.06	5.9%
Commercial uses	14.68	3.1%
Electricity generation	116.35[a]	24.3%
Forestry (excluding sinks)	0.19	0.0%
Industrial uses	92.66	19.4%
Recycling and waste	6.71	1.4%
Residential uses	28.45	6.0%
Transportation	174.99	36.6%
High GWP substances	15.65	3.3%
Totals	**477.74**	**100.0%**

Source: CARB 2010.
[a] Includes emissions associated with imported electricity, which account for 61.24 MMT CO_2E annually.

4.6.2 Related Regulations

Regulation of GHGs in the United States and California is relatively recent, beginning mid-decade. In the absence of major federal efforts, California's former governor, Arnold Schwarzenegger, and the legislature took initiatives to establish goals for reductions of GHG emissions in California and to prescribe a regulatory approach to ensuring that the goals would be met. While not as comprehensive, the federal government, primarily through actions of the U.S. Environmental Protection Agency (EPA), has also begun to regulate GHG emissions. Key federal and state regulatory efforts that could apply to implementation of the improvements under the Project are provided below.

While the state has adopted other legislation and regulatory measures that apply to electricity (e.g., Renewable Portfolio Standard under Senate Bill X1 2) and measures focused on specific sources of GHGs, they would not apply directly to the Project because the proposed Master Drainage Plan (MDP) facilities would not provide or consume electricity. The description of key measures and motor-vehicle-related measures discussed above focuses on those that are of a general nature (e.g., Assembly Bill (AB) 32) or could apply to some extent, although generally in a minor way.

Federal

Massachusetts v. EPA. On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497, the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The court held that the EPA Administrator must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the endangerment finding.
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the cause or contribute finding.

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007. Signed on December 19, 2007, the act includes the following measures to aid in the reduction of national GHG emissions: (1) increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard; (2) set a target of 35.5 miles per gallon for the combined fleet of cars and light trucks by model year 2016 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks; and (3) prescribe or revise standards affecting regional efficiency, energy conservation, energy efficiency labeling for consumer electronic products, and efficiencies for residential boiler and heating/cooling products/home appliances.

EPA and NHTSA Joint Final Rule for Vehicle Standards. On April 1, 2010, the EPA and the Department of Transportation's NHTSA announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016. The joint rule is intended

to reduce GHG emissions and improve fuel economy. The EPA finalized the first-ever national GHG emissions standards under the Clean Air Act, and the NHTSA finalized corporate average fuel economy (CAFE) standards under the Energy Policy and Conservation Act (EPA 2010b). This final rule follows the EPA and Department of Transportation's joint proposal on September 15, 2009, and is the result of President Obama's May 2009 announcement of a national program to reduce GHGs and improve fuel economy. This final rule became effective on July 6, 2010 (EPA and NHTSA 2010).

The EPA's GHG standards require new passenger cars, light-duty trucks, and medium-duty passenger vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg) if the automotive industry were to meet this CO_2 level all through fuel economy improvements. The CAFE standards for passenger cars and light trucks will be phased in between 2012 and 2016, with the final standards equivalent to 37.8 mpg for passenger cars and 28.8 mpg for light trucks, resulting in an estimated combined average of 34.1 mpg. Together, these standards will cut GHG emissions by an estimated 960 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program. The rules will simultaneously reduce GHG emissions, improve energy security, increase fuel savings, and provide clarity and predictability for manufacturers (EPA 2010b).

In August 2012, the EPA and NHTSA approved a second round of GHG and CAFE standards for model years 2017 and beyond (EPA and NHTSA 2012). These standards will reduce motor vehicle GHG emissions to 163 grams of CO_2 per mile, which is equivalent to 54.5 mpg if this level were achieved solely through improvements in fuel efficiency, for cars and light-duty trucks by model year 2025. A portion of these improvements, however, will likely be made through improvements in air conditioning leakage and through use of alternative refrigerants, which would not contribute to fuel economy. The first phase of the CAFE standards, for model year 2017 to 2021, are projected to require, on an average industry fleet wide basis, a range from 40.3 to 41.0 mpg in model year 2021. The second phase of the CAFE program, for model years 2022 to 2025, includes standards, which are not final due to the statutory requirement that NHTSA set average fuel economy standards not more than five model years at a time, projected to require, on an average industry-fleet-wide basis, a range from 48.7 to 49.7 mpg in model year 2025. The regulations also include targeted incentives to encourage early adoption and introduction into the marketplace of advanced technologies to dramatically improve vehicle performance, including:

- Incentives for electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles
- Incentives for hybrid technologies for large pickups and for other technologies that achieve high fuel economy levels on large pickups
- Incentives for natural gas vehicles
- Credits for technologies with potential to achieve real-world GHG reductions and fuel economy improvements that are not captured by the standard test procedures.

State

Assembly Bill 1493. In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 (Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set the GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%. The EPA granted California a waiver under the federal Clean Air Act, which ordinarily preempts state regulation of motor vehicle emission standards, on June 30, 2009. On March 29, 2010, the CARB Executive Officer approved revisions to the motor vehicle GHG standards to harmonize the state program with the national program for 2012 to 2016 model years (see "EPA and NHTSA Joint Final Rule for Vehicle Standards"). The revised regulations became effective on April 1, 2010.

Assembly Bill 32. In furtherance of the goals established in Executive Order S-3-05, the legislature enacted AB 32 (Núñez and Pavley), the California Global Warming Solutions Act of 2006, which former governor Schwarzenegger signed on September 27, 2006. The statewide GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020.

CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any adopted rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

On December 11, 2008, CARB approved the Climate Change Scoping Plan (Scoping Plan) (CARB 2008) to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and CAT early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. These measures are being developed and adopted; they will become effective by January 1, 2012.

The key elements of the Scoping Plan (CARB 2008) include the following:

- Expanding and strengthening existing energy-efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33%
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

Executive Order S-1-07. Issued on January 18, 2007, Executive Order S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2E gram per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources such as algae, wood, and agricultural waste. In addition, the Low Carbon Fuel Standard would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The Low Carbon Fuel Standard is anticipated to replace 20% of the fuel used in motor vehicles with alternative fuels by 2020.

Senate Bill 97. In August 2007, the legislature enacted Senate Bill (SB) 97 (Dutton), which directs the Governor's Office of Planning and Research (OPR) to develop guidelines under the California Environmental Quality Act (CEQA) for the mitigation of GHG emissions. OPR was to develop proposed guidelines by July 1, 2009, and the Natural Resources Agency was directed to adopt guidelines by January 1, 2010. On June 19, 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents (OPR 2008). The advisory indicated that a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities, should be identified and estimated. The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures that are necessary to reduce GHG emissions to a less than significant level.

The California Natural Resources Agency (CNRA) adopted the CEQA Guidelines amendments on December 30, 2009, and transmitted them to the Office of Administrative Law on December 31, 2009.

On February 16, 2010, the Office of Administrative law completed its review and filed the amendments with the Secretary of State. The amendments became effective on March 18, 2010.

Senate Bill 375. Signed by former governor Schwarzenegger on September 30, 2008, SB 375 (Steinberg) addresses GHG emissions associated with the transportation section through regional transportation and sustainability plans. By September 30, 2010, CARB was required to assign regional GHG reduction targets for emissions from automobiles and light trucks within each region of California that has a metropolitan planning organization. The targets are set for years 2020 and 2035. Regional metropolitan planning organizations will be responsible for preparing a Sustainable Communities Strategy within the Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for "transit priority projects." On September 23, 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the Southern California Association of Governments are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a Sustainable Communities Strategy will be the responsibility of the metropolitan planning organizations.

Executive Order B-16-12. Governor Brown issued Executive Order S-16-12 on March 23, 2012. The Executive Order requires that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emission vehicles. It orders CARB, the CEC, the CPUC, and other relevant agencies work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish goals and benchmarks for 2015, 2020, and 2025. On a statewide basis, the executive order establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050.

4.6.3 Comments Received in Response to the Notice of Preparation

No comments relating to GHG emissions or climate change were received in response to the NOP.

4.6.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on GHG emissions if the Project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Neither the State of California nor the South Coast Air Quality Management District (SCAQMD) has adopted emission-based thresholds for GHG emissions under CEQA. The OPR issued a technical advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*, which states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008, 4). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008, 6).

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental documents must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b).

The SCAQMD has not established emission-based thresholds for assessing whether the GHG emissions of a project in the South Coast Air Basin, such as the Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While implementation of the Project would result in emissions of GHGs during construction, no guidance exists to indicate what level of GHG emissions from an individual project would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

The California Air Pollution Control Officers Association (CAPCOA) published a white paper in January 2008 evaluating and addressing GHG emissions from projects subject to CEQA. The CAPCOA CEQA & Climate Change white paper is intended as a resource and not a guidance document. The white paper studied non-zero quantitative thresholds, which were based on capture of 90% or more of likely future discretionary developments. The objective of the CAPCOA white paper was to set the emission threshold

low enough to capture a substantial fraction of future residential and non-residential development that will be constructed to accommodate future statewide population and job growth, while setting the emission threshold high enough to exclude small development projects that would contribute a relatively small fraction of the cumulative statewide GHG emissions. A significance threshold of 900 MT CO_2E per year, which was the lowest non-zero threshold evaluated, was based on an analysis that included data from four diverse cities (Los Angeles, Pleasanton, Dublin, and Livermore). This threshold would apply to industrial, residential, and commercial projects, but it is noted in the white paper that any adoption of such a threshold would require further investigation. The CAPCOA document also looked at other possible thresholds, including zero thresholds, thresholds tied to the goals of AB 32 and Executive Order S-3-05, CARB GHG reporting thresholds, and efficiency-based thresholds, among others. The District has concluded that a zero threshold would be overly restrictive and set an unwarranted precedent for future District projects. Recommended thresholds related to achieving the goals of AB 32 and/or Executive Order S-3-05 are based on the premise that a project would reduce its potential GHG emissions relative to a "business-as-usual" scenario that would have occurred in the absence of the mandated reductions or project features sufficiently to be consistent with the reduction required to achieve the statewide goals (e.g., approximately 30% under AB 32). Typically, this type of threshold is applied to a development project that would be directly or indirectly subject to statewide measures (e.g., low carbon fuel standard for motor vehicle fuels or Renewable Portfolio Standard for electricity) and would incorporate project features to conserve energy and water usage. Because the Project's GHG emissions are associated primarily with construction of the Project drainage infrastructure improvements with no long-term GHG-producing structures or equipment, there is little to no opportunity to demonstrate a substantial reduction in GHG emissions through the effectiveness of statewide measures or project features. The CARB GHG reporting threshold—25,000 MT CO_2E for specific stationary sources—would not be applicable to the Project, which does not involve stationary sources, and would be much higher than the more restrictive threshold of 900 MT CO_2E. The efficiency-based thresholds use a "service population" (i.e., population plus employment for a project), which does not apply to the Project because it would not generate new population or long-term increases in employment.

Based on the reasons cited above, the District has determined that a demonstration that the Project would not result in a cumulatively considerable contribution to GHG emissions through the use of relatively restrictive, emission-based threshold is the appropriate approach for this PEIR. For purposes of this assessment, therefore, a threshold of 900 MT CO_2E will be used to evaluate the significance of the Project's GHG emissions during construction. As stated in Section 4.2 (Air Quality) and Section 4.6.5, the Project would involve minor activity for maintenance and operation of the MDP facilities. Accordingly, operational emissions were not evaluated quantitatively in this assessment.

4.6.5 Environmental Impacts Before Mitigation

Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

As discussed in Section 4.2, Air Quality, and listed in Section 3.0, Project Description, Table 3.0-1, the Project consists of multiple drainage infrastructure improvements required to alleviate and control flooding within the Project boundary. The Project identifies the approximate location, size and type of facilities, such as concrete-lined rectangular channels, storm drains, debris basins, and water quality basins, necessary to meet the goals of the Project; however, these plan components could change. Consistent with the nature of a program level assessment, project details and construction specifics are currently unknown. A representative project was identified to analyze potential impacts associated with implementation of future MDP facilities under the Project. The representative project was developed consistent with maximum funding that the District may have available for construction of MDP facilities to conservatively estimate potential construction-related emissions and associated impacts. This representative project would consist of excavation; backfill and/or compaction during construction of a storm drain, concrete-lined rectangular channel, debris basin, and water quality basin; and paving construction activities.

GHG emissions, estimated using CalEEMod Version 2011.1.1, would be generated during construction of the representative project. Modeled construction would consist of the following phases, which are assumed to be constructed sequentially for purposes of this analysis:

- Storm drain Installation (2.1 acres)
    - Excavation – 11 weeks
    - Concrete for reinforced concrete box (RCB) installation – 3 days
    - Backfill – 11 weeks
- Paving – 2 weeks (1.82 acres)
- Concrete rectangular channel (0.64 acres)
    - Excavation – 0.5 week
    - Concrete for channel installation – 3 days
    - Backfill/compaction – 0.5 week
- Debris basin (2.9 acres)
    - Excavation – 3.5 weeks
    - Backfill/compaction – 5 weeks

- Water quality basin (3.7 acres)
    - Excavation – 2 weeks.

The Project envisions construction of 21 new storm drains, five new open channels, nine new debris basins, and four new water quality basins, in addition to upsizing of existing facilities. Construction would likely occur over several years and could occur intermittently over the next 10 to 50 years depending on availability of funds. Accordingly, potential GHG emissions associated with buildout of all MDP facilities would not occur entirely within 1 year.

The representative project was assumed to be constructed within a 9-month period from spring (April) 2013 to winter (December) 2013. It is reasonable to assume that with time, emissions generated by construction equipment and haul and vendor trucks and worker vehicle trips would be reduced due to advances in equipment technology, increased vehicle fuel economy, and more stringent emission standards than in 2013. Thus, this approach would generate a conservative estimate of the construction emissions.

Construction of the MDP facilities would result in GHG emissions, which are primarily associated with use of off-road construction equipment and on-road construction and worker vehicles. CalEEMod was used to calculate the annual GHG emissions, expressed in units of CO_2E, based on the representative project construction scenario described in detail in Section 4.2, Air Quality. Table 4.6-2, Estimated Annual Construction Greenhouse Gas Emissions, presents construction emissions for the representative project in 2013. Total emissions from on-site sources (off-road equipment) and off-site sources (hauling and vendor trucks and worker vehicles) are provided for each improvement type identified for the representative project in the table below.

Table 4.6-2
Estimated Annual Construction Greenhouse Gas Emissions (2013)

	MT CO_2	MT CH_4	MT N_2O	MT CO_2E
Storm drain installation	185	0.02	0.00	186
Paving	5	0.00	0.00	5
Rectangular concrete channel	15	0.00	0.00	15
Debris basin	88	0.01	0.00	88
Water quality basin	63	0.00	0.00	63
2013 Total	**356**	**0.03**	**0.00**	**357**

Notes: See Appendix C for complete results.
MT CO_2 = metric tons carbon dioxide; MT CH_4 = metric tons methane; MT N_2O = metric tons nitrous oxide; MT CO_2E = metric tons carbon dioxide equivalent

As shown in Table 4.6-2, the estimated total GHG emissions during construction of the representative project would be 357 MT CO_2E in 2013, which would be generated over a 1-year period. Additional details regarding these calculations are found in Appendix C.

As discussed above, estimated emissions are for a representative project, which was identified to conservatively represent a reasonable construction scenario for a storm drain, concrete rectangular channel, debris basin, and water quality basin. Because this is a programmatic project, estimated emissions shown in Table 4.6-2 do not comprehensively represent the proposed development under the Project. Construction of additional improvements as envisioned in the Project would result in emissions additional to those presented in Table 4.6-2, although the emissions are not anticipated to exceed those associated with the representative project analysis above, since conservative assumptions were made for the representative project.

Based on the worst-case analysis presented above, Project-generated annual GHG emissions are anticipated to be well below the annual threshold value of 900 MT CO_2E evaluated by CAPCOA. While the CAPCOA threshold has not been adopted by CARB, SCAQMD, or other air quality agencies, it is the lowest non-zero GHG significance threshold that has been evaluated in California. As of the date that this report was prepared, the State of California, the SCAQMD, and the Riverside County Flood Control and Water Conservation District have yet to adopt screening criteria and/or numeric significance thresholds for GHG emissions. Therefore, construction of the proposed MDP facilities would not result in a cumulatively considerable contribution to GHG emissions that would significantly impact global climate, and no mitigation is necessary.

Operational Emissions

Once an MDP facility is constructed it would require maintenance in order to retain flood control capacity. Operational GHG emissions would not be greater than those generated during construction as they would be temporary and would involve utilization of construction equipment and operation of a light-duty truck used by maintenance workers. However, routine maintenance activities would be far less intensive than construction assumed for newly developed improvements and facilities. Furthermore, routine maintenance would not likely require operation of multiple pieces of equipment for 8 hours a day.

Maintenance of storm drains and concrete channels would typically consist of keeping those facilities and their side drains clear of debris and sediment, as well as repairing access roads and fences, which would be accomplished using a small tractor or loader, paving equipment, and/or hand tools. In addition to maintenance activities required for the proposed storm drains and concrete channels, the routine maintenance of the concrete channels and basins would likely require the removal of deposition, repair of eroded slopes, and reduction of fire hazard by annual mowing and application of herbicides, which would not require the use of heavy construction equipment. Vegetation would be removed or mowed

annually, or as necessary, to provide the designed hydraulic capacity; this activity would also not require the use of heavy construction equipment.

Major repairs may be required following damaging storm events; however, these occasions are considered to be rare. In the event that major repairs would be required, GHG emissions would be similar to those identified in Table 4.6-2 for those types of improvements. Major grading is not expected to routinely occur while maintaining the underground storm drains and concrete channels. Furthermore, operation of equipment and worker vehicles associated with major repairs would be temporary in nature as with routine maintenance activities. GHG emissions generated by off-road equipment and maintenance vehicles would be temporary and would not generate daily GHG emissions typically associated with long-term, operational land uses, such as residential and commercial development. Furthermore, the Project would not increase population or result in an increase in vehicle trips over existing conditions. As the Project does not propose long-term, operational uses that would continuously generate GHG emissions, impacts associated with operational GHG emissions would be **less than cumulatively considerable**, and no mitigation measures are necessary.

Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed in Section 4.6.2, the Climate Change Scoping Plan approved by CARB on December 12, 2008, provides an outline for actions to reduce California's GHG emissions and achieve the goals of AB 32. The Scoping Plan requires CARB and other state agencies to adopt regulations and other initiatives to reduce the state's GHG emissions. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects … because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009b). There are several federal and state regulatory measures aimed at the identification and reduction of GHG emissions; most of these measures focus on area source emissions (e.g., energy usage) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles). While federal and state legislation will ultimately reduce some of the GHG emissions associated with the Project, no statewide plan, policy, or regulation would be directly applicable to the Project. Furthermore, neither the Riverside County Flood Control and Water Conservation District, the County of Riverside, nor the SCAQMD has adopted any GHG reduction plans or measures that would apply directly to the GHG emissions associated with the proposed Project. At this time, therefore, no mandatory GHG regulations or finalized agency guidelines would apply to implementation of this Project, and no conflict would occur. Therefore, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and no mitigation measures are necessary.

4.6.6 Mitigation Measures

The Project would not result in cumulatively considerable GHG impacts that would require mitigation. The Project must adhere to SCAQMD rules during construction-related activities, which could assist in minimizing less than significant GHG emissions generated during construction. In addition, mitigation measures presented in Section 4.2, Air Quality, of this Draft PEIR, specifically Mitigation Measure (**MM**) **AIR-2**, would reduce GHG emissions in addition to reducing criteria air pollutant emissions associated with construction equipment and vehicles. Please see Section 4.2, Air Quality, for mitigation measure specifics.

4.6.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Construction and operation of MDP facilities will not contribute GHG emissions that would significantly contribute to climate change. Implementation of MM AIR-2 from Section 4.2 of this Draft PEIR, Air Quality, would further reduce less than cumulatively considerable impacts related GHG emissions.

4.6.8 References

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008.

CARB (California Air Resources Board). 2006. Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions. PowerPoint Slides. Sacramento, California: CARB. December 1, 2006.

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EPA and NHTSA. 2012. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. EPA–HQ–OAR–2010–0799, NHTSA-2010-0131.

IPCC (Intergovernmental Panel on Climate Change). 2007. Climate Change 2007: The Physical Science Basis, Summary for Policymakers.

OPR (California Governor's Office of Planning and Research). 2008. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. Technical Advisory. Sacramento, California: OPR. June 19, 2008.

4.7 Hazards and Hazardous Materials

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to the creation of a significant hazard to the public or environment resulting from the Master Drainage Plan (MDP) facilities being located on a site that is included on a list of hazardous materials site. Potential impacts from the Project on hazards to the public or environment through the routine transport, use, or disposal of hazardous materials; release of hazardous materials into the environment; emission or handling of hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; potential impacts to public and private airport-related safety hazards for people residing or working in the project area; interference with an adopted emergency response plan or emergency evacuation plan; and exposure to people or structures to a significant risk of loss, injury, or death involving wildland fires were all found to be less than significant or have no impact in the IS/NOP prepared for the Project and therefore are not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.7.1 Setting and Project Baseline

Hazardous materials are defined as those that pose a potential threat to human health, having the capacity to cause serious illness or death. Hazardous materials include radioactive waste and explosives as well as substances such as gasoline, herbicides and rodenticides, and household cleaning products. There are businesses (e.g., gas stations, laundry facilities) and activities (e.g., vehicle fuel leaks) within the Project boundary that involve the transport, storage, or use of toxic or hazardous materials (e.g., pesticides, herbicides, household cleaning products). Future maintenance activities may involve the occasional limited use of herbicides and rodenticides in accordance with federal, state, and local regulations.

A review of the U.S. Environmental Protection Agency's (EPA's) Enviromapper database indicates that there are 10 waste sites within the Project boundary (see Table 4.7-1, Figure 4.7-1a, and Figure 4.7-1b). The Enviromapper is a tool used to map various types of environmental information, including hazardous wastes sites. The businesses that were identified in the Enviromapper, listed in Table 4.7-1, are identified by the EPA, but there is no report of releases, except for the Circle K Store No. 837.

The State Water Resources Control Board's (SWRCB's) GeoTracker and the Department of Toxic Substances Control (DTSC) EnviroStor were also used to identify whether the businesses listed in the Enviromapper database were in violation for unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks (USTs), and to identify other reported releases.

Table 4.7-1
Existing Hazardous Sites

Figure 4.7-1a and Figure 4.7-1b ID	Business Name	Address	Adjacent Project Alignment	Reported Releases
HZ4	Bridge Creek Development	15410 Grand Avenue Lake Elsinore, CA 92530	Proposed Water Quality Basin at Line A	LUST (Case Closed)
HZ12	Texaco Aston's	15883 Grand Avenue Lake Elsinore, CA 92530	None	LUST (Case Closed)
HZ3	B & B Metrology Inc.	17504 Grand Avenue Lake Elsinore, CA 92530	None	None
HZ9	Le Blanc's Village	17595 Grand Avenue Lake Elsinore, CA 92530	Line H	UST LUST (Case Closed)
HZ10	Middle School No. 5	18690 & 18730 Grand Avenue	Line L and Line M	School Cleanup
HZ8	GTE California Elsinore Grand Central	33064 Blackwell Boulevard Lake Elsinore, CA 92530	Line H	UST
HZ13	United Satellite Network Inc. DBA United Satellite Svc	17319 Grand Avenue Lake Elsinore, CA 92530	Line G	None
HZ15	Wh James Truck and Auto	16817 Grand Avenue Lake Elsinore, CA 92530	Line E	None
HZ5	Circle K Store #837	17671 Grand Avenue Lake Elsinore, CA 92530	Lakeland Village Channel	UST LUST (Open – Remediation)
HZ14	Village Cleaners	17693 Grand Avenue Lake Elsinore, CA 92530	None	None
HZ1	Academy Geotechnical Engineers	18040 Grand Avenue Lake Elsinore, CA 92530	None	None
HZ2	Associated Equip Co	18319 Grand Avenue Lake Elsinore, CA 92530	Line K-1	None
HZ6	Culhanes Racing Transm	18273 Grand Avenue Lake Elsinore, CA 92530	None	None
HZ11	Smooth Transport	18228 Brightman Avenue Lake Elsinore, CA 92530	Line J	None
HZ7	G and R Mufflers	19065 Grand Avenue Lake Elsinore, CA 92530	None	None

Sources: EPA 2011; SWRCB 2011; DTSC 2011.

The County of Riverside established a Hazardous Waste Management Plan for the management of hazardous substances. The City of Wildomar also uses Riverside County's Hazardous Waste Management Plan standards.

The City of Lake Elsinore Fire Department provides oversight of hazardous materials and regulates permits for the handling, storage, and use of any explosive or other hazardous materials.

Existing drainage facilities that currently provide some level of flood protection within the study area are as follows: Lime Street Channel, Ortega Channel Lateral A-1, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco–Bryant Street Storm Drain Stage 1, and Sedco-Bryant Street Storm Drain and Debris Basin. The MDP facilities, once constructed, will not be generators or users of hazards wastes or materials. The use of herbicides or rodenticides will be used in accordance with manufacturer's, state, local, and federal regulations.

4.7.2 Related Regulations

Federal

Several federal agencies regulate hazardous materials. These include the EPA, the Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Applicable federal regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). In particular, Title 49 of the CFR governs the manufacture of packaging and transport containers, packing and repacking, labeling, and the marking of hazardous material transport. Some of the major federal laws and issue areas include the following statutes:

- Resource Conservation and Recovery Act (RCRA) – hazardous waste management
- Hazardous and Solid Waste Amendments Act (HSWA) – hazardous waste management
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – cleanup of contamination
- Superfund Amendments and Reauthorization Act (SARA) – cleanup of contamination
- Emergency Planning and Community Right-to-Know (SARA Title III) – business inventories and emergency response planning
- Hazardous Substances Act – (Codified at 15 U.S.C. 1261−1278) requires that certain hazardous household products ("hazardous substances") bear cautionary labeling to alert consumers to the potential hazards that those products present and to inform them of the measures they need to protect themselves from those hazards.

The EPA is the primary federal agency responsible for the implementation and enforcement of hazardous materials regulations. In most cases, enforcement of environmental laws and regulations established at the federal level is delegated to state and local environmental regulatory agencies.

State

Primary state agencies with jurisdiction over hazardous chemical materials management are the DTSC and the Regional Water Quality Control Board (RWQCB). Other state agencies involved in hazardous materials management are the Department of Industrial Relations (State OSHA implementation), Office of Emergency Services (OES–California Accidental Release Prevention Implementation), California Department of Fish and Wildlife (CDFW), California Air Resources Board (CARB), California Department of Transportation (Caltrans), State Office of Environmental Health Hazard Assessment (OEHHA–Proposition 65 implementation), and the California Integrated Waste Management Board (CIWMB).

The enforcement agencies for hazardous materials transportation regulations are the California Highway Patrol (CHP) and Caltrans. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. South Coast Air Quality Management District (SCAQMD) Rules and Regulations pertain to asbestos abatement (including rule 1403), Construction Safety Orders 1529 (pertaining to asbestos), and 1532.1 (pertaining to lead) from Title 8 of the California Code of Regulations (CCR). Hazardous chemical and bio-hazardous materials management laws in California include the following statutes:

- Hazardous Materials Management Act – requires that businesses handling or storing certain amounts of hazardous materials prepare a Hazardous Materials Business Plan, which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program.
- Hazardous Waste Control Act – (California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100 et seq.) authorizes the DTSC and local certified unified program agencies to regulate facilities that generate or treat hazardous waste.
- Safe Drinking Water and Toxic Enforcement Act of 1986 – (Proposition 65) requires the governor to publish and update, at least annually, a list of chemicals known to the state to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals.
- Hazardous Waste Management Planning and Facility Siting – also known as the Tanner Act (Assembly Bill (AB) 2948, 1986), requires counties to prepare, for California DTSC approval, hazardous waste management plans, and prescribes specific public participation activities, which must be carried out during the local land use permit process for siting new or expanding off-site commercial treatment, storage, and disposal facilities.
- Hazardous Materials Storage and Emergency Response – (AB 2185) requires the immediate reporting to local fire departments and OES of any release or threatened release of a hazardous material, regardless of the amount handled by the business.

- California Medical Waste Management Act – (California Health and Safety Code, Sections 117600–118360) establishes procedures for the proper handling, storage, treatment, and transportation of medical waste.
- Land Disposal Restrictions – (22 CCR 18) set up by Congress in 1984 for the EPA; ensures that toxic constituents present in hazardous waste are properly treated before hazardous waste is land disposed.

State regulations and agencies pertaining to hazardous materials management and worker safety are described as follows:

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) has broad jurisdiction over hazardous materials management in the state. Within CalEPA, DTSC has primary regulatory responsibility for hazardous waste management and cleanup. Enforcement of regulations has been delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law.

Along with the DTSC, the RWQCB is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. RWQCB regulations are contained in Title 27 of the CCR. Additional state regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Investigation and Cleanup of Contaminated Sites

The oversight of hazardous materials release sites often involves several different agencies that may have overlapping authority and jurisdiction. The DTSC and RWQCB are the two primary state agencies responsible for issues pertaining to hazardous materials release sites. Air quality issues related to remediation and construction at contaminated sites are also subject to federal and state laws and regulations that are administered at the local level.

Investigation and remediation activities that would involve potential disturbance or release of hazardous materials must comply with applicable federal, state, and local hazardous materials laws and regulations. DTSC has developed standards for the investigation of sites where hazardous materials contamination has been identified or could exist based on current or past uses. The standards identify approaches to determine if a release of hazardous wastes/substances exists at a site and delineates the general extent of contamination; estimates the potential threat to public health and/or the environment from the release and provides an indicator of relative risk; determines if an expedited response action is required to reduce an

existing or potential threat; completes preliminary project scoping activities to determine data gaps; and identifies possible remedial action strategies to form the basis for development of a site strategy.

California Government Code Section 65962.5

Pursuant to California Government Code 65962.5, environmental regulatory database lists were reviewed to identify and locate properties with known hazardous substance contamination within the proposed project area (California Government Code, Section 65960 et seq.). Four state agencies are required to provide lists of facilities that have contributed, harbor, or are responsible for environmental contamination within their jurisdiction. The four state agencies that are required to provide these lists to the Secretary for Environmental Protection include the DTSC, the State Department for Health Services (DHS), the SWRCB, and the CIWMB. The Secretary for Environmental Protection then takes each of the four respective agency lists and forms one list, referred to as the Hazardous Waste and Substances Site List – Site Cleanup (Cortese List), which is made available to every city and/or county in California (DTSC 2007).

The DTSC maintains lists of: hazardous waste facilities subject to corrective action pursuant to the Section 25187.5 of the Health and Safety Code, land designated as hazardous waste property or border zone property pursuant to Article 11 of Chapter 6.5 of Division 20 of the Health and Safety Code, information received by DTSC pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposal on public land, sites listed pursuant to Section 25356 of the Health and Safety Code, and sites on the Abandoned Site Assessment Program. DTSC also maintains records of hazardous waste disposals on public land.

The DHS maintains lists of all public drinking water wells that contain detectable levels of organic contaminants and wells that are subject to special water analysis. The SWRCB maintains lists of unauthorized release reports for USTs pursuant to Section 25295 of the Health and Safety Code, solid waste disposal facilities from which there are migrations of hazardous waste, and all cease-and-desist orders issued after January 1, 1986, concerning hazardous waste discharges. The CIWMB maintains lists of solid waste disposal facilities from which there is a known migration of hazardous waste. The Hazardous Waste and Substances List has been reviewed to identify hazardous sites that may affect the Project and is discussed in Section 4.7.5.

Local

Riverside County

Ordinance No. 615

Riverside County Ordinance No. 615 has been implemented for the purpose of regulating various aspects of establishments which generate, handle, and/or store hazardous materials and wastes. This

ordinance designates the Riverside County Department of Environmental Health to enforce the provisions of the California Health and Safety Code, Chapter 6.5, Division 20, Sections 25100 et seq., and the Environmental Health Standards for the Management of Hazardous Waste as specific in Title 22 of the California Code of Regulations, Division 4.5 pertaining to the generation, storage, handling, disposal, treatment, and recycling of hazardous waste.

Riverside County Hazardous Waste Management Plan

The Riverside County Hazardous Waste Management Plan (CHWMP) was adopted by the Board of Supervisors on September 12, 1989. Using a framework of 24 existing and recommended programs, the CHWMP serves at the County's primary planning document for the management of hazardous substances. Although the title refers only to hazardous waste, the CHWMP is a comprehensive document containing all of the County programs for managing both hazardous materials and waste.

Riverside County General Plan

Riverside County's General Plan (County of Riverside 2003) includes a section on hazardous waste and materials and provides policies regarding the storage, transport, and disposal of hazardous waste within the County. The following policies are applicable to the MDP facilities:

Policy S-6.1: Enforce the policies and siting criteria and implement the programs identified in the County of Riverside Hazardous Waste Management plan, which includes the following:

- Comply with federal and state laws pertaining to the management of hazardous wastes and materials.
- Ensure active public participation in hazardous waste and hazardous materials management decisions in Riverside County.
- Coordinate hazardous waste facility responsibilities on a regional basis through the Southern California Hazardous Waste Manage Authority.
- Encourage and promote the programs, practices, and recommendations contains in the County Hazardous Waste Management Plan, giving the highest waste manage priority to the reduction of hazardous waste at its source.

Policy S-7.7: Strengthen the project permit and review process to ensure that proper actions are taken to reduce hazard impacts and to encourage structural and nonstructural design and construction. Damage must be minimized for critical facilities, and susceptibility to structural collapse must be minimized, if not eliminated.

- Require mitigation measures to reduce potential damage caused by ground failure for sites determined to have potential for liquefaction. Such measures shall apply to

critical facilities, utilities, and large commercial and industrial projects as a condition of project approval.

- Review proposed uses of fault setback areas closely to ensure that County infrastructure (roads, utilities, drains) are not unduly placed at risk by the developer. Insurance, bonding, or compensation plans should be used to compensate the County for the potential costs of repair.

Policy S-7.8: Promote strengthening of planned and existing utilities and lifelines, the retrofit and rehabilitation of existing weak structures, and the relocation of certain critical facilities.

Policy S-7.10: Discourage development of critical facilities that are proposed in dam failure inundation areas, and apply hazardous materials safety guidelines within such zones.

City of Wildomar

The City of Wildomar has incorporated Riverside County's General Plan. Therefore, the above policies related to the Riverside County Hazardous Waste Management Plan also applies to the City of Wildomar.

City of Lake Elsinore

There are no policies in the City of Lake Elsinore's General Plan policies that are applicable to the Project.

4.7.3 Comments Received in Response to the Notice of Preparation

No comment letters were received during the NOP public comment period related to hazards.

4.7.4 Significance Threshold Criteria

The Riverside County Flood Control and Water Conservation District (District) has not established local California Environmental Quality Act (CEQA) significance thresholds as described in Section 15064.7 of the CEQA Guidelines (14 CCR 15000 et seq.). The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on hazards and hazardous materials if the Project would:

- Be located on a site, which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

4.7.5 Environmental Impacts Before Mitigation

Would the project be located on a site, which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Pursuant to California Government Code 65962.5, environmental regulatory database lists were reviewed to identify and locate properties within known hazardous substance contamination within the Project boundary (California Government Code, Section 65960 et seq.). Four state agencies are required to provide lists of facilities that have contributed, harbor, or are responsible for environmental contamination within their jurisdiction.

A review of the DTSC's Hazardous Waste and Substances List – Site Cleanup (Cortese List) indicates that identified hazardous material sites are not located within the Project boundary; therefore, there are no known sites with contamination that would affect the MDP facilities as of this writing.

As discussed above, a review of the EPA's Enviromapper database indicates that there are 10 waste sites within the Project boundary (see Table 4.7-1, Figure 4.7-1a, and Figure 4.7-1b). The businesses that were identified in the Enviromapper, listed in Table 4.7-1, are identified by the EPA, but there is no report of releases, except for the Circle K Store No. 837.

The SWRCB's GeoTracker and the DTSC EnviroStor was also used to identify whether the businesses listed in the Enviromapper database were in violation for unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from USTs and to identify other reported releases.

No significant impacts related to hazards and hazardous materials are anticipated from the sites listed in Table 4.7-1, to the construction and operations/maintenance of the MDP facilities since most of the MDP facilities will be constructed within road rights-of-way or on undeveloped lands. Common types of unanticipated existing contamination resulting from prior leaking underground storage tanks, poor chemical handling or accidental/intentional unauthorized chemical releases could be encountered during the construction of the proposed MDP facilities. Given the review of the databases mentioned above, it does not appear that any nearby sites have posed a threat to the MDP facility alignments. However, since this is a PEIR and individual MDP facilities may not be constructed for years, status of hazardous sites and current hazardous permit holders may change. Through implementation of Mitigation Measures (**MM**) **HAZ-1** through **MM HAZ-5**, potential impacts will be reduced to **less than significant** levels. Also, all work on MDP facilities shall be performed under a site-specific health and safety plan and in compliance with applicable OSHA regulations, particularly those in 29 CFR 1910.120, and other applicable federal, state, and local laws, regulations, and statutes. Future subcontractors are responsible for developing, maintaining, and implementing their own health and safety programs, policies, procedures, and equipment as necessary to protect their workers, and others, from their activities.

4.7.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures that could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to eliminate or reduce the potential significant adverse impacts from hazards to below the level of significance.

MM HAZ-1 As part of the final design of each Master Drainage Plan (MDP) facility, the design engineer or designee shall check the MDP facility alignments for any properties or nearby properties listing on the most recent Hazardous Waste and Substance List provided by the Riverside County Department of Environmental Health pursuant to Section 65962.5 of the Government Code. Also, before proposed MDP facilities are constructed, the proponent should generate a report from Enviromapper, GeoTracker, and EnviroStor to ensure no new waste sites with reported releases have been documented within proximity to the facilities. If the location of said MDP facility is on the Hazardous Waste and Substances List, Enviromapper, GeoTracker, or EnviroStor, avoidance of that property or properties will be the first consideration; if avoidance is infeasible, **MM HAZ-2** shall be implemented.

MM HAZ-2 If the selected MDP facility traverses a site listed on the Hazardous Waste and Substances List, Enviromapper, GeoTracker, or EnviroStor, and avoidance is not feasible or if there are other indications that a site could be contaminated, a Phase I Environmental Site Assessment (ESA) for the MDP facility will be prepared by a consultant hired by the Riverside County Flood Control and Water Conservation District (District), the City of Lake Elsinore, or the City of Wildomar. If the Phase I ESA prepared pursuant to the current ASTM standards identifies possible contamination along the MDP facility alignment, then all recommended subsurface investigation measures listed in the Phase I ESA will be implemented by the District, the City of Lake Elsinore, or the City of Wildomar. Based on subsurface investigations characterizing subsurface contamination, remediation measures (such as excavation of contaminated soil, bioremediation, or soil-vapor extraction), shall be implemented for the applicable MDP facility or an alternative facility alignment will be chosen. The District, the City of Lake Elsinore, or the City of Wildomar shall be responsible for reviewing and complying with the recommendations of the Phase I ESA.

MM HAZ-3 All environmental investigation and/or remediation shall be conducted under a work plan approved by jurisdictional regulatory agencies overseeing hazardous waste cleanups until the applicable regulatory standard is met.

MM HAZ-4 Prior to any excavation, grading activities, or soil removal on known contaminated sites, or if contaminated soil (i.e., soil with visible sheen or detectable odor) is encountered during construction, a complete characterization of the soil will be conducted by qualified personnel hired by the District, the City of Lake Elsinore, or the City of Wildomar Prior to the disposal of excavated materials, soil sampling shall be conducted in accordance with the County of Riverside Department of Environmental Health Site Assessment and Cleanup, Corrective Action Guidelines document (County of Riverside 2007). The guidelines set forth the number of samples to be collected per volume of stockpiled soil (i.e., two random samples from stockpiles less than 10 cubic yards); sample analytical methods depend on the current and historical property use and known contamination. If the soil is contaminated, it shall be properly disposed of according to California's Land Disposal restrictions (22 CCR 19). If site remediation involves the removal of contamination, then contaminated material shall be transported off site by a licensed handler/hauler to a licensed hazardous waste disposal facility.

MM HAZ-5 If during construction of a specific MDP facility, soil and/or groundwater contamination is suspected, construction in the area of the suspected contamination shall cease and appropriate health and safety measure shall be implemented. The construction contractor shall contact the respective jurisdictional enforcement agency (i.e., City of Lake Elsinore, City of Wildomar, County of Riverside) to obtain the necessary information on appropriate measures and their implementation. The measures recommended by the applicable enforcement agency will be implemented.

4.7.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

With adherence to local, state, and federal regulations and the mitigation measures listed in Section 4.7.6, potential significant environmental effects related to hazards and hazardous materials will be reduced to **less than significant** levels.

4.7.8 References

California Government Code, Section 65960–65964. Accessed September 13, 2011. http://leginfo.public.ca.gov/cgi-bin/displaycode?section=gov&group=65001-66000&file=65960-65964.

County of Riverside. 2003. *General Plan Final Program Environmental Impact Report.* Volume I. October 2003.

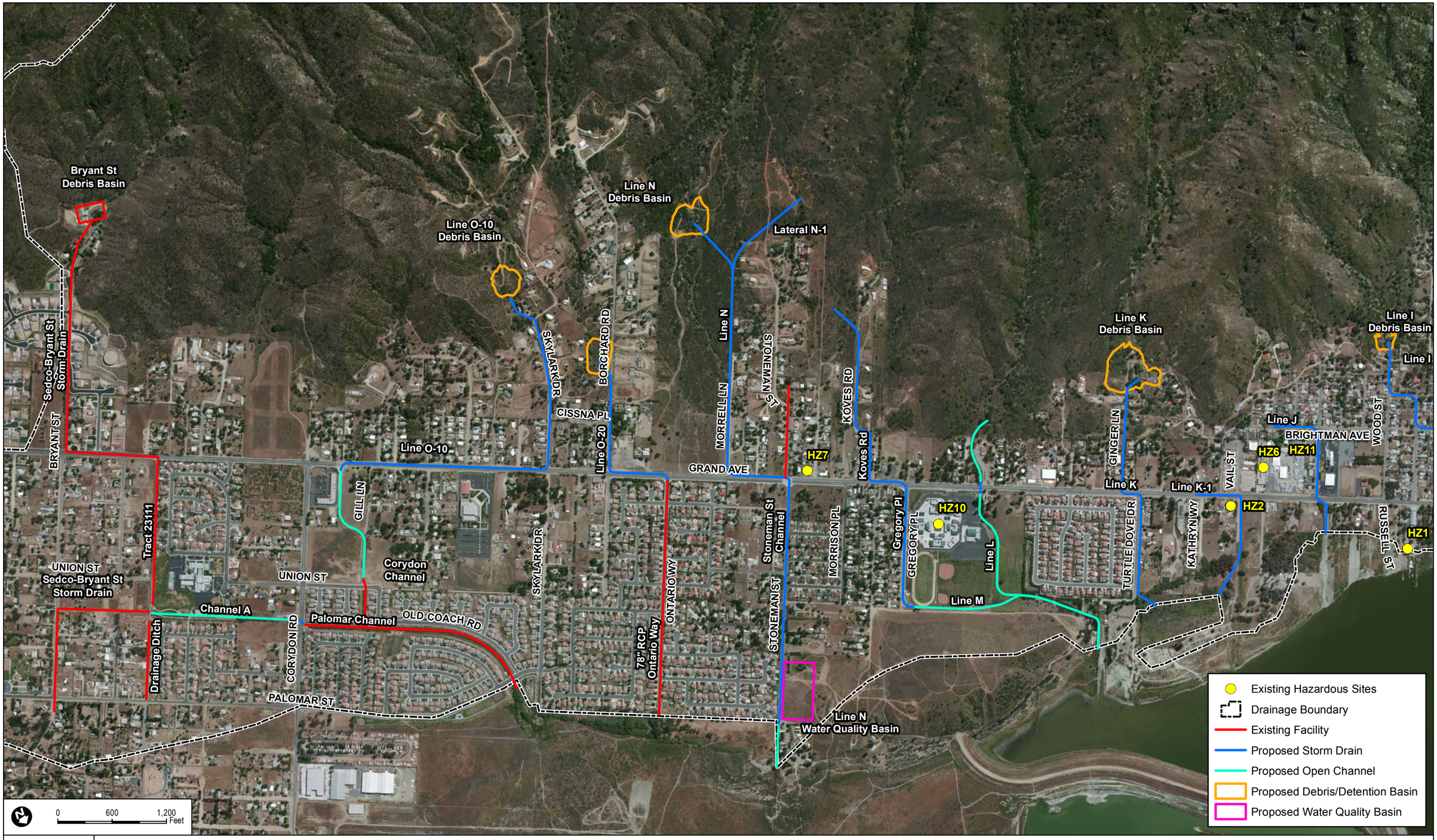
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DTSC (California Department of Toxic Substances Control). 2007. DTSC's Hazardous Waste and Substances Site list – Site Cleanup (Cortese List). Accessed September 13, 2011. http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm

DTSC. 2011. EnviroStor database. Accessed December 2, 2011. http://www.envirostor.dtsc.ca.gov/public/.

EPA (U.S. Environmental Protection Agency). EnviroMapper. Accessed September 13, 2011. http://www.epa.gov/emefdata/em4ef.home.

X SWRCB (State Water Resources Control Board). 2011. Geotracker database. Accessed December 2, 2011.



DUDEK

6736

SOURCE: Riverside County Flood Control and Water Conservation District 2010; County of Riverside MSHCP; Bing Maps

FIGURE 4.7-1a

Existing Hazardous Sites (Left)

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DUDEK

6736

SOURCE: Riverside County Flood Control and Water Conservation District 2010; County of Riverside MSHCP; Digital Globe 2008

FIGURE 4.7-1b

Existing Hazardous Sites (Right)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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4.8 Hydrology and Water Quality

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to water quality standards or waste discharge requirements; discharges of stormwater pollutants, or substantial changes to surface water quality, including but not limited to, temperature, dissolved oxygen, pH, or turbidity; substantial depletion of groundwater supplies, or substantial interference with groundwater recharge such that there would be net deficit in aquifer volume or a lowering of the local groundwater table level; substantial alteration to the existing drainage patterns that would result in substantial erosion or siltation on- or off-site; substantial alteration to the existing drainage pattern that would result in flood on- or off-site, creation or contribution to runoff water, which would exceed the capacity of the existing or planned stormwater drainage systems; exposure of 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; and exposure of people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow from implementation of the Project. Potential impacts from the Project on placing housing within a 100-year flood hazard area and placing structures or fill within a 100-year flood hazard area which would impede or redirect flood flows were found to have no impact in the IS for the Project and therefore are not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.8.1 Setting and Project Baseline

Hydrology

The Project boundary is within the Santa Ana regional watershed, which is drained by the Santa Ana River. The primary natural surface water features within proximity to the Project boundary is Lake Elsinore. Lake Elsinore is a natural lake measuring approximately 5 miles long by 2 miles wide. The lake varies widely in size as it responds to hydrologic conditions, ranging from 6,000 acres in very wet years to a dry lakebed in drought years. In an effort to maintain a more constant lake level, a levee was constructed in 1995. The levee also provides flood protection up to an elevation of 1,262 feet for the southern end of the lake, known as the Back Basin.

Lake Elsinore is fed by three primary sources of water: runoff from local tributaries (8% of total input to the lake), direct precipitation inputs to the lake (20%), and inflows from the San Jacinto River (72%). Groundwater does not play a major role in lake levels due to the presence of a relatively impermeable layer of clay soil beneath the lake.

Groundwater

The Elsinore Groundwater Basin underlies the Elsinore Valley. The basin is bounded on the southwest by the Santa Ana and Elsinore Mountains along the Willard Fault and active Elsinore Fault. The Elsinore

Groundwater basin is primarily supplied by infiltration of precipitation in the surrounding watershed. Other sources of inflow include infiltration along the San Jacinto River channel upstream of Lake Elsinore and agricultural and residential return flows. Municipal pumping for potable water is the only major outflow from the Elsinore Groundwater Basin. Some additional groundwater pumping is performed as necessary to maintain the elevation of the lake at 1,240 feet above mean sea level.

Under natural conditions, groundwater should generally flow from the northwest to the southeast beneath Lake Elsinore. However, because faults cutting the sediments impede groundwater movement, groundwater flow is dominantly contained within fault blocks in the basin. The difference between groundwater levels on the northwest side and the southeast side is more than 300 feet. Groundwater depths in the lake currently range from about 250 feet in the northwest to more than 600 feet in the southeast.

The Elsinore Valley Municipal Water District (EVMWD) Groundwater Management Plan includes a groundwater budget analysis of the Elsinore basin for 1990–2001. The results of the analysis indicate that the basin experienced an average annual deficit of approximately 1,800 acre-feet per year over the 11-year period studied. Eight of the 11 years analyzed had a deficit, while the remaining 3 years corresponded to above-average annual precipitation totals. In addition, water levels in wells in the southern portion of the basin dropped more than 200 feet in the same 11-year period, providing further evidence of a groundwater overdraft condition. Continuing overdraft may lead to ground subsidence as soils compact over long periods of time, although no clear evidence of subsidence has currently been identified around Lake Elsinore.

Flooding

Some areas within the Project boundary are within a 100-year floodplain (see Figure 4.8-1). Presently, flooding occurs over portions of the Project boundary, which in most areas of the floodplain extend into currently developed urban areas. The existing channels do not provide adequate upstream control at the mouths of the mountains, thus only picking up a portion of the floodwaters, and the remaining runoff takes the form of sheet flooding towards the lake. The Riverside County Flood Control and Water Conservation District (District) is responsible for the maintenance and operation for flood control facilities including debris dams, storm channels, and storm drains.

Water Quality

Water pollutant sources within the Project boundary have historically been caused by agricultural operations that use chemicals and fertilizers on their land. The State Water Resources Control Board (SWRCB), in compliance with the Clean Water Act (CWA) Section 303(d), maintains a list of impaired water bodies in the state. Lake Elsinore is included on this list due to the presence of four pollutants or stressors: high nutrient levels from unknown point sources, organic enrichment/low dissolved oxygen from unknown point sources, sedimentation/siltation from local urban runoff and storm drains, and toxicity from unknown non-point

sources. Fluctuating water levels in Lake Elsinore and algal blooms triggered by excess nutrients have also caused significant impairment of the ecology and recreational use of Lake Elsinore.

Lake Elsinore

On December 20, 2004, the Santa Ana Regional Water Quality Control Board (RWQCB) adopted Resolution R8-2004-0037 amending the Basin Plan to incorporate the Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Loads (TMDLs). These TMDLs were subsequently approved by the State Board on May 19, 2005, by the Office of Administrative Law on July 26, 2005, and by the U.S. Environmental Protection Agency (EPA) on September 30, 2005. These TMDLs include urban WLAs that are now incorporated into Chapter 5 of the Basin Plan. For both Canyon Lake and Lake Elsinore, the TMDLs specify causal numeric targets (nitrogen and phosphorus) and response numeric targets (chlorophyll a, dissolved oxygen and un-ionized ammonia). The TMDLs also specify nitrogen and phosphorus WLAs (point source discharges) and LAs (nonpoint source discharges) for each lake. Compliance with interim dissolved oxygen and chlorophyll a numeric targets is to be achieved by December 31, 2015. Compliance with the final numeric targets and WLAs and LAs is to be achieved by December 31, 2020. The LAs and WLAs are specified as 10-year running average.

Lake Elsinore is an impaired water body due to the impacts of nutrients, organic enrichment/low dissolved oxygen, polychlorinated biphenyls (PCBs) and unknown toxicity. The eutrophic impairment in Lake Elsinore is attributable to increased nutrient loading (phosphorus and nitrogen) and the resulting increased growth of biota, phytoplankton and other aquatic plants. Nutrients washed off from source areas are transported to Lake Elsinore by a variety of drainage courses, but during wet years the vast majority of nutrients come from stormflows through Canyon Lake and not the Project watershed.

The TMDL specifies the allowable amounts of nitrogen and phosphorus in Lake Elsinore. According to the Lake Elsinore TMDL Staff Report to Resolution R8-2004-0037, approximately 172 kilograms of excess nitrogen is delivered to Lake Elsinore from existing urban land uses within the local watershed. Existing urban phosphorus loads met waste load allocation requirements and required no further reduction (presuming operation of the aeration system and compliance with TMDL requirements for Canyon Lake).

In response to the TMDL requirement, Riverside County developed a Comprehensive Nutrient Reduction Plan (CNRP). The CNRP is designed to achieve compliance with the allowable amounts of Nitrogen and Phosphorous by 2020. The CNRP includes the following elements: watershed-based best management practices (BMPs) to reduce nutrient loading in urban runoff during wet weather; the operation of an in-lake aeration system; and monitoring activities to assess compliance with the TMDL. The CNRP would achieve the water quality objectives primarily through the implementation of the aeration system because reducing the amount of pollutants generated in the watershed to meet the compliance standards would be nearly impossible and extremely costly. However, watershed-based BMPs are required to supplement the aeration system, particularly to address increased nitrogen loads associated with existing and future land use.

The CNRP estimates that urban areas generate 0.08 kg/acre/year of Total Phosphorous and 0.42 kg/acre/year of Total Nitrogen. Reduction of nutrient loads within conveyance systems is generally the result of settling of suspended solids and stormwater infiltration within channels and upstream lakes. According to the CNRP, only 25% of the Total Phosphorous generated in the local Lake Elsinore watershed settles out before it reaches the lake, and just 17% of the Nitrogen settles out. The low reduction percentages are due to the close proximity of urban development to the lake.

The RWQCB sets water quality standards for all ground and surface waters within its region. Water quality standards are defined under the CWA to include the beneficial uses of specific water bodies, the levels of water quality that must be met and maintained to protect those uses, and the state's anti-degradation policy.

Water quality standards for all ground and surface waters overseen by the RWQCB are documented in the Basin Plan (2008). Beneficial uses consist of all the various ways that water can be used for the benefit of people and/or wildlife. Five beneficial uses are recognized within the Santa Ana Region pertaining to the Project. All of the beneficial uses have been designated for surface water bodies and groundwater in the vicinity of the Project as summarized in Table 4.8-1, Beneficial Uses for Receiving Waters in Proximity to the Project.

Table 4.8-1
Beneficial Uses for Receiving Waters in Proximity to the Project

Receiving Waters	303(d) List Impairments	Designated Beneficial Uses
Lake Elsinore	Nutrients, Organic Enrichment/Low Dissolved Oxygen, PCBs, and Unknown Toxicity	MUN^, REC1, REC2, WARM, WILD
Definitions of Beneficial Uses		
MUN	Waters used for community, military, municipal or individual water supply systems. Uses may also include drinking water supply.	
REC 1	Water contact recreation waters, used for recreational activities involving body contact with water where ingestion of water is reasonably possible. Uses may include swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.	
REC 2	Non-contact water recreation waters, used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include picnicking, sunbathing, hiking, beachcombing, and camping, boating, sightseeing, and aesthetic enjoyment in conjunction of the above activities.	
WARM	Warm freshwater habitat waters support warm water ecosystems that may include preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.	
WILD	Wildlife habitat waters support wildlife habitats that may include the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.	

Source: SWRCB 2008.
* Intermittent beneficial use for Reaches 3 and 4.
^ Excepted from MUN.

In 1994, the Regional Board listed Lake Elsinore as water quality limited and as an impaired water body in accordance with Section 303(d) of the CWA due to the impact of nutrients, polychlorinated biphenyls (PCBs) and unknown toxicity to the beneficial uses the lake provides (warm freshwater aquatic habitat (WARM), body contact recreation (REC1), non-body contact recreation (REC2), and wildlife habitat (WILD)). Municipal and Domestic Supply (MUN) indicates that the water body has been specifically accepted from the MUN designation in accordance with the criteria specified in the "Sources of Drinking Water Policy." As reported by the RWQCB, the narrative water quality objectives pertaining to excessive algae growth and dissolved oxygen are not being met in Lake Elsinore, as demonstrated by a history of significant algae blooms and low dissolved oxygen concentrations. Lake Elsinore beneficial uses adversely impacted include WARM, REC1, REC2, and WILD. Per Section 303(d) of the CWA, the RWQCB established a Total Maximum Daily Load (TMDL) for phosphorus and nitrogen loading to Lake Elsinore. Table 4.8-2 outlines the both "casual" and "response" interim and final TMDL numeric targets for Lake Elsinore. Casual targets are those for phosphorous and nitrogen. Response targets include chlorophyll a and dissolved oxygen. These targets are specified to assess water quality improvements in the lake. Ammonia targets are specified to prevent un-ionized ammonia toxicity to aquatic life.

Table 4.8-2
Lake Elsinore TMDL Numeric Targets

Indicator	Lake Elsinore
Total Phosphorus concentration (Final)	Annual average no greater than 0.1 mg/L; to be attained no later than 2020
Total Nitrogen concentration (Final)	Annual average no greater than 0.75 mg/L; to be attained no later than 2020
Ammonia nitrogen concentration (Final)	Calculated concentrations to be attained no later than 2020 Accute: 1-hour average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the CMC (acute criteria), where CMC 0.4111(1+10^(7.204-pH) + 58.4/(1+10^(pH-7.204)) Chronic: thirty-day average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the CCC (chronic criteria) CCC = (0.0577/(1+10^(7.688-pH)) + 2.487/(1+10^(pH-7.688)) x min (2.85,1.45x10^(0.028(25-T)))
Chlorophyll a concentration (Interim)	Summer average no greater than 40 µg/L; to be attained no later than 2015
Chlorophyll a concentration (Final)	Summer average no greater than 25 µg/L; to be attained no later than 2020
Dissolved oxygen concentration (Interim)	Depth average no less than 5 mg/L; to be attained no later than 2015
Dissolved oxygen concentration (Final)	No less than 5 µg/L 1 meter above lake bottom, to be attained no later than 2020

Source: RWQCB 2004.
Note: Compliance with targets to be achieved as soon as possible, but no later than the date specified.

Phosphorus and nitrogen TMDLs for Lake Elsinore are shown in Table 4.8-3. The TMDLs, expressed as 10-year running averages, will implement the numeric targets and thereby attain water quality standards.

Table 4.8-3
Nutrient TMDLs and Compliance Dates for Lake Elsinore

TMDL	Final Total Phosphorous TMDL (kg/yr)	Final Total Nitrogen TMDL (kg/yr)
Lake Elsinore	28,584	239,025

Source: RWQCB 2004.
Note: Final compliance to be achieved as soon as possible, but no later than December 31, 2020. TMDL specified as 10-year running average.

The dominant application of phosphorous and nitrogen is in agricultural use (i.e., fertilizers). PCBs are used as coolants and insulating fluids for transformers and capacitors as well as plasticizers in paints and cements, pesticides extenders, flame retardants, lubricating oils, sealants, etc.

4.8.2 Related Regulations

Federal

Clean Water Act

The CWA is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following paragraphs provide additional details on specific sections of the CWA.

Section 404

CWA Section 404 regulates the discharge of dredged and fill materials into "waters of the United States," which include oceans, bays, rivers, streams, lakes, ponds, and wetlands. Project proponents must obtain a permit from the U.S. Army Corps of Engineers (ACOE) for all discharges of dredged or fill material into Waters of the United States, including wetlands, before proceeding with a proposed activity. Before any actions that may impact surface waters are carried out, a delineation of jurisdictional waters of the United States must be completed, following ACOE protocols, in order to determine whether the project study area encompasses wetlands or other waters of the United States that qualify for CWA protection.

Section 404 permits may be issued only for the least environmentally damaging practicable alternative. That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts and lacks other significant adverse consequences.

Section 402

CWA Section 402 regulates discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by the EPA. In California, the SWRCB is authorized by the EPA to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCBs). The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits. Activities covered by Section 402 include the following:

Construction General Permit

Pursuant to CWA Section 402(p), which requires regulations for permitting of certain stormwater discharges, the SWRCB has issued statewide general NPDES Permit and Waste Discharge Requirements for stormwater discharges from construction sites.

Under this Construction General Permit, discharges of stormwater from construction sites of one or more acres are required to obtain individual NPDES permits for stormwater discharges or be covered under the General Permit for Discharges of Storm Water Associated with Construction Activity. Effective July 1, 2010, the updated Construction General Permit requires several additional items in order to be eligible for coverage under the Construction General Permit. The permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. The permit also contains several compliance items, including:

- Additional mandatory Best Management Practices (BMPs) to reduce erosion and sedimentation, which may include incorporation of vegetated swales, setbacks and buffers, rooftop and impervious surface disconnection, bioretention cells, rain gardens, rain cisterns, implementation of pollution/sediment/spill control plans, training, and other structural and non-structural actions;
- Sampling and monitoring for non-visible pollutants;
- Soil characteristics monitoring and reporting at the project site;
- Effluent monitoring and annual compliance reports;
- Monitor receiving waters and conduct bioassessments;
- Development and adherence to a Rain Event Action Plan that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event;
- Requirements for Post-Construction Storm Water Performance Standards;
- Technology-Based Numeric Action Levels for pH and turbidity;

- Technology-Based Numeric Effluent Limitations for pH and turbidity (when applicable);
- Mandatory training/certification requirements under a specific curriculum. Under the permit, monitoring, reporting, and training requirements for management of stormwater pollutants are also required.

Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each applicant under the Construction General Permit must ensure that a Stormwater Pollution Prevention Plan (SWPPP) is prepared prior to grading and implemented during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the site during construction. The Construction General Permit requires the control of pollutants to meet Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT) standards.[1] Compliance with the requirements of the Construction General Permit is used as one method to evaluate project construction–related impacts on surface water quality.

The municipal separate storm sewer system (MS4) permits issued to the Riverside County Co-Permittees by the Santa Ana RWQCB regulate stormwater quality in the Project area. The fourth MS4 permits have been issued by each RWQCB and are referred to as the Fourth-Term MS4 Permits. The District and the Cities of Lake Elsinore and Wildomar are Permittees under the Fourth-Term MS4 Permits. Under these permits, the District, the County of Riverside, and the Cities of Lake Elsinore and Wildomar[2] (Co-Permittees) are required to enforce and comply with stormwater discharge requirements outlined in Order No. R8-2010-0033 (NPDES No. CAS 618033). It should be noted that Order No. R8-2010-0033 (NPDES No. CAS 618033), approved in January 2010, superseded Order No. R8-2002-0011 except for enforcement purposes and in order to meet the provisions contained in Division 7 of the California Water Code and provisions of the federal CWA.

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[1] BAT/BCT are CWA, technology-based standards that are applicable to construction site stormwater discharges. Federal law specifies factors relating to the assessment of BAT, including age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; the cost of achieving effluent reduction; non-water quality environmental impacts (including energy requirements); and other factors as the administrator of the EPA deems appropriate. Factors relating to the assessment of BCT include reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived; comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources; the age of the equipment and facilities involved; the process changes; non-water quality environmental impact (including energy requirements); and other factors as the administrator deems appropriate. The administrator has not issued regulations specifying BAT or BCT for construction site discharges.

[2] Urban runoff from City of Wildomar discharges into watersheds within the Santa Ana RWQCB and the San Diego RWQCB jurisdictions. Since the Project area is only located in the Santa Ana River Region, the San Diego Region Santa Margarita Drainage Area is not discussed herein.

The following list highlights requirements, plans and topics of discussion resulting from the MS4 Permit:

- Illegal Discharges
- Allowable Discharges
- Total Maximum Daily Load (TMDL)
- Riverside County Water Quality Management Plan for Urban Runoff
- Drainage Area Management Plan (DAMP)
- Water Quality Management Plan (WQMP)
- Low Impact Development (LID)
- Basin Plan

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or, if appropriate, from the interstate water pollution control agency with jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and that may affect the quality of the state's waters (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. Section 401 certification or waiver is under the jurisdiction of the Santa Ana RWQCB.

State

California Toxics Rule

Because of gaps in California's regulations, the EPA promulgated the California Toxics Rule (40 CFR 131.38), which established numeric water quality criteria for certain toxic substances in California surface waters. The California Toxics Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for water bodies that are designated by the Santa Ana RWQCB as having beneficial uses protective of aquatic life or human health. The California Toxics Rule criteria are applicable to the receiving waters from the Project area.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) established the principal California legal and regulatory framework for water quality control. The Porter-Cologne Act is

embodied in the California Water Code. The California Water Code authorizes the State Water Resources Control Board (SWRCB) to implement the provisions of the federal CWA.

The State of California is divided into nine regions governed by RWQCBs. The RWQCBs implement and enforce provisions of the California Water Code and the CWA under the oversight of the SWRCB. The MDP area is located within the purview of the Santa Ana RWQCB (Region 8) and San Diego Regional Water Quality Control Board (Region 9), and must comply with applicable elements of the region's Basin Plan, as well as the Porter-Cologne Act.

Each RWQCB must formulate and adopt a water quality control plan for its region. The Santa Ana RWQCB has adopted and periodically amends a water quality control plan titled Water Quality Control Plan for the Santa Ana River Basin. The Santa Ana RWQCB Basin Plan must conform to the policies set forth in the Porter-Cologne Act as established by the SWRCB in its state water policy. The Porter-Cologne Act also provides the RWQCBs with authority to include within its basin plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

California Department of Fish and Wildlife Section 1600 et seq. (Lake or Streambed Alteration Agreement Program)

Under Sections 1600–1616 of the California Fish and Game Code, the CDFW regulates projects that affect the flow, channel, or banks of rivers, streams, and lakes. Section 1602 requires public agencies and private individuals respectively to notify and enter into a streambed or lakebed alteration agreement with CDFW before beginning construction of a project that will divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed.

State Watershed Management Initiative

In 2004, the SWRCB and the Regional Boards developed the Watershed Management Initiative (WMI) to address water quality improvements of impaired water bodies. The WMI is an integrated planning process in part designed to more effectively direct State and Federal funds to the highest priority water quality activities. Its distinguishing feature is the integration of the various regional, state, and EPA programs on a watershed basis. The participating agencies in the WMI are the nine RWQCBs, the SWRCB, and the EPA. The Integrated Plan is composed of individual chapters written by each of the nine RWQCBs, as well as chapters prepared by the SWRCB and the EPA.

Local

Riverside County General Plan

The multipurpose open space element of the Riverside County General Plan (County of Riverside 2003) provides policies regarding water conservation, water quality, and groundwater recharge within the County of Riverside. The following policies are applicable to the proposed MDP facilities:

Open Space Policy 2.2: Where feasible, decrease stormwater runoff by reducing pavement in development areas, and by design practices, such as permeable parking bays, and porous parking lots with bermed storage areas for rainwater detention.

Open Space Policy 3.3: Minimize pollutant discharge into storm drainage systems and natural drainage and aquifers.

Open Space Policy 4.3: Ensure that adequate aquifer water recharge areas are preserved and protected.

Open Space Policy 4.4: Incorporate natural drainage systems into developments where appropriate and feasible.

Open Space Policy 4.5 Retain stormwater at or near the site of generation for percolation into the groundwater to conserve it for future uses and to mitigate adjacent flooding.

Open Space Policy 5.3: Based upon site, specific study, all development shall be set back from the floodway boundary a distance adequate to address the following issues:

- Public safety;
- Erosion;
- Riparian or wetland buffer;
- Wildlife movement corridor or linkage; and
- Slopes.

Open Space Policy 6.1: During the development review process, ensure compliance with the Clean Water Act's Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.

City of Wildomar

The City of Wildomar has incorporated Riverside County's General Plan. Therefore, the above policies related to water conservation, water quality, and groundwater recharge also applies to the City of Wildomar.

City of Lake Elsinore General Plan

The hydrology and water quality section of the City of Lake Elsinore General Plan (City of Lake Elsinore 2011) provides policies to address potential flood hazards and water quality from implementation of the MDP facilities. The following policies are applicable to future proposed MDP facilities:

Policy 4.3: Require Best Management Practices through project conditions of approval development to meet the Federal NPDES permit requirements.

Policy 5.1: Continue to ensure that new construction in floodways and floodplains conforms to all applicable provisions of the National Flood Insurance Program in order to protect buildings and property from flooding.

Policy 5.2: Utilize the Capital Improvement Program for storm drainage projects and maintenance and improvement of local storm drain systems including channels, pipes, and inlets to ensure capacity for maximum runoff flows.

Lake Elsinore Municipal Code (LEMC) – Title 14, Chapter 14.08

Chapter 14.08 of the LEMC is the "City of Lake Elsinore Stormwater/Urban Runoff Management and Discharge Controls Ordinance". The purpose of this chapter is to ensure the future health, safety, and general welfare of City citizens by reducing pollutants in stormwater discharges to the maximum extent practicable, regulating illegal connections and discharges to the storm drain system, and regulating non-stormwater discharges to the storm drain system. The intent of this chapter is to protect and enhance the water quality of City watercourses, water bodies, groundwater, and wetlands in a manner pursuant to and consistent with the federal CWA (33 U.S.C. 1342). This chapter requires compliance with LEMC erosion and sediment control requirements, the identification of BMPs and compliance with the Municipal NPDES Permit and the NPDES Permit for Industrial/Commercial and Construction Activity.

Lake Elsinore Municipal Code (LEMC) – Chapter 15, Chapter 15.64

The purpose of Chapter 15.64 (Flood Damage Prevention) of the LEMC is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations applied uniformly throughout the community to all publicly and privately owned land within flood-prone, mudslide (i.e., mudflow) or flood-related erosion areas. This chapter includes regulations to:

- Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

- Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
- Control filling, grading, dredging, and other development which may increase flood damage; and
- Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Elsinore Valley Municipal Water District

The EVMWD is a public nonprofit agency that was created on December 23, 1950, under the Municipal Water District Act of 1911. EVMWD provides water, wastewater, and reclaimed water service to the City of Lake Elsinore, the cities of Canyon Lake and Wildomar, portions of the city of Murrieta, and unincorporated portions of Riverside County. EVMWD is a special district, whose powers include provision of public water service, water supply development and planning, wastewater treatment and disposal, and recycling. Currently, EVMWD has more than 35,000 water, wastewater, and agricultural service connections. EVMWD is a subagency of the Western Municipal Water District, a member agency of the Metropolitan Water District of Southern California (Metropolitan).

Lake Elsinore and San Jacinto Watersheds Authority

The LESJWA is a joint powers authority created by the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act of 2000 funding (also known as Proposition 13) and entrusted with state and local funds to improve water quality in the region and satisfy other water resources protection needs. Its jurisdiction covers a 700-square mile area running from the San Jacinto Mountains west through Canyon Lake and ends in Lake Elsinore. Members of LESJWA include EVMWD, the cities of Lake Elsinore and Canyon Lake, the County of Riverside, and SAWPA.

4.8.3 Comments Received in Response to the Notice of Preparation

Comment letters were received from the Department of Transportation on September 27, 2011, and by Linda Ridenour on October 11, 2011, in response to the NOP. The contents of these letters are included in Appendix A.

4.8.4 Significance Threshold Criteria

The District has not established local CEQA significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on hydrology and water quality if the Project would:

- Violate or conflict with any adopted water quality standards or waste discharge requirements.
- Result in substantial discharges of typical stormwater pollutants *(e.g. sediment from construction activities, hydrocarbons, and metals from motor vehicles, nutrients and pesticides from landscape*

maintenance activities, metals of other pollutants from industrial operation,) or substantial changes to surface water quality including, but not limited to, temperature, dissolved oxygen, pH, or turbidity.

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level *(e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)*.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of a watercourse or wetland, in a manner which would result in substantial erosion or siltation on or off site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of 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.
- Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems.
- 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.
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

4.8.5 Environmental Impacts Before Mitigation

Would the Project violate or conflict with any adopted water quality standards or waste discharge requirements?

Currently, stormwater runoff follows the natural drainage pattern of taking water from the mountains/foothills and into Lake Elsinore. The Project will do the same for stormwater; the water will be confined to channels and underground pipes to reduce the risk of flooding, erosion and siltation in the Project area to below the 100-year level. The Project would establish a comprehensive drainage system within the Project boundary, to provide flood protection to existing development and future buildout in accordance with land uses identified in Riverside County, City of Lake Elsinore, and City of Wildomar General Plans. MDP facilities would convey existing stormwater emanating from foothill/mountains, residential, commercial, and industrial areas into Lake Elsinore, the MDP facilities will not generate new sources of stormwater. MDP facilities will be constructed by the District, County of Riverside, City of Lake Elsinore, City of Wildomar, or by future development projects within the Project boundary.

The RWQCB has established water quality standards for all surface waters within its region. Water quality standards are defined under the CWA to include both the beneficial uses of specific water bodies and the levels of water quality that must be met and maintained to protect those uses. Water quality

standards for all surface waters overseen by the RWQCB are documented in the Basin Plan (2008). Beneficial uses consist of all the various ways that water can be used for the benefit of people and/or wildlife. Five beneficial uses have been designated for surface water bodies in the vicinity of the Project (refer to Table 4.8-1, Beneficial Uses for Receiving Waters in Proximity to the Project).

Meeting the water quality standards is the responsibility of development projects in the County and cities of Lake Elsinore and Wildomar, as required by the MS4 Permits. The proposed MDP facilities will reduce flooding from stormwater and urban runoff currently experienced within the Project boundary. The proposed drainage facilities themselves will not generate or create a significant increase in runoff or stormwater pollutants. Proposed detention basins will allow for some sediment transported in stormwater runoff to settle out over time, and will attenuate peak-flow rates from storm events. Proposed water quality basins will reduce stormwater pollutant discharges by reducing peak flows, allowing for settlement, infiltration and/or use of filter media. Proposed storm drains and channels would route stormwater from the canyons around potential pollutant sources in residential and commercial areas. Activities relating to the construction of the MDP facilities will be regulated by the RWQCB under the NPDES MS4 permit program at the time future development projects are approved within the Project boundary (Mitigation Measure (**MM**) **HYDRO-1**). The District is the Principal Permittee, the County of Riverside and cities of Lake Elsinore and Wildomar are Co-Permittees in the NPDES program, which is designed to reduce pollutant loads in urban runoff. According to the NPDES permit requirements, all new development projects and substantial rehabilitation efforts are required to incorporate BMPs (**MM HYDRO-1**). Implementation of BMPs in accordance with NPDES Municipal Stormwater Management Program helps to protect surface water quality in Lake Elsinore.

The MDP may result in the transport of sediment and pollutants into local drainage systems during construction. These impacts are considered short-term. In particular, MDP facilities built during the rainy season could impact water quality as a result of runoff and sediment transport during construction activities. Construction and operation of a number of MDP facilities may require dewatering of pipeline trenches in order to place infrastructure underground. Dewatering of groundwater may result in potential impacts to surface water quality if not performed in accordance with applicable discharge permits. In order to reduce the discharge of expected pollutants into receiving waters during construction of the proposed MDP facilities, project proponents (i.e., the District or City of Lake Elsinore or City of Wildomar) may be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the SWRCB Construction General Permit (**MM HYDRO-1**). The Construction General Permit requires the development and implementation of a SWPPP to identify an effective combination of erosion control and sediment control BMPs to minimize or eliminate the discharge of pollutants into receiving waters during construction. In addition, BMPs for managing sources of non-stormwater discharges and waste are required to be identified in the SWPPP (**MM HYDRO-1**). Example of construction BMPs includes silt fencing, gravel bag berms, fiber rolls, and street sweeping.

In the long term, the MDP facilities may require maintenance to remove vegetation that could clog or hamper stormwater flow. Herbicides could be used in maintenance activities to control vegetation that might grow in open channels. **MM HYDRO-2** shall be implemented to ensure additional sources of pollution (i.e. nitrogen and phosphorus) are not introduced into Lake Elsinore, which would affect the ability of the Beneficial Uses and TMDLs to be met for Lake Elsinore.

Overall, there are several regulations that are already in place that regulate the water quality of the stormwater that will be conveyed by the Project, but not generated by the Project. The RWQCB could regulate portions of the Project under the Porter-Cologne Act or Section 401 of the CWA related to impacts that might occur to existing resources during construction of the MDP facilities. Stormwater pollution prevention measures may be identified and must be followed to reduce or eliminate discharge of pollutants to surface water from stormwater and non-stormwater discharges from, not only the construction of the MDP facilities, but the implementation of future approved development projects within the Project boundary, as well.

The MS4 Permits require the District to conduct public education, monitoring, illicit connection/illegal discharge detection and removal, maintenance activities, and coordination with other MS4 operators to ensure that pollutants discharging from MS4 systems are mitigated to the maximum extent practicable. Future MDP facilities constructed would be required to comply with this permit.

In addition, any proposed facilities that impact waters of the United States or waters of the state will be regulated by the RWQCB under Section 401 of the CWA or the Porter-Cologne Act (**MM HYDRO-3**). The Project also incorporates channels, storm drains, and basins, which can serve to attenuate peak-flow rates and allow for infiltration of stormwater. Additional water quality control measures may be implemented at the time of construction in order to comply with TMDL requirements established by the RWQCB within the watershed.

In light of the above water quality regulatory programs already in place, which the proposed MDP and future development projects within the Project boundary will have to comply with, impacts to water quality are anticipated to be **less than significant with mitigation incorporated.**

Additionally, since future MDP facilities within the Project boundary will be required to comply with **MM HYDRO-1** through **MM HYDRO-3**, water quality standards and waste discharge requirements are expected to be **less than significant with mitigation incorporated**.

Would the Project result in substantial discharges of typical stormwater pollutants *(e.g., sediment from construction activities, hydrocarbons and metals from motor vehicles, nutrients and pesticides from landscape maintenance activities, metals or other pollutants from industrial operation)* or substantial changes to surface water quality including, but not limited to, temperature, dissolved oxygen, pH, or turbidity?

There are four extended detention basins proposed within the Project boundary. The purpose of these basins is to mitigate the water quality impact of the runoff from the existing urban areas to Lake Elsinore. About 348 acres, or roughly 20% of the existing urban area within the Project watershed, would be routed through these basins. According to the CNRP, the approximate pollutant removal efficiency of extended detention basins is 75 percent for total phosphorus and 24 percent for total nitrogen. Given the factors listed above, when constructed, these basins would prevent 21 kg/year of Total Phosphorous and 35 kg/year of Total Nitrogen, on average, from reaching Lake Elsinore. These basins, plus the 9 debris basins in the MDP, would also reduce turbidity in Lake Elsinore. Although not calculated, these basins would also treat runoff from open space and forest land uses, further increasing nutrient load reduction benefit. These reductions will assist in offsetting impacts of phosphorus and nitrogen loads from existing and future development; both within and outside of the Project boundary.

The MDP facilities in and of themselves would not create pollutants, but would merely convey surface waters that already discharge into Lake Elsinore due to the close proximity of the drainage areas to Lake Elsinore The time it takes for stormwater to be conveyed through the system would be relatively short, just a matter of minutes, and would not increase the temperature of the water above ambient levels, nor change the pH values to any level of significance. Although stormwater runoff typically has a high dissolved oxygen content, it is likely to be of negligible benefit to Lake Elsinore.

Other potential impacts to surface water quality within the Project boundary are mitigated through existing compliance programs and plans (e.g., TMDL Task Force projects, MS4 Permit compliance programs, and CNRP), of which the District is a participating member (**MM HYDRO-1**). The compliance programs will ensure that a broad range of BMPs are implemented to reduce the discharge of stormwater pollutants to the maximum extent practicable.

Based on the information provided above, potential impacts to discharge of pollutants are considered to be **less than significant with mitigation incorporated**.

Would the Project 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)?*

Groundwater within the Project boundary is generally controlled by the overall Lake Elsinore Groundwater Basin which lies in a closed basin formed between strands of the Elsinore fault zone (see Figure 4.8-1). The MDP is not a development project; it will not require an increase the demands on groundwater supply. The MDP is designed to collect and convey stormwater through the Project boundary. The proposed open, concrete channels will introduce approximately 2.5 acres of new impervious areas where the existing condition is mostly open, pervious lands. The debris basins will encompass a total of approximately 28 acres; most of this area is considered still permeable, as these areas will not be paved, and will be removed of sediment/silt as part of MDP maintenance. The water quality basins will introduce approximately 13 acres of still pervious surfaces, allowing for infiltration.

Per Elsinore Valley Municipal Water District (EVMWD), the Elsinore Basin Groundwater Management Plan (2005) estimated that the increased urbanization around Lake Elsinore will diminish groundwater recharge due to infiltration of runoff from 900 to 700 acre-feet per year between 2005 to 2020, but considered this a relatively small amount that is not considered a significant issue. EVMWD is instituting conjunctive use and artificial recharge programs in past several years and will do so in the future, there such programs are expected to result in satisfactory management of the Elsinore Groundwater Basin.

Since future proposed concrete channels would only be a small fraction of area (approximately 2.5 acres of the approximately 44.61 acres of the MDP facilities) not providing groundwater recharge as compared to development projects, the conversion would be considered less than significant. Furthermore, the 13 acres of water quality basins are designed to allow water to infiltrate and thus may offset loss of 2.5 acres of recharge from proposed impervious concrete-lined facilities listed above. The water quality basins will also be designed to settle out pollutants before the stormwater is discharged to Lake Elsinore.

Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of a watercourse or wetland, in a manner which would result in substantial erosion or siltation on- or off-site?

The Project is designed to respect and improve existing drainage patterns, and will not result in substantial erosion or siltation on or off site. The proposed MDP facilities will generally follow the existing drainage pattern of the area; the existing general drainage pattern is for stormwater to be discharged from the canyon mouths, then flows overland across natural and urban landscapes into Lake Elsinore. In order to provide flood protection to existing development, the drainage pattern in the watersheds making up the Project boundary, would be altered by constructing debris basins in many of the canyon mouths and then conveying the stormwater in channels and underground storm drains

instead of overland. The altered drainage pattern would result in collecting siltation that normally occurs as flows move from the canyons overland to Lake Elsinore, into the debris basins. The debris basin will serve as the collection points to remove siltation, which is by design, making it more economical and efficient to remove siltation at a known point where the facility is open and access is relatively easy.

Most of the proposed MDP facilities will be constructed primarily within existing and proposed road rights-of-way. Some of the existing facilities will be expanded and storm drains will be placed underground. The open channels are all planned to be concrete-lined. The concrete-lined channels will add impervious area to the Project area (approximately 10 acres); however, implementation of the MDP facilities will improve stormwater drainage within the Project boundary by safely collecting, conveying and discharging flows within the Project boundary.

As discussed in Section 4.3, Biological Resources, as well as above, there will be altering and fill that may occur with MDP implementation to existing drainage features, there will also be impacts associated with the transition of currently unlined ditches and open areas conveying stormwater to lined, concrete facilities which do not allow any infiltration or natural conditions to occur in the drainage systems. These impacts will be evaluated on a case by case basis, depending on the resources and conditions present when the specific MDP facility is proposed for regulatory permitting. Mitigation for the fill that may occur within existing drainage features will be coordinated with the regulatory agencies and could include off-site mitigation, conservation or restoration/creation. Typical mitigation for impacts to natural drainages that may be considered jurisdictional by the regulatory agencies, for the type of MDP facilities proposed, would most likely include a combination of the following: creation of riparian or wetland habitat, restoration of riparian or wetland habitat, enhancement of habitat, and/or payment of in lieu fees to an established mitigation bank. With implementation of **MM HYDRO-4** (same as **MM BIO-6**), potential impacts to federally-protected wetlands are reduced to **less than significant** levels.

SWPPPs and BMPs may be incorporated into the construction and operation of the MDP facilities to reduce the potential for erosion or siltation (**MM HYDRO-1**).

Impervious surfaces, including paved areas such as parking lots, roadways, and building rooftops decrease the area in which stormwater runoff can infiltrate, potentially resulting in decreased absorption and increased runoff. Future development projects in the MDP area may be conditioned to comply with the provisions of the NPDES programs to include SWPPPs and WQMPs which includes site design requirements to minimize directly connected impervious areas. The SWPPP includes provisions to identify potential on-site pollutants, identify and implement an effective combination of erosion control and sediment control measures to reduce or eliminate discharge of pollutants to surface water from stormwater and non-stormwater discharges during construction activities. The site-specific WQMP must describe the BMPs that will be implemented and maintained throughout the life of the project, and is used by property owners, facility operators, tenants, facility employees, maintenance contractors, etc., to prevent and minimize water pollution that can be caused by stormwater or urban runoff. BMP selection includes site design measures to minimize directly connected impervious areas, source control

measures to minimize urban runoff potential, and/or treatment control measures to minimize urban runoff pollutant loads. This SWPPP and WQMP requirement will reduce the overall impervious areas within the Project boundary, and thus reduce the overall amount of surface runoff from urban areas.

Through compliance with regulatory permits associated with modifications to any natural drainages or wetlands that may be considered jurisdictional, compliance with the NPDES permitting program and incorporation of appropriate BMPs (**MM HYDRO-1**), impacts are expected to be **less than significant with mitigation incorporated**.

Would the Project 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?

As explained above, the proposed MDP facilities will generally follow the existing drainage pattern of the area; the existing general drainage pattern is for stormwater to be discharged from the canyon mouths, then flows overland across natural and urban landscapes into Lake Elsinore. The proposed MDP facilities will generally follow the existing drainage pattern of the area. The MDP facilities would be constructed to improve flow conveyance conditions in order to reduce the potential for flooding. Sediment removal during maintenance activities of the debris basins would also restore the flow conveyance. Proposed sediment removal activities would include ground-disturbing activities that would occur primarily during the dry-season, avoiding or minimizing the potential for flooding.

The MDP will act as a guide for the location and size of drainage facilities and basins needed to resolve existing flooding problems within the developed areas. The implementation of the MDP will mitigate for existing flooding issues occurring in the Lakeland Village area; the Project will not create flooding.

As discussed above, any modifications to natural drainages that are considered jurisdictional will be addressed by compliance with **MM HYDRO-4**.

Also, during construction of the MDP facilities, SWPPPs and BMPs may be incorporated to the MDP facilities to minimize the potential for flooding (**MM HYDRO-1**). The proposed MDP facilities will be designed to accommodate 100-year stormwater flows from the MDP area; therefore, the MDP will not result in peak flows exiting the site that would result in flooding on- or off-site.

Therefore, since the Project will improve the flooding issues in the Project area and with implementation of **MM HYDRO-1** and **MM HYDRO-4** will mitigate any construction impacts to natural drainages, impacts are considered to be **less than significant with mitigation incorporated**.

Would the Project create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems?

The Project is intended to collect and convey stormwater through the Project boundary; the Project will not be a generator of runoff water that can exceed existing or planned stormwater drainage systems. Some of the MDP facilities will drain/connect to existing downstream drainage systems. The Project proposes to retrofit or upsize existing facilities whose capacity will be compromised by construction of the MDP or were not designed to convey the tributary runoff. Therefore, since the Project will not create or contribute runoff, and it will require the upsizing of existing facilities so that they can accommodate flows that will be conveyed through the new MDP facilities, impacts are considered to be **less than significant**.

Would the Project 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?

Portions of the Project area lie within the boundaries of the FEMA 100-year flood plain (see Figure 4.8-1). However, one of the objectives of the Project is to control flooding associated with stormwater runoff within the Project boundary. The Project does not include the construction of a levee. However, MDP facilities do include debris basins. Table 4.8-4 provides a list of debris basins within the Project boundary and whether they fall under the jurisdiction of the Division of Safety of Dams (DSOD) criteria.

The following criteria will be applied to every basin, even if the facility is not within the jurisdiction of the DSOD.

a. The embankment, foundation, abutments, and reservoir rim must be stable and must not develop unacceptable deformations under all loading conditions brought about by construction of the embankment, reservoir operation, and earthquake.
b. Seepage flow through the embankment, foundation, abutments, and reservoir rim must be controlled to prevent excessive uplift pressures; piping; instability; sloughing; removal of material by solutioning; or erosion of material into cracks, joints, or cavities. The amount of water lost through seepage must be controlled so that it does not interfere with planned project functions.
c. The reservoir rim must be stable under all operating conditions to prevent the triggering of a landslide into the reservoir that could cause a large wave to overtop the dam.
d. The embankment must be safe against overtopping or encroachment of freeboard during occurrence of the IDF (inflow design flood) by the provision of sufficient spillway and outlet works capacity.
e. Freeboard must be sufficient to prevent overtopping by waves.
f. Camber should be sufficient to allow for settlement of the foundation and embankment, but not included as part of the freeboard.
g. The upstream slope must be protected against wave erosion, and the crest and downstream slope must be protected against wind and rain erosion.

An earthfill dam designed to meet the above criteria will prove permanently safe, provided proper construction methods and control are achieved.

Would the Project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

A seiche is an oscillation of a landlocked body of water that can cause water damage to buildings, roads, and other facilities that surround the body of water (Lake Elsinore), typically caused by earthquakes. According to the Seismic and Geologic Hazards Review report (Leighton Consulting Inc. 2011; see Appendix D of this PEIR), some areas within the Project boundary are located within an area that could be subject to inundation by seiches from Lake Elsinore. However, as stated in the City of Lake Elsinore's Draft General Plan EIR, although there is the potential for a seiche to occur in Lake Elsinore during an earthquake, it would take a geologically substantial earthquake to cause a seiche. Seiche potential is highest in large, deep, steep reservoirs or water bodies. Lake Elsinore lacks significant potential for a damaging seiche because it is shallow, and because of the flood control infrastructure constructed by the ACOE, including the berm fill at the southern end of the lake. No water is being stored in the water quality or debris basins that would constitute bodies of water that could create a seiche. The MDP facilities will convey stormwater and runoff that would reduce the likelihood of mudflow from the area.

The potential for the occurrence of a tsunami is very low because the Pacific Ocean is the closest tsunami-producing open body of water and is located approximately 25 miles from the Project boundary.

The construction and operation and maintenance of the Project facilities will not increase exposure of land uses to a seiche, mudflow, or tsunami. Therefore, impacts from all three hazards are considered to be **less than significant**.

Table 4.8-4
Debris Basins within the MDP under California Division of Safety of Dams Jurisdiction

Watershed	Downstream Condition	Approximate Embankment Height (ft.)	Structure Classification	Division of Safety of Dams (DSOD) Jurisdiction?	Approximate Debris Volume (ac-ft.)	Approximate Area Footprint (ac)
A	Outlets to existing channel	20	Dam	No	9	2
B	Outlets to existing channel	27	Dam	Yes	16	2
F	Will outlet to proposed storm drain	10	Dam	No	3	1
H	Will outlet to proposed rectangular channel	58	Dam	Yes	97	11
I	Will outlet to proposed storm drain	24	Dam	No	3	1
K	Will outlet into proposed storm drain	7	Dam	No	6	2
N (Line N)	Will outlet into proposed storm drain	10	Dam	No	11	2
O (Line O-10)	Will outlet into proposed storm drain	10	Dam	No	8	2
O (Line O-20)	Will outlet into proposed storm drain	10	Dam	No	6	1

Source: District.

The proposed basins embankments will be designed and constructed in accordance with standard engineering and seismic criteria to minimize the risk of failures. Dams under the jurisdiction of DSOD undergo a thorough review by the Department of Water Resources to ensure that the dam is designed to meet minimum requirements and that the design is appropriate for the known geologic conditions. DSOD also oversees the construction of the dam to ensure the work is done in accordance with approved plans and specifications. Following construction, DSOD inspects each dam on an annual basis to ensure the dam is safe, performing as intended, and is not developing problems. Therefore, impacts are considered **less than significant**.

4.8.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures that could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to reduce or eliminate impacts.

MM HYDRO-1 During any construction or maintenance activities that require ground disturbance for future Master Drainage Plan (MDP) facilities, the Riverside County Flood Control and Water Conservation District (District), County of Riverside, and Cities of Lake Elsinore and Wildomar shall comply with the current statewide Construction General Permit for projects resulting in land disturbances of 1 acre. Where projects result in disturbance to less than 1 acre of land, the District, County of Riverside, and Cities of Lake Elsinore and Wildomar shall comply with the local grading ordinance and install best management practices (BMPs) to ensure that sediment is not transported beyond the Project limits or into sensitive areas such as wetlands and water bodies. A De Minimus discharge shall be obtained from the Regional Water Quality Control Board (RWQCB) when required for dewatering activities.

MM HYDRO-2 Future landscape maintenance activities using pesticides (i.e., herbicides or rodenticides) around the MDP facilities shall be phosphorus and nitrogen free or be in conformance with the phosphorus and nitrogen Total Maximum Daily Loads (TMDLs) outlined in the 303(d) list for Lake Elsinore.

MM HYDRO-3 Prior to construction of future MDP facilities that may be located in waters of the United States or waters of the state, the District, County of Riverside, and Cities of Lake Elsinore and Wildomar shall obtain all necessary permits to comply with the federal Clean Water Act (CWA) state discharge permitting requirements, 404 Permits, 401 Permits, 1602 Permits, and California Porter-Cologne Water Quality Control Act permit. Restoration, enhancement, or creation may be required as a result of these regulatory permits and could include such activities on MDP facilities (such as within basins) or could occur off site, but within the same watershed. Mitigation ratios shall be determined at the time specific MDP facilities are proposed for construction in the future.

MM HYDRO-4 Project-specific jurisdictional delineations will be required to determine the limits of the U.S. Army Corps of Engineers (ACOE), RWQCB, and California Department of Fish and Wildlife (CDFW) jurisdiction for the MDP facilities listed in Table 4.3-5. Impacts to jurisdictional waters will need to be verified by the corresponding regulatory agency. If impacts are anticipated, then either a) jurisdictional water will be completely avoided or

b) necessary permits from requisite jurisdictions will be obtained. Obtaining permits may include mitigation for impacts, which would most likely include similar mitigation to that offered in a Determination of Biologically Equivalent or Superior Preservation (DBESP) such as restoration, creation and enhancement of resources in exchange for impacts from the project (same as **MM BIO-5**).

4.8.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Implementation of these mitigation measures will reduce potentially significant impacts related to hydrology and water quality to a less than significant level.

4.8.8 References

Santa Ana RWQCB (Regional Water Quality Control Board). 2005. Resolution No. R8-2004-0037. Accessed December 13, 2011. http://www.swrcb.ca.gov/rwqcb8/board_decisions/adopted_orders/orders/2004/04_037.pdf.

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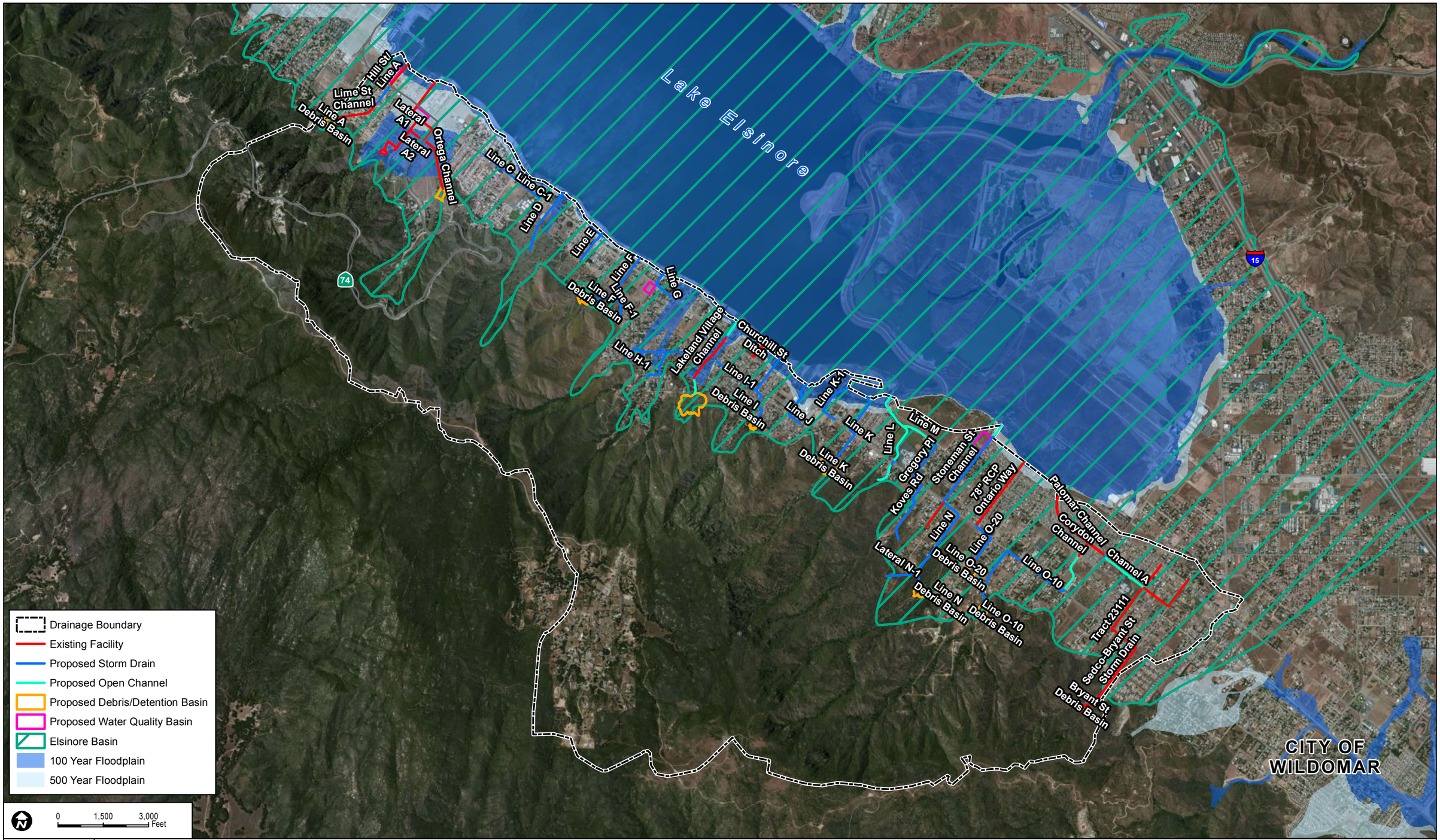
EVMWD (Eastern Valley Municipal Water District). 2005. *Groundwater Management Plan*. Accessed December 15, 2011. http://evmwd.com/civica/filebank/blobdload.asp?BlobID=2096.

Leighton Consulting Inc. March 22, 2011. *Seismic and Geologic Hazards Review*.

County of Riverside. 2003. *Riverside County General Plan*.

Santa Ana RWQCB (Regional Water Quality Control Board). 2008. *Santa Ana River Basin Water Quality Control Plan*. Chapter 3, Beneficial Uses. Accessed December 15, 2011. http://www.swrcb.ca.gov/rwqcb8/water_issues/programs/basin_plan/docs/chapter3.pdf.

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SOURCE: Riverside County Flood Control and Water Conservation District 2010, 2012; Bing Maps

FIGURE 4.8-1

Groundwater Basin and 100-Year Floodplain

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4.9 Noise

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to 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; excessive ground-borne vibration or ground-borne noise levels; and substantial temporary or periodic increase in ambient noise levels in the P:roject vicinity above levels existing without the Project.

Potential impacts from the Project on substantial permanent increase in ambient noise levels within the Project boundary above levels existing without the Project, the Project being located within an airport land use plan, and the Project being located within 2 miles of a public airport or public use airport or within the vicinity of a private airstrip such that the Project would expose people residing or working in the Project boundary to excessive noise levels, were all found to be less than significant or no impact in the IS for the Project and are therefore not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.9.1 Setting and Project Baseline

General Characteristics of Community Noise

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perceptibility is subjective, and the physical response to sound complicates the analysis to its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighting filter system is used to adjust measured sound levels and is expressed as dBA.

To describe environmental noise and to assess project impacts on areas that are sensitive to community noise, a measurement scale that simulates human perception is customarily used. The basic terminology and concepts of noise are described below. Technical terms are defined in Table 4.9-1.

Table 4.9-1
Noise Definitions

Term	Definition
Ambient noise level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Community noise equivalent level (CNEL)	The average equivalent A-weighted sound level during a 24-hour day, calculated by adding 5 dB to sound levels in the evening (7 p.m. to 10 p.m.) and adding 10 dB to sound levels in the night (10 p.m. to 7 a.m.).

Table 4.9-1
Noise Definitions

Term	Definition
Decibel (dB)	The unit of measure that denotes the ratio between two quantities that are proportional to power; the number of decibels corresponding to the ratio of the two amounts of power is based on a logarithmic scale.
A-weighted decibel (dBA)	The A-weighted decibel scale discriminates upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals.
Intrusive noise	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency and time of occurrence, and tonal or informational content as well as the prevailing noise level.
L_{10}	L_{10}: The A-weighted sound level exceeded 10% of the sample time. Similarly, L_{50}, L_{90}, etc.
L_{eq} (equivalent energy level)	The average acoustic energy content of noise during the time it lasts. The L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure, no matter what time of day they occur. The County of Riverside uses a 10-minute L_{eq} measurement.
L_{dn} (day-night average level)	The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual or daily basis, while L_{eq} represents the equivalent energy noise exposure for a shorter time period, typically one hour.
Micropascal	The international unit for pressure, similar to pounds per square inch. 20 micropascals is the human hearing threshold. The scale ranges from zero for the average least perceptible sound to about 130 for the average pain level.
Noise contours	Lines drawn around a noise source indicating equal levels of noise exposure. CNEL and L_{dn} are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.

Source: County of Riverside 2003.

Sound (noise) levels are measured in decibels (dB). Community noise levels are measured in terms of A-weighted sound level. Table 4.9-2 depicts common sound levels for various noise sources. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria.

Table 4.9-2
Common Noise Sources and Noise Levels

Noise Source	Sound Level dBA	Subjective Impression
Military jet take-off (50 feet) Turbo-fan aircraft take-off (200 feet)	140	Threshold of pain
	130	—
	120	Deafening
Rock band DC-10 (6,080 on approach)	110	—
	100	Very loud
Motorcycle (25 ft) Busy street	90	—
	80	Loud
Interior of department store Conversation (3 ft)	70	—
	60	Moderate
Quiet auto (low speed) City dwelling (indoor)	50	—
	40	Faint
Rustle of leaves Country dwelling (indoor)	30	—
	20	Very faint
—	10	—
	0	Threshold of hearing

Source: County of Riverside 2003.

People are generally more sensitive to and annoyed by noise during the evening and nighttime hours. Thus, another noise descriptor used in community noise assessments, termed the community noise equivalent level (CNEL), was introduced. As defined in Table 4.9-1, CNEL is the average A-weighted sound level during a 24-hour day. A 5 dB penalty is added during the evening hours of 7:00 p.m. to 10:00 p.m., and a 10 dB penalty is added during the nighttime hours of 10:00 p.m. to 7:00 a.m. The 5 and 10 dB penalties are applied to account for increased noise sensitivity during the evening and nighttime hours.

Another community annoyance related to noise is vibration. As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized by displacement, velocity, and/or acceleration. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration.

Vibration can be felt outdoors, but the perceived intensity of vibration impacts are much greater indoors, due to the shaking of the structure. Some of the most common sources of vibration come from transit vehicles, construction equipment, and large vehicles. Several land uses are especially sensitive to vibration and therefore have a lower vibration threshold. These land uses includes but are not limited to residential areas, libraries, schools, and offices.

Existing Conditions

Noise amplitude and attenuation characteristics are key factors in the establishment of noise conditions and vary considerably according to natural climate and topographical features. Meteorological factors affecting noise characteristics within the Project boundary include temperature changes, Santa Ana winds, and the amount and duration of rainfall. Topographical features within the Project boundary include the steep Santa Ana Mountains to the south and the low-lying Lake Elsinore and the surrounding local valley. Man-made features within the Project boundary, such as buildings, structures, and roadways, also affect noise amplitude and attenuation.

The areas within the Project boundary are subject to typical noises such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities associated with residential, institutional (i.e., schools) and commercial uses. Noise within the Project boundary is the cumulative effect of noise from transportation activities and stationary sources. Transportation noise refers to noise from automobile use, trucking, airport operations, and rail operations. Roadway traffic is one of the more prevalent sources of noise within the Project boundary. State Route 74 traverses the western portion of the Project boundary. Traffic noise varies in how it affects land uses depending upon the type of roadway, distance of the land use from that roadway, topographical setting, and other physical land features such as landscaping, walls, buildings, and other structures. Some variables that affect the amount of noise emitted from a road are speed of traffic, flow of traffic, and type of traffic (i.e., tractor trailers versus cars).

Non-transportation noise typically refers to noise from stationary sources such as commercial establishments, machinery, air-conditioning systems, compressors, and landscape maintenance equipment. Regardless of the type of noise, the noise levels are highest near the source and decrease with distance.

Operation of the Master Drainage Plan (MDP) facilities would not generate additional noise as most facilities will be underground. Only temporary noise would occur during construction and maintenance of these facilities. Typical vibrations from traffic and construction sources that would be expected from the Project fall in the 10 to 30 hertz (Hz) range and usually occur around 15 Hz (Caltrans 2004).

Construction Noise

The following are typical types of construction equipment with typical noise levels that would be expected at a distance of 50 feet from the source:

- Excavators (85 dBA)
- Dozers (85 dBA)
- Dump trucks (84 dBA)
- Tractors/loaders/backhoes (80 to 85 dBA)
- Water trucks (88 dBA)

- Off highway trucks (88 dBA)
- Graders (85 dBA)
- Concrete mixer truck (85 dBA)
- Rollers (74 dBA)
- Paving equipment (89 dBA)
- Scrapers (89 dBA) (FTA 2006; FHWA 2006).

The noise levels generated by construction equipment vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, and the condition of the equipment. The highest noise levels associated with construction typically occur with earth moving equipment which includes excavating machinery (backhoes, bulldozers, excavators, etc.) and road building equipment (scrapers, graders, etc.). The average sound level of the construction activity also depends upon the amount of time that the equipment operates and the intensity of the construction during the time period.

4.9.2 Related Regulations

Federal

There are no applicable federal regulations related to noise.

State

Government Code Section 65302 (f)

California Government Code Section 65302(f) requires the preparation of a general plan that includes, among other things, a Noise Element, which shall identify and appraise the noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify to the extent practicable, current and projected noise levels for the following sources:

- Highways and Freeways
- Primary Arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport related operations
- Local industrial plants
- Other ground stationary noise sources contributing to community noise environment.

Local

Riverside County General Plan

Riverside County's General Plan (County of Riverside 2003) includes a section on noise and provides policies regarding the protection of noise-sensitive land uses from noise and vibration emitted by outside sources, and prevents new projects from generating adverse noise levels on adjacent properties within the County of Riverside. The following policies are applicable to the proposed MDP facilities:

Policy N-1.3: Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:

- Schools;
- Hospitals;
- Rest Homes;
- Long Term Care Facilities;
- Mental Care Facilities;
- Residential Uses;
- Libraries;
- Passive Recreation Uses; and
- Place of worship.

Policy N-1.8: Limit the maximum permitted noise levels that cross property lines and impact adjacent land uses, except when dealing with noise emissions from wind turbines.

Policy N-2.3: Mitigate exterior and interior noises to the levels listed in Table 4.9-3 to the extent feasible, for stationary sources:

Table 4.9-3
Stationary Source Land Use Noise Standards

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 p.m. to 7:00 a.m.	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 a.m. to 10:00 p.m.	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)

Source: Riverside County 2003.
Note: These are only preferred standards; final decision will be made by the Riverside County Planning Department and office of Public Health.

Policy N-4.2: Develop measures to control non-transportation noise impacts.

Policy N-8.1: Enforce all noise sections of the State Motor Vehicle Code.

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 established 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 (i.e., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Policy N-13.8: Review all development applications for consistency with the standards and policies of the Noise Element of the General Plan.

Policy N-18.1: Provide information to the public regarding the health effects of high noise levels and means of mitigating such levels.

Ordinance No. 847

The County of Riverside has an adopted Noise Ordinance (Ordinance No. 847; County of Riverside 2007) that establishes County-wide standards to regulate noise. The ordinance allows for different levels of acceptable noise depending on land use. For open space and residential areas, the acceptable level is much lower than for areas used for commercial and industrial areas. Activities in any area that surpass applicable levels would be in violation of the ordinance and thus subject to sanction.

Ordinance No. 847 also provides a list of activities that are exempt from the Ordinance's requirements. For purposes of the Project, those exemptions include noise produced by facilities owned or operated by or for a governmental agency, and noise generated in the construction of capital improvement projects of a governmental agency.

City of Wildomar

The City of Wildomar has incorporated Riverside County's General Plan. Therefore, the above policies related to noise also applies to the City of Wildomar.

The City of Wildomar adopted the County of Riverside's Noise Ordinance No. 847.

City of Lake Elsinore

The noise section of the City of Lake Elsinore General Plan (City of Lake Elsinore 2011a) provides policies to address potential noise impacts from implementation of the MDP facilities. The following policies are applicable to future proposed MDP facilities:

Policy 7.1: Apply the noise standards set forth in the Lake Elsinore Noise and Land Use Compatibility Matrix and Interior and Exterior Noise Standards when considering all new development and redevelopment proposed within the City.

Chapter 17.176 – Noise Control for the City of Lake Elsinore

The City of Lake Elsinore adopted a Noise Control policy to control unnecessary, excessive and annoying noise and vibration in the City and to prohibit such noise and vibration generated from or by all sources as specified in Chapter 17.176.

The City of Lake Elsinore's construction noise limits are outlined in Table 4.9-4.

Table 4.9-4
City of Lake Elsinore Construction Noise Limits

Land Use	Time Period	Noise Level (dBA)
Short-Term Mobile Equipment (less than 10 days)		
Single-family residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 7:00 a.m.	75 60
Multiple-dwelling residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 7:00 a.m.	80 65
Semi-residential/commercial	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 7:00 a.m.	85 70
Long Term Stationary Equipment (10 days or more)		
Single-family residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 7:00 a.m.	60 50
Multiple-dwelling residential	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 7:00 a.m.	65 55
Semi-residential/commercial	7:00 a.m. to 7:00 p.m. 7:00 p.m. to 7:00 a.m.	70 60

Source: City of Lake Elsinore 2011b, Chapter 17.176. Ord. 772, Section 17.78.060, 1986; Code 1987, Section 17.78.060.

Additionally, the following construction/demolition activities within the City of Lake Elsinore would be in violation of Chapter 17.176.080 (F):

- "Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on weekends or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the City."

4.9.3 Comments Received in Response to the Notice of Preparation

No comment letters were received during the NOP public comment period related to noise.

4.9.4 Significance Threshold Criteria

The District has not established local California Environmental Quality Act (CEQA) significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on Noise if the Project would:

- Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Expose people to or generate excessive ground-borne vibration or ground-borne noise levels.
- Cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

4.9.5 Environmental Impacts Before Mitigation

Would the Project expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Project will not result in permanent sources of noise, nor would there be significant noise generated from operation and maintenance of the MDP facilities, as most of them are underground.

Construction activities generate short-term noise impacts; the noise impacts from construction will last either a few weeks or a few months at the longest. Construction noise from the MDP facilities will not be a permanent source of noise within the Project boundary. Associated noise levels would be higher than the existing ambient noise levels, but would subside once construction is completed. Two types of noise impacts should be considered during the construction phase. First, the transport of workers and equipment to the

construction areas would incrementally increase noise levels along the roadways leading to and from the Project areas. Second, noise would be generated by the actual on-site construction activities.

Construction equipment anticipated for MDP facilities includes only standard equipment, listed above, that would be employed for any routine construction project of this scale; construction equipment with substantially higher noise-generation characteristics (such as pile drivers, rock drills, blasting equipment, etc.) is not anticipated for development of the MDP facilities. Construction noise is difficult to quantify because of the many variables involved, including the size of equipment used, percentage of time, and number of pieces of equipment that will actually operate on the site.

The maximum temporary construction noise levels from construction equipment would range up to approximately 90 dB for the type of equipment expected to be used for the proposed MDP facilities.

The County of Riverside Noise Ordinance No. 847 provides a list of activities that are exempt from the Ordinance's requirements. For purposes of this Project, those exemptions include noise produced by facilities owned or operated by or for a governmental agency, and noise generated in the construction of capital improvement projects of a governmental agency (Sections 2 (a) and 2 (b), respectively). These two exemptions have direct application to the Project. The MDP facilities will be owned and operated by a governmental agency (Riverside County Flood Control and Water Conservation District), and the build out of the Project could be part of a capital improvement plan either from the County, City of Lake Elsinore or City of Wildomar. The City of Wildomar adopted the County of Riverside's Noise Ordinance.

For the MDP facilities located within the City of Lake Elsinore, the City of Lake Elsinore's municipal code would apply (see Figure 4.3-1 for MDP facilities located in the City limits). Based on Table 4.9-4, the City of Lake Elsinore's noise standards range from 50 dBA to 85 dBA, depending on the land use and time of day. Construction noise levels from construction equipment may exceed the noise standard range in the City of Lake Elsinore. Mitigation Measure (**MM**) **NOISE-1** will be incorporated in order to reduce noise impacts from construction within the City of Lake Elsinore.

The City of Lake Elsinore Chapter 17.176 (Noise Control) of the Municipal Code prohibits construction, drilling, repair, alteration, or demolition work between the weekday hours of 7:00 p.m. and 7:00 a.m. or at any time on the weekends or holidays except for emergency work of public service utilities or by variance issued by the City of Lake Elsinore. There are no exemptions for government facilities such as those allowed by the County of Riverside's Noise Ordinance in the City's municipal code. The hours of construction limits will be complied with for any MDP facility located in the City of Lake Elsinore.

Exemptions from the County of Riverside Noise Ordinance apply to the Project, specifically the exemption that applies to facilities operated by or for a governmental agency. The City of Wildomar adopted the County of Riverside's Ordinance. Although **MM NOISE-1** has been incorporated to reduce impacts associated with noise within the City of Lake Elsinore, given the typical noise levels from

typical construction equipment are above 80 dBA, and given the City of Lake Elsinore's low noise standards, future proposed MDP facilities within the City of Lake Elsinore would most likely exceed the City of Lake Elsinore's Noise Control policy. Therefore, Project noise levels are not expected to conflict with or exceed noise limits in the established noise standards from the County of Riverside and the City of Wildomar. However, noise levels could exceed noise standards in the City of Lake Elsinore; therefore, impacts related to noise in that City would be considered **significant**, and a Statement of Overriding Considerations would be required.

Would the Project expose people to or generate excessive ground-borne vibration or ground-borne noise levels?

The Project would involve the temporary and intermittent use of construction equipment for various construction and maintenance activities over the life of the Project. There are no operational noise sources that would include vibration. Sometimes during construction, vibrational noise may occur from equipment movement. Vibrational noise is a concern when sensitive receptors, such as homes, schools, or hospitals are in proximity to the vibration sources. For the Project, the proposed alignments are within proximity of residences, as most of the MDP facilities lie within or adjacent to existing roads. The heavier pieces of construction equipment used within the Project boundary could include dozers, graders, loaded trucks, water trucks, and pavers. Ground-borne vibration information related to construction activities has been collected by California Department of Transportation (Caltrans) (Caltrans 2004). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to annoy people. However, according to the American Society of Civil Engineers (ASCE 1974), this annoyance threshold is approximately half of the magnitude which is typically used for protection of "fragile buildings." The ASCE recommends the use of a 0.2 inches/second particle velocity to ensure the avoidance of damage to older existing structures within the Project boundary. Since this is a program level EIR, the specific alignment of the facilities is not determined at this time. As a worse-case scenario, an approximate 25-foot distance from the construction area to the closest home was assumed. The heavier pieces of construction equipment such as large bulldozers and loaded trucks would have peak particle velocities of approximately 0.089 or less at a distance of 25 feet (FTA 2006). At these distances and with the anticipated construction equipment, the peak particle velocity would be below 0.1 inches/second at the adjacent homes. As such, even older homes which may exist adjacent to the Project site would not be anticipated to be damaged from the ground vibration created during site preparation activities; the greatest sources of ground vibration from construction are associated with pile driving, rock drills, and blasting, none of which are expected during construction of the MDP facilities. Vibration is very subjective, and some people may be annoyed at continuous vibration levels near the level of perception (or approximately a peak particle velocity of 0.01 inches/second). However, construction activities are not anticipated to result in continuous vibration levels that typically annoy people, and the vibration impact would be considered **less than significant** and no mitigation measures are necessary.

Would the Project cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

The Project includes the construction, maintenance and operation of MDP facilities, which will generate noise on a temporary basis. The Project's temporary noise increases will result from future construction and maintenance activities; except for the periodic maintenance vehicle traveling to the various MDP facilities over time, there is essentially no operational noise from the Project. Temporary construction noise impacts could occur during construction activities either from the noise impacts created from the transport of workers and movement of construction materials to and from the Project sites, or from the noise generated onsite during ground clearing, grading, and construction activities. Construction activities are carried out in discrete steps, each of which has a unique mix of equipment and, consequently, unique noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction sites as work progresses.

Construction traffic associated with the Project would generally involve the export of dirt and concrete debris. Construction traffic is anticipated to be minimal.

Construction efforts for the MDP facilities would result in noise impacts to various types of sensitive receptors including, residences and schools. The associated construction activities would increase the ambient noise levels above existing conditions, which could be perceived as annoying to sensitive receptors in the area. However, this impact is temporary and would disappear once construction is completed. Most construction activities are limited to the County and City of Wildomar will comply with the allowable construction hours and days, and various measures are incorporated to reduce Project-specific noise levels (**MM NOISE-1**); less than significant impacts would result from construction noise in the County of Riverside and City of Wildomar. However, due to the City of Lake Elsinore's low noise standards, and the typical construction equipment noise levels exceeding 80 dBA, for the short term, construction noise in the City of Lake Elsinore is considered **significant** and a Statement of Overriding Considerations would be required.

4.9.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures that could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to reduce or eliminate impacts. Although impacts related to operational and construction noise in the City of Lake Elsinore were found to be significant because of the low noise standards within that jurisdiction, the following mitigation measures shall be applied to the Project within the City of Lake Elsinore so that noise levels can be reduced to the extent feasible.

MM NOISE-1 In order to mitigate the noise impact associated with construction noise in the City of Lake Elsinore, and in order to address the City of Lake Elsinore's noise criteria related to construction noise, the Riverside County Flood Control and Water Conservation District (District) or entity constructing a Master Drainage Plan (MDP) facility within the City of Lake Elsinore shall ensure or require prior to grading or demolition permit issuance that:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible. Unattended construction vehicles shall not idle for more than 5 minutes when located within 200 feet from residential properties.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from or shielded from the residences.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors. A plan should be provided to the City of Lake Elsinore identifying the staging areas prior to issuance of a construction permit.

Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent if necessary.

4.9.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Implementation of **MM NOISE-1** will reduce noise levels associated from construction equipment. However, given that the City of Lake Elsinore's noise limits are lower than what is typically expected from construction equipment, the potential to exceed the City's noise standards is high. Therefore, impacts are considered significant even with the above mitigation measure incorporated.

4.9.8 References

ASCE (American Society of Civil Engineers. 1974."Vibrations During Construction Operations." *Journal of Construction Division* 100(CO3): 239–246.

Caltrans (California Department of Transportation). 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. June 2004.

City of Lake Elsinore. 2011a. *City of Lake Elsinore General Plan*. Adopted December 13, 2011.

City of Lake Elsinore. 2011b. Chapter 17.176 – Noise Control. Accessed on December 9, 2011. http://www.codepublishing.com/CA/lakeelsinore/.

County of Riverside. 2003. *Riverside County General Plan*.

County of Riverside.2007. Ordinance No. 847. Accessed December 9, 2011. http://rivcocob.com/ords/800/847.pdf.

FHWA (Federal Highway Administration). 2006. *Construction Noise Handbook*. Accessed November 28, 2012. http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm.

FTA (Federal Transit Administration). 2006. *Transit Noise and Vibration Impact Assessment*. May 2006.

4.10 Transportation and Traffic

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to conflict with adopted plans, ordinances, or policies regarding the performance of the circulation system including all modes of transportation and components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit; the potential conflict with an adopted congestion management programs; and the potential conflict with adopted policies, plans, or programs regarding public transit, bicycle, pedestrian facilities, or other alternative transportation. Potential impacts from the Project on substantial increase of hazards due to design features or incompatible uses, inadequacy of emergency access, and inadequacy of parking capacity were all found to be less than significant or have no impact in the IS for the Project and are therefore not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.10.1 Setting and Project Baseline

Roadways

Interstate 15 (I-15) provides regional access to the Project boundary. The I-15 freeway, located northeast of the Project boundary, is an interstate highway that extends throughout Riverside County to San Diego County to the south and San Bernardino County to the north (see Figure 3.0-2, Vicinity Map).

State Route 74 (SR 74) (Ortega Highway), an eligible State Scenic Highway, traverses through the westerly portion of the City of Lake Elsinore into the Cleveland National Forest where it connects with I-5 in Orange County. SR 74 is a divided collector designed for up to two lanes of traffic with potential augmented intersections. Specifically, the segment north of I-15 toward Riverside Street has been widened to a four-lane divided roadway to accommodate the recent development in the Project area.

The only street going all the way through the Project boundary, in a north–south direction is Grand Avenue. Grand Avenue within the Project boundary is a two-lane undivided roadway that provides an important connection to SR 74 from the Project area south of the lake (Lake Elsinore). In the City of Lake Elsinore General Plan, Grand Avenue is an urban arterial designed for up to six lanes and 120-foot right-of-way.

The County of Riverside and Cities of Lake Elsinore and Wildomar use level of service standards to assess the performance of a street or highway system and the capacity of the roadway. Levels of service are not expected to change as a result of construction from future proposed MDP facilities as roadways or highways are not being proposed for widening as part of the Project. Only temporary street lane closures and sidewalks could occur during construction and/or maintenance of future MDP facilities.

Public Transportation

The Riverside Transit Agency (RTA) provides public bus service to the Lakeland Village area. The RTA Route 8 that runs along Grand Avenue provides alternate intra-City and regional transportation options.

Pedestrian and Bicycle Trails

Currently, some of the areas within the Project boundary do not have paved pedestrian facilities. In the City of Lake Elsinore's General Plan, Grand Avenue has a bikeway designation for Class I and Class II. Class I Bikeway includes bike paths or trails with a completely separated right-of-way for the exclusive use of bicycles. Class II Bikeway includes bike lanes that provide a restricted right-of-way for the exclusive or semi-exclusive use of bicycles with the permitting of vehicle parking and vehicle/pedestrian cross flows. Stoneman Street and SR 74 are also designated for Class II Bikeway.

In the Lake Elsinore Trail System, Grand Avenue is designated as a regional trail while the County of Riverside Trail System has designated this roadway has a combination of regional trail and Class I Bikeway. The Lake Elsinore Trail System has also laid out community trails along portions of Line D, Line G, Line I, Line I-1, Line J, Line K, Line K-1, Line M, Line N, Line O-20, and Line O-10 as well as all facilities crossing Grand Avenue. No City of Wildomar trail system is located within the Project boundary.

4.10.2 Related Regulations

Federal

There are no federal related regulations pertaining to the Project.

State

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as the portion of the Interstate Highway System within the state's boundaries.

SR 74, traversing the westerly portion of the Project area, is owned and operated by Caltrans.

Local

County of Riverside General Plan Circulation Element

The Circulation Element of the County of Riverside General Plan (County of Riverside 2003) contains policies for the management of circulation and mobility in the County. The following General Plan

policies are applicable to the Project and aim to minimize adverse conditions to traffic and transportation within the Project boundary during construction and maintenance activities.

Policy C-3.8: Restrict heavy duty truck through-traffic in residential and community center areas and plan land uses so that trucks do not need to traverse these areas.

Policy C-3.28: Reduce transportation noise through proper roadway design and coordination of truck and vehicle routing.

Policy C-20.2: Provide all roadways located within identified flood areas with adequate flood control measures.

Policy C-20.4: Control dust and mitigate other environmental impacts during all stages of roadway construction.

Policy C-20.13: Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting the groundwater supply.

Policy C-23.10: Limit truck traffic in residential and commercial areas in the County and truck routes; limit construction, delivery, and truck through-traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.

Regional Transportation Plan

The Regional Transportation Plan (RTP) is a multi-modal, long-range planning document prepared by the Southern California Association of Governments, in coordination with federal, state, and other regional, subregional, and local agencies in Southern California. The RTP includes programs and policies for congestion management, transit, bicycles, and pedestrians, roadways, freight, and finances. The RTP is prepared every three years and reflects the current future horizon based on a 20-year projection of needs. The RTP's primary use is as a regional long-range plan for federally funded transportation projects. It also serves as a comprehensive, coordinated transportation plan for all governmental jurisdictions within the region.

City of Wildomar General Plan

The City of Wildomar has incorporated Riverside County's General Plan. Therefore, the above policies related to the Riverside County General Plan also apply to the City of Wildomar.

City of Lake Elsinore General Plan

The circulation section of the City of Lake Elsinore GP (City of Lake Elsinore 2011) provides goals and policies to address effects of prospective development on transportation, traffic, and the circulation system. The following policies are applicable to the Project:

Policy 6.5: The City will monitor traffic and congestion on Grand Avenue and Corydon Street through the review of project-specific traffic studies, and apply mitigation measures to ensure that projected traffic does not exceed daily capacities as new development occurs in the area.

4.10.3 Comments Received in Response to the Notice of Preparation

Comment letters were received from Caltrans on September 27, 2011, in response to the NOP. The contents of these letters are included in Appendix A.

4.10.4 Significance Threshold Criteria

The District has not established local California Environmental Quality Act (CEQA) significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this PEIR). Accordingly, and based on the IS, the Project would have a significant impact on transportation and traffic if the Project would:

- Conflict with an adopted plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an adopted congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the appropriate congestion management agency for designated roads or highways.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, pedestrian facilities, or other alternate transportation or otherwise decrease the performance or safety of such facilities.

4.10.5 Environmental Impacts Before Mitigation

Would the Project conflict with an adopted 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?

The Project is not a traffic-generating project, like a residential development would be. The effectiveness of the local circulation system will not be affected by the Project; instead, the Project makes local

circulation work better, as it relieves flooding within the Project boundary, which under the current conditions causes havoc on the local circulation system.

The proposed MDP facilities include underground storm drains which will be constructed mostly within existing road rights-of-ways and will require temporary lane closures to construct. The street and lane closures during construction will be kept to a minimum and will be coordinated with the Riverside County Transportation Department and Caltrans to ensure that traffic flow is not adversely affected. Any traffic impacts will be limited to the construction period and possibly during maintenance activities of the MDP facilities located in roadways. Construction of the water quality and debris basins should not require lane closures, as those MDP facilities will be located on discrete sites, not within roadways.

Standard District Traffic Control requirements that would be implemented during Project construction and maintenance activities include:

- Labor, flagmen, lights, barricades, signs, materials, temporary bridges, and equipment;
- Contractor shall notify applicable agencies (i.e., Riverside County Transportation, Riverside County Sheriff's Department; Cities of Lake Elsinore and Wildomar Public Works Department and Police Department; Southern California Edison, The Gas Company; phone and cable companies; school districts; United States Postal Service; Eastern Municipal Water District; public transit; Waste Disposal Service) a minimum of 48 hours in advance of start of any street work and proposed/changes to construction schedule and provide any additional pertinent information they may request;
- Contractor shall notify the public a minimum of 10 working days prior to start of road closure.

Two Facilities, Line A and the Ortega Channel could have potential impacts to State Route 74, which is owned and operated by Caltrans. A Traffic Control Plan will be required when future MDP facilities are proposed that will require lane closures or significant rerouting of traffic. The Traffic Control Plan will outline and coordinate traffic movement including construction vehicles, and identify temporary street and lane closures that will be implemented during construction and maintenance activities, as required by Mitigation Measure (**MM**) **TRANS-1** in Section 4.10.6.

An encroachment permit for improvements and construction along Line A and Ortega Channel within SR 74 will be required prior to construction (**MM TRANS-2**). Obtaining the encroachment permit will ensure that Caltrans has reviewed and approved the construction plans and Traffic Control Plan so that significant impacts and delays are avoided. The Traffic Control Plan submitted with the Caltrans encroachment permit application shall be prepared in accordance with the Caltrans *Manual of Traffic Controls for Construction and Maintenance Work Zones*. The Traffic Control Plan shall also consider traffic restrictions and pedestrian/bicycle detours. All work proposed within State right-of-way requires lane and shoulder closure charts. Also, all roadway features such as signs, pavement

delineation, roadway surface, etc. within the state right-of-way must be protected, maintained in a temporary condition, and/or restored.

Prior to future encroachment permit issuance, street, grading and drainage construction plans will be submitted to Caltrans for review and approval to ensure that construction activities within SR 74 conform to current Caltrans design standards and construction practices (**MM TRANS-3**). At all times during construction and maintenance activities, emergency fire or medical vehicles will be able to access all adjacent areas. Proposed debris and water quality basins and most open channels are located outside of existing road rights-of-way and will not require street or lane closures. In accordance with **MM TRANS-1**, if street and lane closures are necessary, proper traffic control and signage will be provided to facilitate traffic flow. Therefore, impacts will be considered **less than significant with mitigation incorporated**.

Would the Project conflict with an adopted congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the appropriate congestion management agency for designated roads or highways?

Riverside County Congestion Management Program (CMP) is updated every two years in accordance with Proposition 111. The CMP is intended to directly link land use, transportation and air quality. The adopted CMP includes a Travel Demand Management (TDM) element, which consists of programs and strategies that are intended to reduce and reshape use of the transportation systems. By promoting alternative modes of transportation, increasing vehicle occupancy, maximizing the efficient use of parking, reducing travel distances, and easing peak-hour congestion, these strategies and programs help to increase the efficiency and effectiveness of the transportation system (RCTC 2011).

The Project could temporarily increase traffic levels during construction and maintenance activities of the MDP facilities with the use of construction vehicles and temporary street, shoulder, bike lanes and sidewalk closures. As previously mentioned, future proposed MDP facilities will be required to submit a Traffic Control Plan addressing potential congestion, traffic flows, and detours to the lead agency and the Caltrans (if within a State Highway System) (**MM TRANS-1**). The MDP will be in compliance with the County of Riverside's CMP and Caltrans design standards and guidelines. Therefore, although future proposed MDP facilities will temporarily disrupt traffic flow, with implementation of a Traffic Control Plan per **MM TRANS-1** and compliance with the County of Riverside's CMP, impacts will be considered **less than significant with mitigation incorporated.**

Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, pedestrian facilities, or other alternate transportation or otherwise decrease the performance or safety of such facilities?

The RTA operates bus service throughout Riverside County, including through the Project area via Route 8 along Grand Avenue. There is only one bus stop within the Project boundary, which is located at Grand Avenue and Baldwin Boulevard. Future proposed MDP facilities would involve construction and maintenance along roadways, specifically Grand Avenue, traveled by RTA buses. As such, temporary impacts to the existing bus routes may occur due to temporary street and lane closures/detour. Temporary impacts to bicycle routes and pedestrian walkways could also occur during construction and maintenance activities, due to temporary street, shoulder, and sidewalk closures/detour. As previously mentioned, a Traffic Control Plan will be provided for future proposed MDP facility and this plan will also have to address bus routes or other transportation modes in the affected area (**MM TRANS-1**). Therefore, with implementation of a Traffic Control Plan per **MM TRANS-1**, potential conflicts to alternative transportation would be avoided and impacts would be **less than significant with mitigation incorporated**. Once constructed, the MDP facilities would not impact RTA's ability to continue service within the Project boundary and all bicycles and pedestrian pathways would be returned to pre-construction conditions.

4.10.6 Mitigation Measures

The CEQA Guidelines require an EIR to describe feasible mitigation measures that could minimize significant adverse impacts (14 CCR 15126.4). Mitigation measures were evaluated for their ability to reduce or eliminate impacts. The following measures shall be implemented to eliminate or reduce potentially significant impacts to traffic and transportation elements to below the level of significance.

MM TRANS-1 To reduce traffic congestion or disruption that may occur during individual Master Drainage Plan (MDP) facility construction or maintenance activities, especially the MDP facilities located within existing road alignments, prior to construction, the Riverside County Flood Control and Water Conservation District (District), City of Lake Elsinore, City of Wildomar, or developers shall prepare a Traffic Control Plan. The Traffic Control Plan will detail and coordinate all traffic movement through the project area and will be implemented throughout project construction. The Traffic Control Plan will also ensure that private property and emergency access will be maintained at all times. Methods to maintain access may include, but are not limited to: temporary bridge crossings (i.e., steel plates or structural design bridges) for all driveway entrances to be closed to vehicular access for any period exceeding 4 hours; use of construction signs, barricades and delineators; and the use of flaggers during construction. All work proposed by the District, City of Lake Elsinore, City of Wildomar, or developers, within state right-of-way requires lane and shoulder

closure charts. Also, all roadway features such as signs, pavement delineation, roadway surface, etc. within the State right-of-way must be protected, maintained in a temporary condition, and/or restored by the District, City of Lake Elsinore, City of Wildomar, or developers. The Traffic Control Plan shall be prepared in accordance with the California Department of Transportation (Caltrans) *Manual of Traffic Controls for Construction and Maintenance Work Zones*. If work requires complete road closure, then the public shall be notified within 10 days of that closure.

MM TRANS-2 In order to address potential impacts along State Route (SR) 74, the District, City of Lake Elsinore, City of Wildomar, or developer shall obtain an Encroachment Permit from Caltrans for any project activities within SR 74 including but not limited to alterations to existing improvements and conform to current Caltrans design standards and construction practices.

MM TRANS-3 In order to ensure that construction activities within SR 74 conform to current Caltrans design standards and construction practices, prior to encroachment permit issuance, the District, City of Lake Elsinore, City of Wildomar, or developers shall submit street, grading and drainage construction plans to Caltrans for review and approval.

4.10.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Potential traffic and transportation impacts would be less than significant with implementation of mitigation measures outlined in Section 4.10.6 when future project specific MDP facilities are proposed. A traffic control plan or traffic impact study and encroachment permits will be required to be submitted to respective local and state authorities.

4.10.8 References

City of Lake Elsinore. 2011. Draft General Plan. Accessed December 2, 2011. http://issuu.com/cityoflakeelsinore/docs/chapter_2.0_-_community_form_-_september_2011?mode=window&backgroundColor=%23222222.

County of Riverside. 2003. *Riverside County General Plan*.

RCTC (Riverside County Transportation Commission). 2011. *Riverside County Congestion Management Program*. December 14, 2011.

4.11 Utilities and Service Systems

The focus of the following discussion and analysis, based on the initial study (IS), public scoping session, and comments received during the Notice of Preparation (NOP) public comment period, is related to the Project's potential impacts to utilities and service systems, including stormwater drainage facilities, from implementation of the Project. Potential impacts from the Project on whether new or expanded electrical lines, natural gas lines, communication systems, street lighting, or public facilities, including roads and bridges, are required; having sufficient water supplies to serve the Project; whether wastewater/water demand will be adequately served; whether the Project's solid waste disposal needs will be sufficiently served; and compliance with federal, state, and local statutes and regulations related to solid waste were found to be less than significant or have no impact in the IS for the Project and therefore are not further discussed in the Draft Program Environmental Impact Report (PEIR) (see Appendix A).

4.11.1 Setting and Project Baseline

The Project area sits within the narrow canyons of the Cleveland National Forest and empties into Lake Elsinore in a very short distance. The Project area currently drains these canyons through a very narrow sliver of development along the lakeshore and the mountains known as Lakeland Village. During storm events, high velocities of water move through the canyons into the developed area of Lakeland Village, which mostly does not contain curb and gutter; therefore, erosion and flooding is common in the area. Additionally, the stormwater does not move through many existing storm drain systems that are equipped with water quality treatment devices or design; Lake Elsinore receives a large amount of untreated stormwater from the undeveloped storm drain system that currently supports Lakeland Village. During rain events, the area within the Project boundary floods, which makes it difficult for pedestrians to walk on the sidewalks and for vehicles to exit driveways and drive through streets. The rain events have also resulted in uneven dirt roads from erosion incurred during these events.

There are currently existing drainage facilities along portions of Hill Street/Line A, Lime Street Channel, Line B/Ortega Channel, Lateral A, Lateral A-1, Lateral A-2, Lakeland Village Channel, Churchill Street Ditch, Stoneman Street, Ontario Way, Palomar Channel, Corydon Channel, Sedco–Bryant Street, and Tract 23111 (see Figure 3.0-3a and Figure 3.0-3b). There are existing debris basins at Lateral A-2 and Bryant Street (see Figure 3.0-3a and Figure 3.0-3b).

The Project area is located in the Santa Ana River Region which is within the Riverside County Drainage Area Management Plan (County of Riverside 2006). The climate of the Santa Ana River Region is Mediterranean, with hot, dry summers and cooler, wetter winters. Most of the precipitation in the Santa Ana Region occurs between November and March in the form of rain, with variable amounts of snow at higher elevations. The Drainage Area Management Plan addresses the requirement of the municipal separate storm sewer system (MS4) permits issued to the Riverside County Co-Permittees by the Santa Ana Regional Water

Quality Control Board (RWQCB). These are the fourth MS4 permits issued by each RWQCB and are referred to as the Fourth-Term MS4 Permits. The Riverside County Flood Control and Water Conservation District (District), County of Riverside, and the Cities of Lake Elsinore and Wildomar[1] are Permittees under the Fourth-Term MS4 Permits. Under these permits, the District and the Cities of Lake Elsinore and Wildomar are required to enforce and comply with stormwater discharge requirements outlined in Order No. R8-2002-0011 (NPDES No. CAS 618033). It should be noted that Order No. R8-2010-0033 (NPDES No. CAS 618033), approved in January 2010, superseded Order No. R8-2002-0011 except for enforcement purposes and, in order to meet the provisions contained in Division 7 of the California Water Code and provisions of the federal Clean Water Act (CWA). Projects such as the construction of the Master Drainage Plan (MDP) facilities, although benefiting stormwater management in the Project area, will still be required to address pollution at the construction stage. Pollution prevention measures are part of the stormwater pollution prevention plan (SWPPP) requirements and may require the implementation of best management practices (BMPs) to meet or exceed minimum treatment levels, as discussed in more detail below.

4.11.2 Related Regulations

Federal

Clean Water Act

In 1972, the federal Water Pollution Control Act (Clean Water Act (CWA)) was amended to prohibit the discharge of pollutants to waters of the United States unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The CWA focused on tracking point sources, primarily from waste water treatment facilities and industrial waste dischargers, and required implementation of control measures to minimize pollutant discharges. The CWA was amended again in 1987, adding Section 402(p), to provide a framework for regulating municipal and industrial storm water discharges. In November 1990, the U.S. Environmental Protection Agency (EPA) published final regulations that establish application requirements for specific categories of industries, including construction projects that encompass greater than or equal to 5 acres of land. The Phase II Rule became final in December 1999, expanding regulated construction sites to those greater than or equal to 1 acre. The regulations require that stormwater and non-stormwater runoff associated with construction activity, which discharges either directly to surface waters or indirectly through MS4s, must be regulated by an NPDES permit.

[1] Urban runoff from the City of Wildomar discharges into watersheds within the Santa Ana RWQCB and the San Diego RWQCB jurisdictions. Since the Project area is only located in the Santa Ana River Region, the San Diego Region Santa Margarita Drainage Area is not discussed herein.

State

Protection of Underground Infrastructure

The California Government Code Section 4216–4216.9, Protection of Underground Infrastructure, requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least 2 days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for Southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

California State Water Resources Control Board

In the State of California, the State Water Resources Control Board (SWRCB) and nine RWQCBs are responsible for implementing the CWA and the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

The Porter-Cologne Act Section 13000 directs each RWQCB to develop a Water Quality Control Plan (Basin Plan) for all areas within its region. The Basin Plan is the basis for each RWQCB's regulatory programs. The Project is located within the purview of the Santa Ana RWQCB (Region 8), and must comply with applicable elements of the region's Basin Plan, as well as the Porter-Cologne Act.

All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and may be required to obtain approval of Waste Discharge Requirements (WDRs) from the RWQCB. Land- and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of process and wash-down wastewater and privately or publicly treated domestic wastewater. WDRs for discharges to surface waters also serve as NPDES permits.

The SWRCB administers the NPDES permit program regulating stormwater from construction activities for projects greater than 1 acre in size. In order to obtain coverage under the Construction General Permit (Order No. 99-08-DWQ), a Waste Discharge Identification Number must be obtained, and an effective site-specific SWPPP developed. The SWPPP must identify potential on-site pollutants and identify and implement an effective combination of erosion control and sediment control measures to reduce or eliminate discharge of pollutants to surface water from stormwater and non-stormwater discharges.

Local

Riverside County General Plan Final EIR

The safety element section of the Riverside County General Plan Final EIR (County of Riverside 2003) provides policies to address potential impacts to storm drain systems. The following policies are applicable to the proposed MDP facilities:

Safety Policy 4.11: Require all projects anywhere in the County to address and mitigate any impacts that they may have on the carrying capacity of the local and regional storm drain systems.

Safety Policy 4.19: Require that the design and upgrade of street storm drains be based on the depth of inundation, relative risk to public health and safety, the potential for hindrance of emergency access and regress from excessive flood depth, and the threat of contamination of the storm drain system with sewage effluent. In general, the 10-year flood flows shall be contained within the top of curbs and the 100-year flood flows within the street right-of-way.

Open Space Policy 3.3: Minimize pollutant discharge into storm drainage systems, natural drainage, and aquifers.

City of Wildomar General Plan

The City of Wildomar has incorporated Riverside County's General Plan Final EIR. Therefore, the above policies related to the Riverside County General Plan Final EIR also apply to the City of Wildomar.

City of Lake Elsinore Draft General Plan

There are no policies pertaining to stormwater in the City of Lake Elsinore's Draft General Plan that are applicable to the Project.

4.11.3 Comments Received in Response to the Notice of Preparation

No comment letters were received regarding utilities and service systems during the NOP public comment period.

4.11.4 Significance Threshold Criteria

The District has not established local California Environmental Quality Act (CEQA) significance thresholds as described in Section 15064.7 of the CEQA Guidelines. The NOP for the PEIR included the IS (Environmental Checklist) to show the areas being analyzed in the PEIR (refer to Appendix A of this

PEIR). Accordingly, and based on the IS, the Project would have a significant impact on utilities and service systems if the Project would:

- 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.

4.11.5 Environmental Impacts Before Mitigation

Would the Project 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?

Areas within the Project boundary exhibit significant flooding during annual rain events. People are not able to walk on the sidewalks and vehicles cannot get out of driveways and streets. In addition, some of the areas only have dirt roads and those dirt roads have been severely impacted by erosion during storm events. The Project is intended to enhance stormwater conveyance and to alleviate flooding within the Project boundary. The Project will include the expansion of existing facilities as well as the construction of new MDP facilities (refer to Figure 4.3-1 of the Draft PEIR). The majority of the existing and proposed storm drain facilities are within road rights-of-way, in areas that have been previously disturbed.

The expansions of existing storm drain facilities and proposed new MDP facilities will be designed and constructed in accordance with *The "Greenbook": Standard Specifications for Public Works Construction* (Public Works Standards Inc. 2012) and be reviewed and approved by the applicable jurisdiction (County of Riverside, City of Lake Elsinore, or City of Wildomar).

The MDP facilities when constructed will also be required to be in compliance with an NPDES permit for stormwater discharges. Construction improvements and activities may be in compliance with stormwater quality BMPs and implementation of a SWPPP.

The environmental effects of MDP facility construction are discussed throughout this Draft PEIR. Significant environmental effects could occur to biological resources (discussed in Section 4.3 of the Draft PEIR), cultural resources (discussed in Section 4.4 of the Draft PEIR), geology and soils (discussed in Section 4.5 of the Draft PEIR), hazards and hazardous materials (discussed in Section 4.7 of the Draft PEIR), hydrology and water quality (discussed in Section 4.8 of the Draft PEIR), and transportation and traffic (discussed in Section 4.10 of the Draft PEIR). Mitigation measures provided in the above-mentioned sections would reduce the environmental effects to less than significant levels. Therefore, impacts from the Project are considered **less than significant.**

4.11.6 Mitigation Measures

Because impacts to utilities and service systems are found to be less than significant, no mitigation measures are necessary.

4.11.7 Summary of Environmental Effects After Mitigation Measures Are Implemented

Since there would be no significant impacts needing mitigation, residual impacts would be less than significant.

4.11.8 References

County of Riverside. 2003. *Riverside County General Plan Final EIR*.

County of Riverside. 2006. *Riverside County Drainage Area Management Plan*. Accessed on December 12, 2011. http://www.floodcontrol.co.riverside.ca.us/downloads/NPDES/DAMP%2007-21-06.pdf.

Public Works Standards Inc. 2012. *The "Greenbook": Standard Specifications for Public Works Construction*. BNI Publications Incorporated. January 20, 2012.

5.0 CONSISTENCY WITH REGIONAL PLANS

Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires an environmental impact report (EIR) to discuss any inconsistencies between the Lakeland Village Master Drainage Plan (MDP) (Project) and applicable general and regional plans. A discussion of the Project's consistency with the Multiple Species Habitat Conservation Plan (MSHCP) is contained in Section 4.3 (Biological Resources) of this Draft Program Environmental Impact Report (PEIR). Section 4.2 (Air Quality) and Section 4.6 (Greenhouse Gas Emissions) of this Draft PEIR discusses consistency with the South Coast Air Basin Air Quality Management Plan. Additionally, all sections of this document address applicable policies from the City of Lake Elsinore, City of Wildomar, and County of Riverside general plans that would apply to the Project.

The Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization for a six-county region (Ventura, Los Angeles, Orange, Riverside, San Bernardino, and Imperial) and is charged by the federal government to research and prepare plans for transportation, growth management, hazardous waste management, and air quality. The purpose of this section is to discuss the Project's consistency with policies of SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP). Table 5.0-1, Consistency with Regional Plans, presents a discussion of the Project's consistency with the applicable policies of the RCPG and RTP.

Table 5.0-1
Consistency with Regional Plans

Policy	Project Consistency with Regional Plan Policy
OSN-5: Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.	The Riverside County Flood and Water Conservation District (District), County of Riverside, City of Lake Elsinore, and City of Wildomar are all Permittees under the MSHCP and will adhere to the requirements set forth therein. The Project will not impact wetlands, overall groundwater recharge areas, or other land containing unique and endangered plants and animals. Required permits and mitigation measures have been incorporated into the Project that would reduce impacts to less than significant levels. The Project does not conflict with this policy.
OSN-6: Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.	As discussed in the Cultural Resources section of this Draft PEIR, the Project has incorporated mitigation measures that would reduce impacts that may occur if unknown cultural resources and archaeological sites are uncovered during construction activities. The Project would not conflict with this policy.

Table 5.0-1
Consistency with Regional Plans

Policy	Project Consistency with Regional Plan Policy
OSC-4: Support local jurisdiction and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.	The MDP is a planning document, which will help provide flood protection to the Lakeland Village area. The Project would not conflict with this policy.
OSC-10: Promote infill development and redevelopment to revitalize existing communities.	MDP facilities will alleviate the current flooding during rain events, which would not inhibit any proposed infill development in the area. The Project does not conflict with this policy.
WA-3: Encourage water reclamation where it is cost-effective, feasible, and appropriate to reduce reliance on imported water.	The proposed MDP facilities will inherently not generate the need for water or wastewater services. The Project does not conflict with this policy.
WA-11: Encourage urban development and land uses to make greater use of existing and upgraded facilities prior to incurring new infrastructure costs.	The Project includes expanding existing facilities as well as construction of new facilities (storm drains, open channels, debris and water quality basins) to serve the existing communities and future infill development. The Project does not conflict with this policy.
WA-13: Protect and preserve vital land resources – wetlands, groundwater recharge areas, woodlands, riparian corridors, and production lands. The federal government's 'no net loss' wetlands policy should be applied to all of these land resources.	The District, County of Riverside, City of Lake Elsinore, and City of Wildomar are all Permittees under the MSHCP and will adhere to the requirements set forth therein. The Project will not impact wetlands, overall groundwater recharge areas, woodlands, riparian corridors, or production lands. Required permits and mitigation measures have been incorporated into the Project that would reduce impacts to less-than-significant levels. The Project does not conflict with this policy.
WA-23: Encourage Low Impact Development and natural spaces that reduce, treat, infiltrate, and manage runoff flows caused by storms and impervious surfaces.	The Project does not encourage or discourage the development of Low Impact Development projects. MDP facilities will control stormwater runoff. The Project does not conflict with this policy.
WA-24: Prevent development in flood hazard areas lacking appropriate protections, especially in alluvial fan areas.	The MDP facilities will alleviate the current flooding situation during rain events within the Project boundary. The Project does not conflict with this policy.
WA-28: Maintain and update Best Management Practices (BMPs) for water resources planning and implementation.	The Project will incorporate BMPs during construction and maintenance activities. The Project does not conflict with this policy.

Table 5.0-1
Consistency with Regional Plans

Policy	Project Consistency with Regional Plan Policy
EN-3: Promote energy efficiency and reduce greenhouse gas emissions in the region.	The Project will not result in long-term greenhouse gas emissions in the region.
EN-9: Include energy analyses in environmental documentation and general plans with the goal of conserving energy through the wise and efficient use of energy. For any identified energy impacts, appropriate mitigation measures should be developed and monitored.	The Project does not include uses which require energy analysis. The Project does not conflict with this policy.
AQ-1.1: Ensure that transportation plans, programs, and projects are consistent with State air quality plans for attaining and maintaining the health-based National Ambient Air Quality Standards.	Future traffic control plans prepared for the facilities will ensure that the facilities will be consistent with state air quality plans. The Project will not conflict with this policy.
AQ-1.3: Ensure that there is continued development of Transportation Control Measures in the South Coast Air Basin.	The Project does not generate or impede traffic such that Transportation Control Measures are needed. The Project does not conflict with this policy.
AQ-2.1: Develop policies and guidance that support the greenhouse gas goals set forth in the Global Warming Solutions Act of 2006 (AB 32), which requires a reduction in global warming emissions to 1990 levels by 2020.	The Project does generate greenhouse gas emissions; however, the emissions generated are from construction and would not contribute significant levels such that any jurisdiction would have trouble meeting greenhouse gas goals. The Project does not conflict with this policy.
AQ-3: Discourage the location of sensitive receptors that expose humans to adverse air quality impacts.	The Project does not include development that would expose sensitive receptors to adverse air quality impacts. The Project does not conflict with this policy.
AQ-4.2: Adopting a policy to strive for carbon neutrality for its own facilities and operations.	The Project is not a project that can create a policy to strive for carbon neutrality. The Project does not conflict with this policy.
TR-2: Ensure safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system that should be RTP priorities and should be balanced against the need for system expansion investments.	The proposed MDP facilities do not generate long-term vehicular traffic, and only temporary street closures would occur during the short-term construction of the MDP facilities. A traffic control plan will be prepared for future project-specific MDP facilities to ensure safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system. The Project would not conflict with this policy.

Based on the preceding analysis, the Project was found consistent with policies of SCAG's RCPG and RTP.

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6.0 MANDATORY CEQA TOPICS

The California Environmental Quality Act (CEQA) Guidelines Section 15126 requires environmental impact reports (EIRs) to include a discussion of: the significant environmental effects of a project; the unavoidable significant environmental effects if the project is implemented; any irreversible changes should the project be implemented; growth inducing impacts; mitigation measures proposed by the project and the alternatives to the project (14 CCR 15000 et seq.).

The following is a guide to where most of these issues are discussed in this document:

- Significant Environmental Effects – throughout Section 4.0
- Mitigation Measures – Executive Summary and throughout Section 4.0
- Alternatives – Section 8.0
- Growth-Inducing Impacts – Section 9.0

See below for a discussion of the unavoidable and irreversible changes that the Project may cause.

6.1 Unavoidable Environmental Effects

CEQA Guidelines Section 15126.2(b) further directs EIRs to address impacts from a project that will result in significant impacts, including those which cannot be mitigated to below a level of significance. A summary of all the environmental issue areas and the resultant significance and listing of mitigation measures is found in the Executive Summary of this document. To summarize from the Executive Summary, the following issue areas will result in significant impacts, even after mitigation measures have been incorporated, thus resulting in unavoidable impacts:

- **Aesthetics** – The Project includes debris basins, which include high embankments. The grading and height of these embankments juxtaposed with the foothills of the Santa Ana Mountains could be considered a significant impact to the views and viewshed of the nearby residents. Although the Project includes design considerations such as landscaping for buffering of visual impacts, this impact will exist with the built condition of the basins. Therefore, impacts are considered significant and no mitigation measures can be included that would reduce the height or location of the facilities. A Statement of Overriding Considerations would be required for impacts to views and viewsheds.
- **Air Quality** – The Project would exceed daily construction emissions thresholds for NO_x during construction of the water quality basins; therefore, emissions would be cumulatively considerable and would result in construction-related adverse air quality impacts. Although

mitigation measures have been imposed, none can reduce these impacts to less than significant levels. A Statement of Overriding Considerations would be required for NO_x.

- **Noise –** The Project will result in construction noise. Typical construction equipment emits noise levels around 80 dBA. Within the City of Lake Elsinore, the noise limits around residential and commercial uses are well below the 80 dBA that is typically experienced from construction equipment. Therefore, within the City of Lake Elsinore jurisdictional limits, construction of Master Drainage Plan (MDP) facilities will result in significant impacts. Although mitigation measures have been incorporated to study and limit the construction noise to the extent feasible, impacts are still considered significant within the City of Lake Elsinore limits. A Statement of Overriding Considerations is required.

6.2 Irreversible Environmental Effects

Section 15126.2(c) of the CEQA Guidelines requires a discussion in an EIR on whether the project will result in the need for uses of nonrenewable resources that may be irreversible if a larger commitment of resources makes removal or nonuse unlikely. Any irreversible damage from environmental accidents as a result of the project also should be discussed.

Besides the temporary use of non-renewable resources (i.e., fossil fuels) during construction of the MDP facilities, the Project by its nature would not create a high risk of environmental accidents that would cause irreversible environmental impacts. The MDP facilities would mostly be underground and within road rights-of-way, and within an area that is previously developed. There are no unique or sensitive resources within the Project boundary that would be considered to be so significant that if they were impacted, would be considered to have irreversible impacts. Once the MDP facilities are constructed, the land use within the drainage facility footprints would need to remain permanently committed to flood control uses, since adjacent developed areas and infrastructure would depend on the flood control infrastructure for flood protection.

The proposed basins would be located within open space areas with some concrete structures within the Project boundary but would mostly be vegetated in nature. No building structures are being proposed as part of the Project. Therefore, no significant irreversible change would occur. Furthermore, the Project by its nature would not require energy, since the intent of the Project is to alleviate and control flooding in the Project boundary.

7.0 CUMULATIVE IMPACT ANALYSIS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) examine the cumulative impacts associated with a project, in addition to project-specific impacts. The discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone (CEQA Guidelines, Section 15130(b)).

As stated in the CEQA Guidelines, an EIR "shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable (Section 15130(a))." "Cumulatively considerable" means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (Section 15065(a)(3)). Section 15355 of the CEQA Guidelines states that "cumulative impacts" occur from "…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

A cumulative impact is not considered significant if the impact can be mitigated to below the level of significance through mitigation, including providing improvements and/or contributing funds through fee-payment programs. The EIR must examine "reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project" (14 CCR 15130(a)(3) and 15130(b)(5)).

7.1 Cumulative Forecasting Methodology

CEQA Guidelines Section 15130(b)(1) requires that a discussion of cumulative impacts be based on either a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

This Program EIR (PEIR) utilizes the "summary of projections" approach in the cumulative analysis. Section 15130(d) of the CEQA Guidelines states that, "Previously approved land use documents such as general plans, specific plans, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impact analysis is required when a project is consistent with a general, specific, master, or comparable programmatic plan where the lead agency determines that the regional or area-wide cumulative impacts of

the proposed project have been adequately addressed, as defined in Section 15152(f), in a certified EIR for that plan." Additionally, if a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact (14 CCR 15130(e)).

7.2 Cumulative Analysis Setting

The cumulative impact analysis for the Project is based on information contained in the County of Riverside's General Plan, County or Riverside's General Plan Final EIR, City of Lake Elsinore Draft General Plan, and City of Lake Elsinore's Draft EIR. The City of Wildomar has incorporated Riverside County's General Plan; therefore, the content in the Riverside County General Plan and General Plan Final EIR also applies to the City of Wildomar. These documents are utilized because the geographic area addressed in these documents encompasses the Project boundary and all portions of the surrounding area that could be potentially impacted by the Project's contribution to cumulative impacts. All four of these documents are hereby incorporated by reference.

7.3 Assessment of Cumulative Impacts

7.3.1 Aesthetics

Aesthetics are discussed in detail in Section 4.1 of this document. The Project is located in the City of Lake Elsinore, City of Wildomar, and within the Elsinore Area Plan in unincorporated areas of Riverside County. Immediate views within the Project boundary include residential, commercial, agriculture, open space, vacant uses, Lake Elsinore, and the Santa Ana Mountains. The Santa Ana Mountains are the main source of vistas/scenic resources in the Project area. Properties in the Lakeland Village area also can have views down towards Lake Elsinore. Cumulatively speaking, the hills and ridgelines that surround the Project boundary provide scenic vistas to residents from where they can experience long-distance views of natural terrain. Vista points can be found throughout the area, as viewed from both urban areas toward the lake and hills and from wilderness areas toward the urbanized areas. The existing MDP facilities are located within existing road rights-of-way and are underground. Proposed MDP facilities include basins, some of which will be located up in the canyons of the Project boundary and could be construed to cumulatively block or hinder views of the Santa Ana Mountains. Section 4.1, Aesthetics, found that the Project would create impacts to views or vistas, related to the debris basins and their potential to interrupt the views of the natural terrain. Impacts are considered **significant**, and a Statement of Overriding Considerations is required.

Summary of Cumulative Environmental Effects from General Plans

Future development in Riverside County (and also the City of Wildomar) and in surrounding areas would result in the intensification of existing urban uses as well as conversion of open space into urban land uses. The intensification of existing urban uses is expected to result in less-than-significant

visual impacts while the conversion of open space to urban uses would result in a significant unavoidable impact by causing the obstruction of existing open views as well as potentially obstructing distant panoramic views from existing development. Therefore, development, in general, within Riverside County was found by the County to cumulatively contribute significantly to the loss of visual character of the County.

Development within the City of Lake Elsinore will be constructed in accordance with the Proposed Land Use Plan and would be required to comply with the General Plan goals, policies, and implementation programs to ensure that impacts on visual quality from public viewsheds and vantage points are minimized. The City of Lake Elsinore's General Plan Aesthetics Policies 10.1-10.4, 11.1-11.3, and 12.1-12.3 protect views and specific design requirements for new development to minimize visual impacts. As such, cumulative impacts of future development on visual character and visual quality from public vantage points and viewsheds, and cumulative impacts to light and glare were found to be less-than-significant.

The Project is the infrastructure needed to support the development anticipated by the County and Cities of Lake Elsinore and Wildomar General Plans. On a cumulative basis, as discussed in Section 4.1, Aesthetics, the debris basins and water quality basins, which are the mainly above-ground facilities proposed by the Project to contribute impacts related to views. The debris basins were found to have significant effects on the viewshed. However, the remaining MDP facilities are underground or at ground level (i.e. channels) and will not affect views or the aesthetic character of the project area.

Proposed Mitigation Measures

As discussed in Section 4.1, the basin components related to the Project were found to have significant impacts to views and the viewshed. As discussed in Section 4.1, although the basins are being designed to be contoured and landscaped to blend into the existing surroundings as much as possible, the visual character of the surroundings are being affected by the Project. Although project design considerations include visual buffering through landscaping the embankments and slopes of the basin, there are no feasible mitigation measures which would change the built condition of the basins and reduce impacts to the views. Cumulative impacts related to aesthetics are considered **significant** and a Statement of Overriding Considerations is required.

7.3.2 Air Quality

Air quality impacts are discussed in detail in Section 4.2 of this document. Based on the estimated daily maximum construction emissions for a representative project of the Project, short-term construction emissions may exceed daily construction emissions for NO_x during the construction of various facilities of combinations of facilities, but is not expected to exceed any other criteria pollutant thresholds. Although fugitive dust would be short term and would only last during the duration of grading activity, such PM_{10} and $PM_{2.5}$ emissions could be considered problematic since they

could cause a public nuisance or further exacerbate the existing PM_{10} nonattainment situation in the South Coast Air Basin (SCAB). During construction, the Project would be subject to South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in SCAQMD. As project construction activities would potentially generate emissions that would exceed the SCAQMD daily thresholds for NO_x, short term construction impacts are considered **significant.** MDP facility operation and maintenance would be similar to existing conditions; therefore, long-term operation impacts are considered **less than significant**.

Based on the localized significance threshold (LST) analysis for the representative project of the Project, the short-term construction of the debris basins and water quality basins will not result in any localized air quality impacts to sensitive receptors within the Project boundary for NO_2 or CO; however, emissions for PM_{10} and $PM_{2.5}$ would be above SCAQMD recommended daily LST thresholds. Consistent with SCAQMD Rule 403, implementation of Mitigation Measure (**MM**) **AIR-1**, requiring that fugitive dust generated by grading and construction activities be kept to a minimum, and implementation of **MM AIR-2**, requiring efficient operation of construction equipment, would reduce potentially significant short-term localized construction impacts to a less-than-significant level**.** The short-term construction of storm drains and open channels would not generate emissions in excess of site-specific LSTs during construction. There would be no long-term operation of the proposed MDP facilities that would generate local emissions that could expose sensitive receptors to substantial pollutant concentrations. Maintenance activities would be temporary and would not represent a long-term source of potential local emissions that would impact sensitive receptors within the Project boundary. Long-term operational impacts are considered **less than significant**.

The portion of the SCAB where the Project is located is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under state and federal standards. In evaluating the cumulative effects of the Project, Section 21100(e) of CEQA states that "previously approved land use documents including, but not limited to, general plans, specific plans, and local coastal plans, may be used in cumulative impact analysis." In addressing cumulative effects for air quality, the Air Quality Management Plan (AQMP) utilizes approved general plans; therefore, it is the most appropriate document to use in evaluating cumulative impacts of the Project. This is because the AQMP evaluated air quality emissions for the entire Basin during a future development scenario based on population projections and set forth a comprehensive program that would lead the region, including the Project boundary, into compliance with all federal and state air quality standards. As described in the initial study (Appendix A), the Project will not conflict with or obstruct the implementation of the AQMP. The Project's short-term construction emissions for NO_x, PM_{10}, and $PM_{2.5}$ emissions have been shown to be significant on a regional level. However, since it is only the Project's short-term emissions that are above thresholds for NO_x, and possibly considered problematic for PM_{10} and $PM_{2.5}$ emissions as previously mentioned, and the impact is temporary (approximately 9 months in duration), the impact is not considered to have a

cumulative considerable net increase in O_3, PM_{10}, and $PM_{2.5}$, which are nonattainment in the region under both state and federal standards, and is considered **less than significant**.

Summary of Cumulative Environmental Effects from General Plans

The cumulative area for air quality impacts is the SCAB. The portion of the SCAB within the Project boundary is located is designated as non-attainment area for O_3, PM_{10}, and $PM_{2.5}$, under both state and federal standards.

The Riverside County General Plan Final EIR (and also the City of Wildomar's General Plan) concluded that buildout per the Riverside County General Plan and City of Wildomar's General Plan would contribute to the regional air pollutant emissions during construction and at buildout. Therefore, the implementation of the Riverside County General Plan (and also the City of Wildomar's General Plan) will have significant and unavoidable cumulative air quality impacts.

The City of Lake Elsinore General Plan Draft EIR stated that implementation of the City of Lake Elsinore's General Plan policies related to air quality do not ensure that increased traffic and operational emissions associated with buildout of the General Plan would not contribute to future nonattainment of federal and state standards for criteria pollutants. Therefore, implementation of the City of Lake Elsinore's General Plan will have significant and unavoidable cumulative air quality impacts.

Proposed Mitigation Measures

Mitigation measures addressing temporary construction and maintenance activities have been incorporated into the Project to reduce project-level impacts. Please refer to Section 4.2 for a list of mitigation measures related to air quality in this Draft PEIR. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Cumulative Environmental Effects After Mitigation Measures Are Implemented

The representative project evaluation presented in the Draft PEIR demonstrates that, even with mitigation, projected short-term emissions from construction of the representative project components would exceed applicable SCAQMD thresholds for NO_x during the construction, but would not exceed SCAQMD maximum daily construction thresholds for VOC, CO, SO_x, PM_{10}, or $PM_{2.5}$ emissions.

Although fugitive dust would be short term and would only last during the duration of grading activity, such PM_{10} and $PM_{2.5}$ emissions could be considered problematic since they could cause a public nuisance or further exacerbate the existing PM_{10} nonattainment situation in the SCAB. In addition, short-term construction of the representative debris basin and water quality basin would exceed SCAQMD recommended daily LST thresholds for PM_{10} and $PM_{2.5}$ and potentially result in a localized air quality impacts to sensitive receptors within the Project boundary. Incorporation of **MM AIR-1** (fugitive dust)

and **MM AIR-2** (construction equipment operation) would reduce potential localized air quality impacts to less-than-significant levels and would reduce the project's contribution to the SCAB's PM_{10} nonattainment status.

The Project will not result in long-term emissions since MDP facility operation and maintenance would be similar to existing conditions. There would be no long-term operation of the proposed MDP facilities that would generate local emissions that could expose sensitive receptors to substantial pollutant concentrations. Maintenance activities would be temporary and would not represent a long-term source of potential local emissions that would impact sensitive receptors within the Project boundary. Since the Project is only expected to exceed standards during construction (a maximum duration of approximately 9 months, and considered a temporary impact), the project is considered cumulatively **less than significant.**

7.3.3 Biological Resources

Biological Resources are discussed in detail in Section 4.3 of this document. Suitable habitat within the Project boundary for the following Narrow Endemic Plant Species Survey Area (NEPSSA) species include California Orcutt grass, many-stemmed dudleya, Munz's onion, Wright's trichocoronis and San Diego ambrosia (see Figure 4.3-3a and Figure 4.3-3b), and suitable habitat within the Project boundary for the following Criteria Area Species Survey Area (CASSA) species include Davidson's saltscale, little mousetail, Parish's brittlescale, smooth tarplant, and San Jacinto Valley crownscale (see Figure 4.3-4a and Figure 4.3-4b). The Project boundary is also located within a Burrowing Owl Survey Area (see Figure 4.3-5a and Figure 4.3-5b). Project-specific surveys (habitat assessment and/or focused surveys) would be required where suitable habitat is present during the appropriate time of the year to determine the presence/absence of all NEPSSA, CASSA, and Additional Survey Areas. With implementation of **MM BIO-1** and **MM BIO-3**, potential impacts to NEPSSA, CASSA, and Burrowing Owl Survey Area s are reduced to **less than significant** levels.

The Project boundary contains trees, shrubs, ground cover, and structures that provide suitable habitat for nesting migratory birds. Most of the nine debris basins proposed in the Project are located within sage scrub communities which might be suitable for California gnatcatcher. Suitable Riversidean sage scrub habitat for California gnatcatcher is found within a small portion of the proposed storm drain and open channel located along Line D, Line F-1, Stoneman Street, Lakeland Village, Ortega Basin, and Line A. Most of the debris basins and some water quality basins contain suitable habitat for nesting raptors or burrowing owls. Suitable raptor nesting is located along Shadow Trails Lane and Bryant Street Storm Drain. Oak woodlands along Line K, Line K-1, along Lateral N-1, Ginger Lane, Line A, and Norrell Lane provide additional habitat for raptor nesting. Riparian habitat and existing drainages along Line L and below Ontario Way also provide suitable nesting habitat for raptors. The Multiple Species Habitat Conservation Plan (MSHCP) does not allow for the take of active nests. If any vegetation or structures are to be removed during the nesting season (February 1 to August 31), facility-specific nesting bird

surveys shall be conducted first to determine the presence/absence of active nests. If active nests are identified, appropriate avoidance buffers should be established. With implementation of **MM BIO-2**, potential impacts to migratory bird species are reduced to **less than significant** levels.

Riparian habitat is present within the Project boundary. Shadow Trails Lane, Line L, and Ontario Way contain suitable habitat for riparian bird species. Facility-specific mapping would be required to determine which areas may be subject to MSHCP requirements, specifically Section 6.1.2 of the MSHCP. With implementation of **MM BIO-4**, potential impacts to riparian/riverine features are reduced to **less than significant** levels.

The project area contains waters subject to jurisdictions of: (i) the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act (CWA); (ii) the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA or pursuant to the California Porter-Cologne Act; and/or (iii) California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the CDFW code. Facility-specific jurisdictional delineations will need to be conducted to determine whether features would be subject to the jurisdictions of the ACOE, RWQCB, and CDFW. With implementation of **MM BIO-6**, potential impacts to federally protected wetlands are reduced to **less than significant** levels.

Summary of Cumulative Environmental Effects from General Plans

The geographic scope for cumulative biological impacts is the Western Riverside County MSHCP area. Development per Riverside County General Plan will have the potential to impact biological resources. However, Riverside County General Plan is consistent with and will facilitate implementation of the applicable policies and programs identified in the MSHCP, which is designed to protect and establish a 500,000-acre Reserve in Western Riverside County in exchange for biological impacts that may happen outside that Reserve Area. Riverside County and the City of Wildomar are Permittees under the MSHCP and are legally obligated to comply with its provisions. Additionally, the General Plan includes numerous objectives and policies designed to reduce impacts to biological resources over the long term. Therefore, implementation of these programs and policies and mitigation described in Riverside County's General Plan (and also the City of Wildomar's General Plan) will manage and reduce impacts to biological resources within the Project boundary to a less-than-significant level. Thus, buildout per the Riverside County General Plan will not create significant cumulative impacts to biological resources.

The City of Lake Elsinore General Plan Draft EIR Land Use Plan could facilitate future developments that could result in potential impacts to biological resources. However, the City of Lake Elsinore will comply with federal, State, regional, and local regulatory requirements which will lessen those impacts. In addition, the City of Lake Elsinore is a Permittee under the MSHCP and is obligated to comply with its provisions. Since the MSHCP provides mitigation for development impacts to threatened and endangered species through the Western Riverside County by way of development fee and property

acquisition, buildout per the City of Lake Elsinore General Plan will not create significant cumulative impacts to biological resources.

The Project would not conflict with any local policies or ordinances protecting biological resources, including the goals and policies of the Western Riverside MSHCP as discussed in Section 4.3 of this document. For projects that are determined to be consistent with the MSHCP, the cumulative biological impacts from any one project are mitigated through the MSHCP. Most of the Project boundary was not envisioned to be preserved for the MSHCP Reserve. However, some of the eastern portion of the Project is located within MSHCP Criteria Cells, but given the linear nature of the facilities, the relatively small size of the MDP facilities themselves and that the MDP facilities (including basins) are located adjacent to or near development, the areas in Criteria Cells would not be lands that would be considered valuable for the MSHCP Reserve. Additionally, future proposed MDP facilities within a Criteria Cell will have to comply with the MSHCP. Therefore, since the Project does not conflict with the MSHCP, or the Riverside County General Plan and City of Lake Elsinore General Plan biological polices, cumulative impacts to biological resources are considered **less than significant**.

Proposed Mitigation Measures

Mitigation measures addressing construction and maintenance will be incorporated into the Project to reduce potential future biological impacts. The Project must also comply with the adopted Western Riverside County MSHCP. To address the potential impacts associated with the cumulative loss of habitat for special status wildlife, the Project shall comply with all pertinent MSHCP requirements. Please refer to Section 4.3 for a list of mitigation measures related to biological resources in this Draft PEIR. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

The Riverside County MSHCP Environmental Impact Report Section 5.1.1, *Cumulative Impact Analysis, Biological Resources,* evaluated the cumulative effects of the proposed MSHCP and alternatives on biological resources. In particular, the analysis focuses on the cumulative effects of the proposed MSHCP with the regional growth forecasts.

The Project will **not cause adverse cumulative impacts** because the Project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Communities Conservation Plan or other approved local, regional, or state habitat conservation plan either within or outside of the Plan area. The MSHCP has been written specifically to complement existing HCPs, such as the Stephens' kangaroo rat long-term HCP. Through compliance with the MSHCP and existing HCPs, local, regional, and state plans, cumulative impacts are considered less than significant.

Through compliance with the MSHCP, the Project will not result in a cumulative adverse effect, either directly or through habitat modifications, on any of the Covered Species listed in the Plan as implementation of the MSHCP benefits Covered Species by preserving their habitat in order to address their life cycle needs. Thus, through compliance with the MSHCP and based on the features of the MSHCP itself, impacts to Covered Species are mitigated below a level of significance.

The Project will not cause adverse cumulative effects related to the reduction of sensitive vegetation communities; as the Project is located within the MSHCP Plan Area and the Plan itself is designed to preserve sufficient acreage of the sensitive vegetation communities present in western Riverside County. Similarly, the Project will not cause adverse cumulative effects related to interference with the movement of any native resident or migratory fish or wildlife species or obstruction of genetic flow for the identified Planning Species. Part of the purpose and goals of the MSHCP is to use regional planning efforts to assemble a reserve that will preserve contiguous blocks of habitat in large enough areas to ensure that the reserve will allow movement of species and flow of genetic information.

Cumulative effects associated with the proposed MSHCP take authorization would involve direct loss of habitat and species associated with ground disturbance in take authorized areas as development occurs in accordance with projected growth. Cumulative indirect effects would occur to species and habitats within the MSHCP Conservation Area and would be associated with development of proposed land uses and activities in take authorized areas in proximity to the MSHCP Conservation Area. Indirect effects primarily result from adverse "edge effects" and may be short-term indirect effects related to construction or long-term indirect effects associated with development or land use practices in proximity to conserved habitat areas.

Cumulative indirect impacts resulting from construction activities include dust, noise, and general human presence that may temporarily disrupt species and habitat vitality and construction-related soil erosion and runoff. Edge effects at the boundary between natural lands and human-occupied lands ("urban edge effects") arise due to human-related intrusions such as lighting, noise, invasive species, exotic predators (e.g., dogs and cats), hunting, trapping, off-road activities, dumping, and other forms of recreation and disturbance. Human-induced edge effects are generally unfavorable to native species and are considered cumulative as edge increases throughout the landscape.

Cumulative significant indirect impacts associated with edge effects and increased developments outside the conservation areas established by the proposed MSHCP are addressed in the provisions of Section 6.1.4 of the Draft MSHCP. Edge effects will result as development occurs in proximity to habitat; however, the proposed MSHCP contains provisions that will reduce the adverse impacts associated with edge effects. The MSHCP provides take authorization for Covered Species. The MSHCP would not directly cause edge effects, but it would dictate where such effects could occur through the reserve assembly process. Thus, cumulative indirect impacts associated with edge effects are considered **less than significant**.

7.3.4 Cultural Resources

Cultural Resources are addressed in detail in Section 4.4 of this document. The Elsinore Naval Military Academy and the Adobe Machado House Butterfield Stage Stop (also known as P-7230 – Juan Machado Home/Rippley Ranch), are community recognized significant historical resources according to the City of Lake Elsinore's General Plan Draft PEIR. No MDP facilities are being proposed within proximity to the Elsinore Naval Military Academy. However, the Adobe Machado House Butterfield Stage Stop is located near Water Quality Basin at Line A.

Based on the records search of the California Historical Resources Information System at the Eastern Information Center (EIC), University of California, Riverside by Dudek, 57 recorded cultural resources have been documented within the Project area and 68 previous cultural resource studies have been conducted within 1 mile of the MDP facilities area. Seven cultural resources were identified in the EIC records search within or adjacent to (less than 125 feet) the MDP facilities. According to the conceptual alignments and facilities identified in the Project, activities within some of the drainage facilities will be limited to areas within the road rights-of-way. If construction within the road rights-of-way is limited to underground facilities within previously disturbed area, the Project will not result in the destruction or relocation of any cultural resources of the site. However, facilities located within the cultural resources site will be required to conduct cultural resources survey by a qualified archaeologist as outlined in the mitigation measures of Section 4.4. Implementation of mitigation measures will ensure that impacts to archaeological and historical resources are **less than significant**.

In addition to the EIC records search, a search of the Native American Heritage Commission's Sacred Land File was conducted on February 10, 2011 in order to determine the location of any sacred and/or burial sites within proposed MDP facilities. The search did not indicate the presence of Native American sacred heritage resources within the Project boundary.

The Project includes areas with low, high, and undetermined paleontological resources. Mitigation measures outlined in Section 4.4 of this document, which relate to construction or site disturbance, are required to ensure reduced potential impacts with respect to paleontological impacts to **less than significant**.

Summary of Cumulative Environmental Effects from General Plans

The geographic scope for cumulative impacts to cultural resources includes Riverside County and City of Wildomar. Historical, archaeological, and paleontological resources in Riverside County and City of Wildomar could be cumulatively impacted by future development, like that which could occur under the proposed Project. However, Riverside County and City of Wildomar have implemented local policies and programs as well as mitigation that will reduce these impacts to below a level of significance. Thus, potential cumulative impacts to cultural resources will be reduced to a less-than-significant level.

Development planned and envisioned in the Riverside County General Plan (and also the City of Wildomar's General Plan) would contribute to the growth and urbanization of Riverside County and City of Wildomar resulting in direct and/or indirect loss of cultural and paleontological resources. Therefore, implementation of the Riverside County General Plan (and also the City of Wildomar's General Plan) will cumulatively contribute significantly to the loss of these sensitive areas and their resources.

City of Lake Elsinore contains a variety of archaeological and historical resources. Federal regulations such as the National Historic Preservation Act (NHPA) and State regulations such as Senate Bill 18 and future tiered California Environmental Quality Act analysis provide substantial guidance for identifying significant cultural and historical resources. The City of Lake Elsinore's Draft General Plan policies ensure the proper identification and treatment of cultural resources, thereby avoiding contribution to any cumulative impact on archaeological resources. The Project is within areas identified as low, high, and undetermined paleontological resources. Technical analysis by a qualified paleontologist will be required in these areas, ensuring the proper identification and treatment of resources. The City of Lake Elsinore's Draft General Plan policies will ensure any contribution to the cumulative loss of paleontological resources is less than significant. Since all local jurisdictions, including the City of Lake Elsinore, are subject to the regulatory requirements described in Section 4.4 of this Draft PEIR, the NHPA of 1966 and Senate Bill 18, potential cumulative impacts to cultural and paleontological resources is considered **less than significant.**

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.4 of this Draft PEIR for a list of mitigation measures related to cultural resources. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

Impacts related to historic, archaeological, and paleontological resources were found to be less than significant within the Project with implementation of mitigation measures outlined in Section 4.4 of this Draft PEIR. MDP facilities that are located within existing disturbed/developed areas have less-than-significant impacts to historic, archaeological, and paleontological resources since these areas have already been previously disturbed and no further studies/surveys would be required.

Further studies and analysis shall be conducted prior to removal or any proposed demolition of any historic resource such as the P-7230, Juan Machado Home/Rippley Ranch, P-8663/CA-RIV-6176H, a wooden pumphouse, as outlined in **MM CUL-1** through **MM CUL-3**.

Further studies and analysis shall also be conducted for MDP facilities, namely the basins that are proposed in undisturbed areas for potential impacts to archaeological resources (**MM CUL-1** through

MM CUL-3). These mitigation measures will ensure that the site is surveyed ahead of impacts and refined mitigation measures can be implemented at that point in time. **MM CUL-6** through **MM CUL-8** will be required to ensure that if any remains or artifacts are uncovered during construction activities, work must stop and authorities be contacted. In the unlikely event that resources are found within existing rights-of-way, **MM CUL-7** and **MM CUL-8** will be implemented.

Some of the MDP facilities are located within high and undetermined paleontological resources area and will be required to prepare a literature search and/or survey by a certified paleontologist (**MM CUL-9** and **MM CUL-10**). Future construction of MDP facilities will also be required to be in compliance with federal, state, and local regulations. Therefore, through implementation of proposed mitigation measures and compliance with federal, state, and local regulations, potential cumulative impacts to cultural resources will be reduced to **less than significant.**

7.3.5 Geology and Soils

Geology and soils are address in detail in section 4.5 of this document. According to the Riverside County General Plan, potential for liquefaction is considered very high within portions of the Project boundary. The phenomenon of liquefaction may produce lateral spreading of soils adjacent to a body of water or water course (Lake Elsinore). The Project does not propose critical MDP facilities whose failure from liquefaction would cause injury. Most of the MDP facilities (i.e., storm drains) will be underground in road rights-of-way. The proposed debris and water quality basins, as a result of ground shaking, could indirectly expose humans and structures to adverse effects such as flooding if it were to occur during periods of high water levels in the basins. However, future MDP facilities will be designed and constructed in accordance with the *The "Greenbook": Standard Specifications for Public Works Construction* (the Greenbook). Implementation of **MM GEO-1** will ensure that the MDP facilities conform to the Greenbook. In addition, per **MM GEO-2**, basins that are considered to be dams will be designed in accordance with the U.S. Department of Interior Bureau of Reclamation *Design of Small Dams* (1987) and per **MM GEO-3**, a geotechnical report will be required during the design phase. Recommendation for remedial action, if needed, that are identified in the geotechnical report must be implemented by the Riverside County Flood Control and Water Conservation District (District) or Cities of Lake Elsinore or Wildomar. With implementation of **MM GEO-1**, **MM GEO-2**, and **MM GEO-3**, potential impacts to seismic-related ground failure would be reduced to **less than significant**.

The Project is located within an area of steep slopes (30% and greater) and within an area with documented subsidence. Areas within the Project known to be at risk from landslides, rock falls, subsidence, and ground fissuring is depicted on Figure 4.5-3. As previously mentioned, most of the MDP facilities will be underground and within road rights-of-way. The proposed expansion of existing facilities and proposed storm drains, concrete channels, and basins serve to decrease the potential adverse impacts from landslides or mudflows by providing a conduit within which these types of flows could be conveyed. Site-specific geologic review will be required for future facilities per **MM GEO-3**. Since the

Project's intent is to convey the storm flows thereby reducing the potential impacts resulting in landslides or mudflows and with implementation of **MM GEO-3**, potential impacts to the risk of loss, injury or death involving landslides or mudflows would be reduced to **less than significant**.

Potentially significant construction-related impacts associated with the Project include encountering unstable soil and rock conditions and exposure of oversize rock material during grading on undeveloped lands. Grading and earthwork construction for future facilities will be required to conform to Standard Specifications for Public Works Construction (the Greenbook) and/or County grading ordinances as outlined by a qualified geotechnical consultant, per **MM GEO-3**. With implementation of **MM GEO-1** and **MM GEO-3**, potential impacts to on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse would be reduced to **less than significant**.

Summary of Cumulative Environmental Effects from General Plans

The geographic scope for cumulative impacts to geology and soils is within the eastern slopes of the Santa Ana Mountains, west of the fault controlled Elsinore-Temecula trough. The majority of the area within the Project boundary is comprised of undeveloped natural slopes and drainages descending toward Lake Elsinore. The low lying areas along the west side of the lake are generally developed and consist primarily of residential and local retail developments. The Project boundary is situated along the western fringe of the Elsinore Trough. The most significant active Fault Zones that are capable of seismic ground shaking within the area includes Elsinore Fault Zone, San Jacinto Fault Zone, Newport-Inglewood Fault Zone and San Andreas Fault Zone.

Development planned and envisioned in the Riverside County General Plan (and also the City of Wildomar's General Plan) would result in the direct and/or indirect increase of seismic, slope, soil instability, or wind hazards from urban development and the conversion of vacant land to urban uses. Therefore, implementation of the Riverside County General Plan (and also the City of Wildomar's General Plan) will cumulatively contribute significantly to the increase exposure of people and property to seismic, slope, soil instability, and wind hazards.

As future development occurs within the Lake Elsinore area, construction activities may result in short-term cumulative impacts due to soil erosion or sedimentation caused by excavation, backfilling, and/or grading. Future construction of MDP facilities within the City of Lake Elsinore would be subject to compliance with Lake Elsinore's Municipal Code provisions that address soil erosion, as well as the SCAQMD AQMP, which requires control of dust. Future development could incrementally increase in the number of people or properties potentially exposed to impacts involving seismic or geologic hazards. The construction of the MDP facilities will be subject to the Greenbook and applicable Division of Safety and Dams (DSOD) requirements which include industry-accepted engineering standards and geotechnical investigations in areas with potential seismic or geologic hazards. As such, contribution to geologic cumulative effects is considered to be less than cumulatively considerable and thus is not significant.

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.5 for a list of mitigation measures related to geology and soils in this Draft PEIR. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

According to the Riverside County Final EIR, the potential for liquefaction is considered very high within portions of the Project boundary. The phenomenon of liquefaction may produce lateral spreading of soils adjacent to a body of water or water course (Lake Elsinore). The Project does not contain structures that would be inhabited by humans and most facilities will be underground in road rights-of-way and will be designed and constructed in accordance with the the Greenbook and DSOD regulations related to protection against seismic instability, subsidence, and liquefaction hazards. Future proposed facilities will be required to prepare a geotechnical report during project design.

Portions of the Project are also located within an area of steep slopes (30% and greater) and within an area with documented subsidence. The proposed expansion of existing facilities and proposed storm drains, concrete channels, and basins serve to decrease the potential adverse impacts from landslides or mudflows by providing a conduit within which these types of flows could be conveyed. Site-specific geologic review will be performed to determine whether the potential for landsliding or slope instability exists for any future facility. Future grading and earthwork construction will be required to conform to the Greenbook and/or County grading ordinances. Therefore, through implementation of proposed mitigation measures and compliance with federal, State, and local regulations, potential cumulative impacts to geologic hazards will be reduced to **less than significant**.

7.3.6 Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are discussed in detail in Section 4.6 of this document. Based on the worst-case analysis of a future Project, a representative project was identified consistent with maximum funding that the District may have available for projects under the Project. This representative project would consist of excavation, backfill and/or compaction during construction of a storm drain, concrete channel, debris basin, and water quality basin, as well as paving construction activities. The representative project was assumed to be constructed within a 10-month time period from spring (April) 2013 to winter (December) 2013. The estimated total GHG emissions during construction of the representative project would be 357 MT CO_2E in 2013. Project-generated annual GHG emissions are anticipated to be well below the annual threshold value of 900 MT CO_2E evaluated by CAPCOA. While the CAPCOA threshold has not been adopted by CARB, SCAQMD, or other air quality agencies, it is the lowest non-zero GHG significance threshold that has been evaluated in California. Therefore, construction of future MDP facilities

are not expected to result in cumulatively considerable contribution to GHG emissions that would significantly impact global climate. Also, as the Project does not propose long-term uses that would continuously generate GHG emissions, impacts associated with operational GHG emissions would be **less than cumulatively considerable**.

While federal and state legislation will ultimately reduce GHG emissions associated with the Project, no specific plan, policy, or regulation would be directly applicable to the Project. Furthermore, neither the District, the County of Riverside, nor the SCAQMD has adopted any GHG reduction plans or measures that would apply directly to the GHG emissions associated with the proposed Project. At this time, therefore, no mandatory GHG regulations or finalized agency guidelines would apply to implementation of the Project, and no conflict would occur. Therefore, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Summary of Cumulative Environmental Effects from General Plans

The City of Lake Elsinore has prepared a Climate Action Plan. As stated in Table 3.7-6, Climate Action Plan Strategies and Measures, and Table 3.7-8, Summary of Greenhouse Gas Reduction Measure Potential in the City of Lake Elsinore's Draft General Plan EIR, measures would reduce emissions by 399,244 MT CO_2E by 2020 and 768,105 MT CO_2E by 2030. 2020 emissions would be 665,341 MT CO_2E or 4.6 MT CO_2E/SP in 2020 and 1,263,966 MT CO_2E or 4.2 MT CO_2E in 2030. As such, implementation of the strategies and measures set forth in the proposed Climate Action Plan and compliance with the proposed General Plan goals, polices, and implementation measures will reduce potential GHG emissions to below target levels.

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.2 of this Draft PEIR for a list of mitigation measures related to GHG emissions. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

Even in the absence of the Project, the impacts associated with global climate change will still exist, however due to the fact that the Project's GHG emissions are temporary (only to occur during construction activities) and are well below the SCAQMD threshold, the Project's contribution to global climate change is **not considered cumulatively considerable**.

7.3.7 Hazards and Hazardous Materials

Hazards and Hazardous Materials are discussed in detail in Section 4.7 of this document. According to the Department of Toxic Substance Control's Hazardous Waste and Substances List – Site Cleanup (Cortese List), there is no hazardous material sites located within the Project as of this writing. A review

of the Environmental Protection Agency's (EPA's) Enviromapper database indicates that there are ten (10) waste sites within the Project boundary. Although these businesses are identified by the EPA, there is no report of releases except for the Circle K Store #837. The State Water Resources Control Board's Geotracker and the Department of Toxic Substances Control Envirostor was also used to identify whether the businesses listed in the Enviromapper database were in violation for unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks and to identify other reported releases. Currently, it does not appear that any of the nearby hazardous sites pose a threat to the MDP facility alignments. As such, the potential for cumulative impacts to occur is limited. Although the MDP facilities will not be constructed for numerous years and the status of hazardous sites may change in the future, mitigation measures outlined in Section 4.7 will be implemented when Project-specific facilities are proposed. Also, it is expected that future MDP facilities within the Project boundary will generally comply with federal, state, and local statutes and regulations applicable to hazardous materials. Development of the Project will not create a cumulative impact related to exposing the public to hazardous materials. For these reasons, cumulative impacts to the public or environment resulting from the accidental release of hazardous materials would be **less than significant**.

Summary of Cumulative Environmental Effects from General Plans

There are no specific regional plans addressing the existence of hazardous sites, or hazardous substance users. The geographic scope for cumulative impacts to hazards and hazardous materials includes Riverside County. As future development occurs within the Cities of Lake Elsinore and Wildomar, and within unincorporated Riverside County, the population will increase and the number of people exposed to hazards related to hazardous materials will increase. The cumulative impact of regional development on public safety is potentially significant. However, the District will implement mitigation identified in the Riverside County General Plan Final EIR that will reduce these impacts to less than significant. In addition, cumulative hazards impacts will be limited by public safety policies and programs implemented by other Riverside County jurisdictions. These programs establish policies to ensure that planned land uses are compatible with the surrounding natural and urban environment and hazardous conditions are minimized. Enforcement of state, county, and local hazardous material regulations will reduce significant public health hazards to a less-than-significant level. Thus, development per the Riverside County General Plan will not create significant cumulative impacts to hazards and hazardous materials.

Development planned and envisioned in accordance with the Riverside County General Plan would cumulatively increase the intensity of development in Riverside County. However, compliance with federal, State, and local regulations concerning the storage and handling of hazardous materials and/or waste would reduce the potential for significant public health and safety impacts from hazardous materials to occur. Therefore, the impact of the planned development under the General Plan in addition to future development in surrounding areas is not expected to affect significantly the number of people exposed to public health and safety risks from exposure to hazardous materials.

Development planned and envisioned under the City of Lake Elsinore Draft General Plan will increase population and employment and thus result in the increased use of hazardous household, commercial and industrial materials and increased exposure from use of hazardous materials and the disposal of hazardous wastes. Goals and policies from the City of Lake Elsinore's Draft General Plan include measures to ensure effective hazardous materials management that would reduce the City of Lake Elsinore's cumulative effect on the County and region's hazardous waste generation, treatment, and storage.

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.7 of this Draft PEIR for a list of mitigation measures related to hazards and hazardous materials. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

The geographical context for the cumulative impacts analysis is the Project boundary. Although each development site has potentially unique hazardous materials considerations, it is expected that future development within the Cities of Lake Elsinore and Wildomar, and within unincorporated Riverside County will generally comply with the range of federal, State, and local statues and regulations applicable to hazardous materials, and will be subject to existing and future programs of enforcement by the appropriate regulatory agencies. For these reasons, cumulative impacts to the public or environment resulting from the being located on a hazardous materials resulting in significant hazard to the public or the environment would be **less than cumulatively considerable** and thus **not significant.**

7.3.8 Hydrology and Water Quality

Section 4.8 of this document addresses hydrology and water quality impacts. Portions of the Project lie within the boundaries of the FEMA 100-year flood plain. One of the objectives of the Project is to control flooding associated with stormwater runoff within the Project boundary. The Project's impacts to hydrology and water quality were found to be less than significant since the Project includes features that will reduce potential impacts to water quality and will reduce flooding from stormwater and urban runoff currently experienced in the Project boundary. The Project is designed to improve drainage, and the proposed detention basins will reduce velocities, erosion, siltation, and flooding within the Project boundary. Most of the MDP facilities will be constructed within road rights-of-way and underground. Future proposed facilities would convey stormwater emanating from foothills, residential, commercial, and industrial areas into Lake Elsinore.

Lake Elsinore has been listed by the Regional Board as water quality limited and as an impaired water body in accordance with Section 303(d) of the Clean Water Act due to the impact of nutrients, polycholorinated biphenyls and unknown toxicity to the beneficial uses the lake provides (warm

freshwater aquatic habitat, body contact recreation, non-body contact recreation, and wildlife habitat). Herbicides and rodenticides could be used during maintenance within the facilities which will be in conformance with the phosphorus and nitrogen Total Maximum Daily Loads outlined in the 303(d) list for Lake Elsinore. Future construction and maintenance of facilities will also have to conform to the 303(d) list with regards to exceeding any runoff requirements for those pollutants of concern as described for Lake Elsinore.

The District is the Principal Permittee and the Cities of Lake Elsinore and Wildomar are Co-Permittees in the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Permit (MS4 Permit) program. Activities relating to the construction of the MDP facilities will be regulated by the RWQCB under the NPDES MS4 permit program. Stormwater Pollution Prevention Plans (SWPPPs) and best management practices (BMPs) will also be incorporated in accordance with NPDES MS4 Program and RWQCB General Permit for Construction Activities that will help protect surface water quality in the Santa Ana regional and Santa Margarita watersheds. Facilities will also be required to be constructed in compliance with existing water quality regulatory programs such as the RWQCB NPDES Permit R8-2010-0033 and R9-2010-0016. Any proposed facilities that impact waters of the United States or waters of the state may be regulated by the RWQCB under Section 401 of the CWA or the State's Porter-Cologne Water Quality Control Act.

Future proposed development projects and existing land uses are the sources of constituents. It is anticipated that the proposed new storm drains and channels will provide some measure of incidental water quality benefit by collecting stormwater discharged from the canyons and routing it around the urbanized areas. Also, the proposed water quality basins will provide substantial benefits since they serve as a controlled drainage system to treat stormwater runoff before it is discharged into Lake Elsinore. In addition to SWPPPs and BMPs as previously discussed, future development projects within the Project boundary may be conditioned to prepare a site-specific Water Quality Management Plan, which would provide for treatment of stormwater and non-stormwater discharge through site design, source control, and/or treatment control BMPs.

Some of the debris basins (refer to Table 4.8-4) within the Project boundary are considered dams under the Department of Water Resources Division of Safety of Dams criteria. The proposed basins embankments will be designed and constructed in accordance with standard engineering and seismic criteria to minimize the risk of failures. The design of the basins will be certified by the District and Division of Safety of Dams to ensure that the risk of dam failure has been addressed.

Groundwater within the Project boundary is generally controlled by the overall Lake Elsinore Groundwater Basin which lies in a closed basin formed between strands of the Elsinore fault zone. The Project is designed to collect and convey stormwater through the Project boundary. The proposed channels will be all concrete channels and would not provide groundwater recharge. This is a small fraction of area (approximately 10 acres of concrete channels) not providing groundwater recharge as compared

to the Project area. Per Elsinore Valley Municipal Water District, the Elsinore Basin Groundwater Management Plan (2005) estimated that the increased urbanization around Lake Elsinore will diminish groundwater recharge due to infiltration of runoff from 900 to 700 acre-feet per year between 2005 to 2020, but considered this a relatively small amount that is not considered a significant issue. Furthermore, the water quality basins are designed to allow water to infiltrate and thus may offset loss of recharge from proposed impervious concrete-lined facilities listed above.

Summary of Cumulative Environmental Effects from General Plans

Future growth with the Riverside County General Plan (and also the City of Wildomar's General Plan) would include the introduction of new structures and would create increased stormwater runoff, which would increase the risk of flooding. Future growth would result in the development of new arterial and collector streets that will provide improved access within the County of Riverside and City of Wildomar, allowing emergency vehicles greater access and a route for residents to avoid flood hazards. Future growth with the Riverside County General Plan (and the City of Wildomar's General Plan) will contribute to a significant cumulative impact on stormwater runoff, which can induce flooding. Implementation of the Riverside County General Plan (and the City of Wildomar General Plan) would not increase the risk of dam failure and subsequent inundation hazards. Thus, the Riverside County General Plan (and the City of Wildomar General Plan) would not contribute to a cumulative impact relating to dam inundation hazards.

The Riverside County General Plan area (and the City of Wildomar General Plan area) consists of large portions of undeveloped open land, some of which serves as aquifer recharge areas. As parcels of land are developed and Riverside County and City of Wildomar grows, this area will not only diminish but the demand for water resources will continue to grow. Implementation of the Riverside County General Plan (and City of Wildomar General Plan) will directly and/or indirectly result in both the loss of groundwater recharge areas and increase the cumulative demand on water resources.

Development planned and envisioned under the City of Lake Elsinore Draft General Plan could change drainage patterns and have an adverse impact on hydrology. There are a large number of blue line streams throughout the City of Lake Elsinore which have residential and/or commercial development proposed within these streams and drainage areas. Grading for increased development through the City of Lake Elsinore and its surrounding areas would potentially alter the drainage patterns within any of these streams. Portions of future development consistent with the City of Lake Elsinore's General Plan would be subject to 100-year flooding within the City.

Development consistent with the City of Lake Elsinore's General Plan could result in increased non-point source and point source contamination from common urban sources, construction activity, and vehicle use that would potentially degrade water quality. Future developments within the City of Lake Elsinore will be required to address goals and policies of the City's General Plan related to Hydrology

and Water Quality and Flooding and Floodways. All projects within the City of Lake Elsinore are required to comply with ACOE, Environmental Protection Agency, RWQCB, and City of Lake Elsinore's regulations and obtain various permits regarding water quality for construction. Project-level assessment must be prepared for any future development for hydrology and groundwater and surface water quality impacts.

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.8 of this Draft PEIR for a list of mitigation measures related to hydrology and water quality. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

The MDP facilities will be designed and constructed to capture the stormwater runoff from the existing and future development thus alleviating the flooding that currently exists within the Project boundary. The MDP facilities will be required to comply with the current NPDES permit(s) and implement SWPPPs and BMPs to reduce the amount of pollutants being discharged into the drainage system. Therefore, through implementation of proposed mitigation measures and compliance with federal, State, and local regulations, potential cumulative impacts to hydrology and water quality will be reduced to **less than significant**.

7.3.9 Noise

Section 4.9 of this document addresses noise impacts. The Project will not result in permanent sources of noise, nor would there be significant noise generated from operation of the MDP facilities. Construction of the MDP facilities will generate short-term noise impacts, but will only last either a few weeks or a few months at the longest. Short-term noise generated from the Project would result from transport of workers and equipment to the construction areas and actual on-site construction activities. Construction equipment anticipated for the MDP facilities include standard equipment that is typically used for construction project of this scale. Construction equipment with substantially higher noise-generation characteristics (such as pile drivers, rock drills, blasting equipment, etc.) would not be necessary for development of the MDP facilities. The maximum temporary construction noise levels from construction equipment would range up to approximately 90 decibels (dB) for the type of equipment expected to be used for the proposed MDP facilities. MDP facilities located within Riverside County and City of Wildomar jurisdiction are exempt from the noise guidelines per Riverside County Noise Ordinance No. 847 per Section 2 (a-c), which exempt facilities owned or operated by or for a governmental agency, capital improvement projects of a governmental agency and maintenance or repair of public properties.

The City of Lake Elsinore's noise standards range from 50 dBA to 80 dBA. **MM NOISE-1** would be implemented to reduce the potential impacts to noise levels in the City of Lake Elsinore; however, given that the City's noise standards are lower than typical construction equipment noise levels, the Project would most likely exceed the City's noise standards. Impacts were found to be **significant** related to MDP facilities located in the City of Lake Elsinore.

Since this is a program level EIR, the specific alignment of the facilities is not determined at this time. Future MDP facilities that are within alignments flanked by residential uses, would need to be analyzed to determine whether construction equipment used within proximity to sensitive land uses would be within the peak particle velocity of 0.1 inch/second threshold, which Caltrans determined as the threshold that would begin to annoy people. As a worse-case scenario, an approximate 25-foot distance from the construction area to the closest home was assumed. The heavier pieces of construction equipment such as large bulldozers and loaded trucks would have peak particle velocities of approximately 0.089 or less at a distance of 25 feet (FTA 2006). At these distances and with the anticipated construction equipment, the peak particle velocity would be below 0.1 inch/second at the adjacent homes.

Even with implementation of the mitigation measures, the project cannot be assured to be in compliance with the City of Lake Elsinore's Noise Ordinance. As a result, the Project will result in a **significant** impact related to exceeding noise standards within the City of Lake Elsinore.

Summary of Cumulative Environmental Effects from General Plans

The buildout of the Riverside County General Plan (and also the City of Wildomar's General Plan) would result in potential cumulative noise level increases along major roadways and near industrial/commercial zones. However, implementation of the Riverside County General Plan (and the City of Wildomar's General Plan) would not result in significant cumulative noise impacts that would not be mitigated with the implementation of the Riverside County General Plan policies and mitigation measures and thus, will not substantially contribute to cumulative noise impacts.

Since all future development planned and envisioned under the City of Lake Elsinore Draft General Plan would not occur simultaneously, construction noise impacts would be short term, incremental and can be mitigated to below a level of significance with controls on construction time periods and equipment use. Thus such impacts would not be regarded as cumulatively significant.

When growth within the City of Lake Elsinore is considered with regional growth, cumulative traffic volume would be the major noise-related concern. Regional traffic has the potential to combine with Project-related traffic and cause significant cumulative noise impacts on sensitive uses sited along the busy corridors, to which the City of Lake Elsinore's General Plan Update projects would substantially contribute. An increase in traffic volume throughout the local and regional circulation system as a result

of the City of Lake Elsinore's General Plan Update implementation has the potential to generate noise levels along roadway corridors that would exceed standards set forth in the City of Lake Elsinore's Zoning Code and the City of Lake Elsinore's Noise and Land Use Compatibility Matrix and Interior and Exterior Noise Standards.

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.8 of this Draft PEIR for a list of mitigation measures related to noise. Additional mitigation measures addressing potential cumulative impacts are unnecessary since the Project will not create ongoing long-term noise sources, and the construction noise impacts will be short term and not contribute to any long-term, cumulative noise conditions.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

Construction of the MDP facilities will result in temporary noise impacts but will cease upon Project completion. However, MDP facilities within the City of Lake Elsinore will comply with the hours of operation and noise levels outlined in the City of Lake Elsinore's Noise Guidelines, but given the noise standards within the City of Lake Elsinore are lower than is typically experienced from typical construction equipment, construction of MDP facilities within the City is expected to have significant impacts. Therefore, potential cumulative impacts to noise are considered **significant** within the City of Lake Elsinore.

7.3.10 Traffic

Section 4.8 of this document addresses transportation, traffic and circulation impacts. Interstate 15 is an interstate highway that extends through Riverside County to San Diego County and provides regional access to the Project. State Route 74 (Ortega Highway) is an eligible State Scenic Highway that traverses through the westerly portion of the City of Lake Elsinore into the Cleveland National Forest where it connects with Interstate 5 in Orange County. Grand Avenue is the only street that goes all the way through the Project boundary. The Riverside Transit Agency (RTA) provides alternative intra-City and regional transportation options. The RTA provides public bus service to the Lakeland Village area with RTA Route 8 running along Grand Avenue. Levels of services are not expected to change as a result of construction from future proposed MDP facilities as roadways or highways are not being proposed to be widened as part of the Project. Only temporary street lane closures and sidewalks could occur during construction and/or maintenance of future MDP facilities. Currently, some of the areas within the Project boundary do not have paved pedestrian facilities. Bike lanes and trail systems are also located through the Project boundary. These areas would also have temporary closures during construction and/or maintenance of future MDP facilities. Areas to be rerouted during the

temporary lane, shoulder, sidewalk shoulders will be outlined in a future prepared Traffic Control Plan during the MDP facility design phase.

The effectiveness of the local circulation system will not be affected by the Project; instead, the Project makes local circulation work better, as it relieves flooding within the Project boundary, which under the current condition causes havoc on the local circulation system.

The proposed MDP facilities include underground storm drains which will be constructed mostly within existing road right-of-ways and as previously mentioned, will require temporary lane closures to construct. The street and lane closures during construction will be kept to a minimum and will be coordinated with the Riverside County Transportation Department and the Department of Transportation (DOT) to ensure that traffic flow is not adversely affected. Any traffic impacts will be limited to the construction period and possibly during maintenance activities of the facilities located in roadways. Construction of the water quality and debris basins should not require lane closures, as those facilities will be located on discrete sites not within roadways.

Summary of Cumulative Environmental Effects from General Plans

Growth anticipated through implementation of the Riverside County General Plan (and also the City of Wildomar General Plan) will have a cumulative effect on area roadways; however, the Riverside County General Plan (and City of Wildomar General Plan) contains a Circulation Element that provides for infrastructure within the unincorporated areas of Riverside County to be built to accommodate the anticipated growth and increase in traffic. Riverside County General Plan (and City of Wildomar General Plan) also provides for transit uses and concentrated land uses in community centers to facilitate the use of mass transit and decrease the reliance on the automobile. Build out of the incorporated cities will have a significant cumulative effect on area roadways, especially if Riverside County roadways are not improved as planned for in the General Plan.

Development planned and envisioned under the City of Lake Elsinore Draft General Plan would be expected to have substantial traffic volumes and nearly all of the intersection analysis locations would require improvements assuming buildout of the City of lake Elsinore and growth in the region by the 2030 horizon. With implementation of the City of Lake Elsinore's Land Use Plan, all roadways within the study area would be expected to have substantial traffic volumes and several of the intersection analysis locations would require improvements. Therefore, implementation of the City of Lake Elsinore's General Plan could result in significant impacts on traffic levels within the City. However, future developments within the City of lake Elsinore will contribute to the construction of the circulation improvements proposed as part of the City of Lake Elsinore's General Plan. Future projects would need to conform to the City of Lake Elsinore's General Plan goals, policies, and implementation programs related to provision of an adequate circulation network and implement the street improvement projects from the Capital Improvement Program. Therefore, with implementation of the improvements and goals, policies, and implementation

programs set forth by the City of Lake Elsinore's General Plan Circulation Section as well as the City Capital Improvement Program, the contribution of the City of Lake Elsinore's General Plan to cumulative traffic impacts would be reduced to less-than-significant levels.

Proposed Mitigation Measures

Mitigation measures will be incorporated into the Project to reduce potential impacts. Please refer to Section 4.8 of this Draft PEIR for a list of mitigation measures related to traffic. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

Summary of Cumulative Environmental Effects After Mitigation Measures Are Implemented

Construction of the MDP facilities will result in temporary lane, shoulder, bike, and sidewalk closures, but Traffic Control Plans will be prepared to outline detours and/or how the traffic level of service and other alternate transportation are not significantly impacted. Upon Project completion, roads, bike lanes, and sidewalks will be re-opened. No increase in vehicles would result from facility operation. Future improvements to the roads and sidewalks will be built according to Riverside County and Cities of Lake Elsinore and Wildomar Circulation Element. Therefore, potential cumulative impacts to transportation and traffic will be reduced to **less than significant**.

7.3.11 Utilities and Service Systems

Areas within the Project boundary exhibit flooding during annual rain events. The Project is intended to enhance stormwater conveyance and to alleviate flooding within the Project boundary.

Summary of Cumulative Environmental Effects from General Plans

The Elsinore Valley Water District (EVMWD) provides water, wastewater, and reclaimed water service to the Cities of Lake Elsinore and Wildomar, and unincorporated portions of Riverside County. In determining the water needs in this service area. EVMWD is required to prepare an Urban Water Management Plan (UWMP). The EVMWD UWMP indicates that there are sufficient water supplies and water shortage contingency plans to protect the existing and future water needs within its service area. In addition, EVMWD also prepared a Wastewater Master Plan to provide for the long range planning for the provision of wastewater services.

Through compliance with EVMWD's UWMP and Water Distribution System Master Plan, EVMWD's Wastewater Master Plan, Chapter 16 of the City of Lake Elsinore's Municipal Code and the City of Lake Elsinore's Water Efficient Landscaping Requirements, and payment of established EVMWD utility rates and connection fees, impacts upon water supply, wastewater-related impacts and infrastructure associated with the projects will have a less than cumulatively considerable impact.

Proposed Mitigation Measures

The Project was found to have less-than-significant impacts without the need for mitigation measures. Compliance with the adopted mitigation measures contained in the Riverside County and Cities of Lake Elsinore and Wildomar General Plans and existing water resource regulations will reduce potential cumulative impacts associated with significant environmental effects from construction of a new stormwater drainage facility or expansion of existing facilities. Additional mitigation measures addressing potential cumulative impacts are unnecessary.

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8.0 ALTERNATIVES TO THE PROPOSED PROJECT

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) evaluate a "reasonable" range of alternatives. According to the CEQA Guidelines, "…an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (14 CCR 15126.6(a)). According to this section of the CEQA Guidelines, "…an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation." Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to an alternative. These factors aid in establishing the context in which "the rule of reason" is weighed against when determining an appropriate range of alternatives that would sufficiently enable meaningful public participation and informed decision making.

With respect to the selection of alternatives to be considered in an EIR, Section 15126.6(b) of the CEQA Guidelines states "…the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." Each alternative must be capable of avoiding or substantially lessening any significant effects of a proposed project. The Initial Study prepared for the Project determined that there could be potentially significant environmental impacts related to aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, traffic, and utilities and service systems. During the Draft PEIR analysis, impacts to greenhouse gas emissions and utilities and service systems were found to be less-than-significant and no mitigation measures were necessary. With mitigation incorporated, impacts to biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and traffic remain less-than-significant. Even with mitigation incorporated, air quality and noise were found to be significant and unavoidable, only for construction emissions. Impacts related to aesthetics were found to be significant and there are no feasible mitigation measures that could be implemented that would reduce or minimize impacts to scenic resources. A Statement of Overriding Consideration would be required for the impacts related to views of debris and water quality basins, construction emissions, and noise generated during construction activities within the City of Lake Elsinore. The rationale for selecting the alternatives to be evaluated, and a discussion of the "No Project" Alternative are also required, per Section 15126.6 of the CEQA Guidelines.

As stated in Executive Summary ES-1.4.1 and Section 3.3 of this Draft PEIR, the Project objectives for which the alternatives were analyzed include:

1. Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the "100-year" level (i.e., the 1% annual chance flood event);
2. Provide "all-weather" access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way;
3. Provide a Master Drainage Plan at the lowest construction and right-of-way acquisition cost;
4. Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events;
5. Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore; and
6. Avoid or minimize the impacts to potentially sensitive areas.

8.1 Alternatives Considered but Rejected by the Lead Agency

Section 15126.6(c) of the CEQA Guidelines specifies that an EIR should identify alternatives that were considered by the lead agency, but were rejected from further consideration. Section 15126.6(c) further indicates that a lead agency may eliminate an alternative from detailed consideration in an EIR because the alternative(s) fails to meet the basic project objectives, is infeasible, and does not avoid significant impacts. The Riverside County Flood Control and Water Conservation District (District) did consider several alternatives to the Project. Given the nature of this type of project, alternatives would consist of varying alignments, type or size of facilities. The discussion below outlines the various alternative MDP facility types that were considered by the District, but ultimately rejected for the reasons discussed below.

8.2 Description and Evaluation of Alternatives

Pursuant to Section 15126.6(a) of the CEQA Guidelines, each alternative must be capable of avoiding or substantially lessening any significant effects of the Project. See Section 8.0 above for discussion of potential significant environmental impacts to each environmental issue in this Draft PEIR.

Three alternatives were deemed appropriate for analysis in this Draft PEIR section. While the "No Project" Alternative would not likely meet most of the project objectives, CEQA requires that this scenario also be analyzed. Inclusion of the No Project Alternative provides the public/decision makers with a reasonable range of choices and allows comparison of impacts of approving the Project with the impacts of not approving the Project.

Each alternative is analyzed for potential environmental effects that were previously described for the Project. Due to the lack of significant impacts to utilities and service systems, this issue is not discussed in this alternatives analysis. After each environmental issue is analyzed, a consideration/elimination discussion follows. This discussion relates to the Project's feasibility as well as the Project's relationship to the Project Objectives previously mentioned.

8.2.1 Proposed Project – Lakeland Village Master Drainage Plan

The Project, as described in detail in Section 3.2 of this Draft PEIR, consists of nine debris basins on the upstream end of the mainline drainage facilities to capture potential debris from the Santa Ana Mountains. The Project addresses water quality by installing five proposed water quality basins downstream of existing developments. New concrete channels and storm drains as well as expansion of existing facilities are also proposed. All proposed storm drain facilities will be underground, while channels are aboveground.

8.2.2 Alternative 1 – No Project (Figure 8.0-1a and Figure 8.0-1b)

Alternative 1 is the "No Project" alternative. Thus, there are no new MDP facilities proposed under this alternative. For this alternative, flood protection is only provided by the existing District and non-District maintained drainage facilities within the Lakeland Village area. Existing drainage facilities include: Lime Street Channel, Ortega Channel Lateral A-1 Debris Basin, Ortega Channel, Ortega Channel Lateral A, Ortega Channel Lateral A-1, Ortega Channel Lateral A-2, Lakeland Village Channel, Churchill Street Drainage Ditch, Stoneman Street Channel, Corydon Channel, Palomar Channel, Ontario Way Storm Drain, Tract 23111 Drainage Ditch, Sedco – Bryant Street Storm Drain Stage 1, Sedco – Bryant Street Storm Drain and Debris Basin.

8.2.3 Alternative 2 – Upsizing Facilities (Figure 8.0-2a and Figure 8.0-2b)

Alternative 2 is a scaled down version compared to the proposed Project (refer to Table ES-1 in the Executive Summary for summary of MDP facilities). Alternative 2 does not include water quality or debris basins. Alternative 2 proposes 21 underground storm drains (approximately 45,000 linear feet), 4 open channels (approximately 9,000 linear feet), 2 debris basins, and 1 debris/detention basin. The proposed storm drains and open channels are sized to convey "bulked flows" (i.e., flows that include both stormwater runoff and its associated debris load) to Lake Elsinore. The two debris basins are proposed upstream of the existing Ortega and Lime Street channels to capture sediment before entering the channels. These channels historically have been subject to debris accumulation and frequent maintenance due to relatively flat slopes. A debris/detention basin is proposed upstream of the existing Lakeland Village Channel to capture debris and attenuate flow during a 100-year storm event.

Alternative 2 also proposes improvements to the following existing facilities:

- Lime Street Channel – Floodwalls (2 feet high) would be added to the top of the channel. The existing 48-inch-diameter pipe along Hill Street would be replaced with a 72-inch pipe.
- Ortega Channel – Floodwalls (2 feet high) would be added to the portion of Ortega Channel downstream of Grand Avenue.
- Lakeland Village Channel – The existing double 36-inch culverts located at Nelson Avenue, Bobrick Avenue, MacKay Avenue, Brightman Avenue, Sutherland Avenue, Raley Avenue, and Grand Avenue would be replaced with a 12-foot by 4-foot reinforced concrete box.

8.2.4 Alternative 3 – Debris Basin plus Floodplain Buyout (Figure 8.0-3a and Figure 8.0-3b)

Alternative 3 is also a scaled down version compared to the proposed Project (refer to Table ES-1 in the Executive Summary for summary of MDP facilities). Alternative 3 does not include water quality basins. Alternative 3 proposes 17 underground storm drains (approximately 37,000 linear feet), 4 open channels (approximately 7,000 linear feet), and 8 debris basins. Like Alternative 2, Alternative 3 also includes improvements to the existing Lime Street, Ortega and Lakeland Village Channels, such as flood walls and larger culverts. However, Alternative 3 also proposes the acquisition of properties and the removal of over 200 structures located within the Federal Emergency Management Agency (FEMA) mapped Special Flood Hazard Areas (SFHAs). The existing culverts located along Grand Avenue, including those located within the SFHAs, are also proposed to be enlarged to convey the 100-year storm.

8.3 Evaluation of Alternatives

The matrix approach to comparing the above described alternatives is used for ease of directly comparing the potential significant adverse effects of the proposed Project with those of the alternatives, per CEQA Guidelines Section 15126.6(d). Table 8.0-1, Summary of Comparison of Alternatives Impacts, identifies the areas of potential significant environmental effects per CEQA and ranks each alternative as better, the same, or worse than the Project with respect to each issue area.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Aesthetics – Scenic Resources	**Significant and no feasible Mitigation:** Since aesthetic values are subjective, and once MDP facilities are built, some of the aboveground facilities such as the debris and water quality basins would change the natural scenic conditions.	**Better than Project:** Scenic vistas and visual character would not change.	**Slightly Better than the Project:** Fewer debris basins and water quality basins are proposed.	**Slightly Better than the Project:** There would be removal of over 200 structures located within the FEMA mapped SFHAs resulting in open space and no water quality basins are proposed.
Air Quality – Air Quality Standard	**Significant even with Mitigation**: Since this is a program level EIR, to analyze whether future MDP facilities would violate any air quality standard or contribute substantially to an existing or Project air quality violation, a worst-case scenario of a representative project was analyzed (Line N). Daily construction emissions of the representative project would not exceed the thresholds for VOC, CO, SO_x, PM_{10}, or $PM_{2.5}$. The representative project, however, would exceed daily construction emissions thresholds for NO_x. As such, the worst case condition of an MDP facility under construction would result in a potentially significant impact to NO_x emissions during construction. The Project includes mitigation measures to ensure that during future	**Better than Project:** No construction emissions would occur under the No Project scenario.	**Better than the Project:** Upsizing linear MDP facilities would most likely not result in exceedances of air quality standards. As the detailed analysis for Line N system revealed that only basin excavation would cause a project to exceed thresholds, and since this Alternative has no water quality or debris basins, this Alternative would not exceed standards. Mitigation measures related to fugitive dust would be the same as for the Project.	**Slightly Better than the Project:** Upsizing linear MDP facilities would most likely not result in exceedances of air quality standards. Under this Alternative no water quality basins are constructed which would also reduce emissions, however the debris basins are still included, which would have similar impacts as the Project. Purchasing of floodplain land would not result in air quality emissions. Mitigation measures related to fugitive dust would be the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	construction, the Project would be subject to South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in SCAQMD. The analysis determined that for the representative project, Line N, Project operation and maintenance activities would not exceed air quality emissions, therefore impacts from operations and maintenance are considered less than significant, and no mitigation is necessary. Based on the representative project (worst-case scenario), construction is expected to result in exceedance of NO_x standard, therefore a Statement of Overriding Considerations would be required for NO_x emissions at construction.			

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Air Quality – Cumulatively Considerable contribution to a Criteria Pollutant	**Significant even with Mitigation:** Construction activities of both the Project and other cumulative projects would be subject to standard SCAQMD measures that would minimize fugitive dust and PM_{10} and $PM_{2.5}$ emissions and NO_x and VOC emissions from construction equipment. Implementation of these measures would minimize project-specific and cumulative air quality impacts from construction; however, as the Project is expected to result in impacts related construction-generated NO_x emissions, the Project's contribution to cumulative construction-related air quality impacts would be potentially cumulatively considerable.	**Better than the Project:** No impacts to criteria pollutants will occur since there will be no new construction of MDP facilities.	**Better than the Project:** Upsizing linear MDP facilities would most likely not result in exceedances of air quality standards, which would in turn not contribute cumulatively to an exceedance. Under this Alternative, no water quality basins are constructed which would also reduce emissions. Mitigation measures related to fugitive dust would be the same as for the Project.	**Better than the Project:** Upsizing linear MDP facilities would most likely not result in exceedances of air quality standards, which would in turn not contribute cumulatively to an exceedance. Under this Alternative, no water quality basins are constructed which would also reduce emissions. Mitigation measures related to fugitive dust would be the same as for the Project.
Air Quality – Sensitive Receptors	**Less than Significant with Mitigation:** Sensitive receptors within the Project boundary include schools, daycare facilities, and residences. Since this is a program level EIR, to analyze a worst-case exposure scenario, it was assumed that the closest off-site existing sensitive receptors (residences) are located immediately adjacent to each of the four types of MDP facilities (storm drain, open channel, debris basin, water quality basins.	**Better than the Project:** No impacts to sensitive receptors will occur since there will be no new construction of MDP facilities.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	As presented in Tables 4.2-8 through 4.2-11, SCAQMD Localized Significance Thresholds (LST) for PM_{10} and $PM_{2.5}$ could be exceeded during construction of the water quality and debris basins, but not for the linear MDP facilities such as the storm drains and open channels. There are sensitive receptors in proximity to the debris basins and water quality basins, and the above analysis does show that the debris basin and water quality basin construction could result in localized impacts related to particulate matter to sensitive receptors. However, with incorporation of **MM AIR-1**, requiring the preparation of a dust control plan, this plan will prevent significant amounts of particulate matter from being emitted from the site, and therefore impacting any nearby sensitive receptors. **Therefore, with implementation of MM AIR-1, impacts are considered less than significant.** There would be no long-term operation of the MDP facilities that would generate local emissions that could expose sensitive receptors to substantial pollutant concentrations. Maintenance activities would be temporary and would not impact sensitive receptors within the Project boundary.			

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Biological Resources – Candidate, Sensitive, or Special-Status Species	**Less-than-Significant Impacts with Mitigation:** Special-status species have the potential to occur within the Project boundary.	**Slightly Better than that Project:** Special-status species have the potential to occur within the existing Project boundary; however no construction disturbance would occur except during maintenance activities or emergency work.	**Same as Project:** Special-status species will still have the potential to occur within Project boundary.	**Worse than the Project:** This Alternative would contain more area with the potential to support special-status species.
Biological Resources – Riparian Habitat	**Less-than-Significant Impacts with Mitigation:** Riparian habitat is present within the Project boundary. Per the Multiple Species Habitat Conservation Plan (MSHCP), identification of riparian/riverine habitats and avoidance of these habitats are required where possible. If riparian/riverine features cannot be avoided, then approval of a Determination of Biologically Equivalent or Superior Preservation (DBESP) that which includes appropriate mitigation will be required. Additionally, impacts to resources regulated by the U.S. Army Corps of Engineers (ACOE) or California Department of Fish and Wildlife (CDFW) would require regulatory permits and mitigation, if necessary.	**Better than the Project:** It is not expected that riparian habitat would be impacted since maintenance activities would occur within previously disturbed areas where the existing facilities are located.	**Same as Project**: This Alternative would still require riparian habitats to be addressed through the MSHCP and regulatory permitting. No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Better than Project**: The floodplain buyout parcels potentially contain more riparian and riverine resources that would be purchased and indirectly protected through this Alternative. All other MDP facilities would have the same the requirements to avoid or mitigate impacts to riparian or riverine resources through the MSHCP and regulatory permitting processes.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Biological Resources – Jurisdictional Water Features	**Less-than-Significant Impacts with Mitigation:** Specific jurisdictional delineations will be required for MDP facilities listed in Table 4.3-5 to determine whether the features are subject to the jurisdictions of the ACOE, Regional Water Quality Control Board (RWQCB), and CDFW. If regulatory permits are needed, mitigation May be required.	**Better than the Project:** No jurisdictional delineations will be required since no improvements or new construction of MDP facilities will be proposed under the No Project Alternative.	**Same as Project**: Jurisdictional delineations would be required for some MDP facilities; however, no change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Better than Project**: Jurisdictional delineations would not be required for the MDP facilities within the floodplain, since they would be purchased and no disturbance would be proposed.
Biological Resources – Native Resident or Migratory Fish or Wildlife Species	**Less than Significant:** No established migratory corridors or nursery sites are within the Project boundary. No specific wildlife movement corridors in the Project boundary would be affected by the Project.	**Same as Project:** No established migratory corridors or nursery sites are within the Project boundary. No specific wildlife movement corridors in the Project boundary would be affected by the existing MDP facilities.	**Same as Project:** No established migratory corridors or nursery sites within the Project boundary. No specific wildlife movement corridors in the Project boundary that would be affected by the existing facilities.	**Same as Project:** No established migratory corridors or nursery sites within the Project boundary. No specific wildlife movement corridors in the Project boundary that would be affected by the existing facilities.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Biological Resources – Local Policies or Ordinances	**Less than Significant:** The Project will not interfere with the County of Riverside or Cities of Lake Elsinore and Wildomar biological resource policies listed in Section 4.3.2. If MDP facilities are located near oak woodlands in the future, the specific MDP facility shall comply with the Riverside County Oak Tree Management Guidelines.	**Slightly Better than the Project:** The existing facilities currently comply with County of Riverside, and Cities of Lake Elsinore and Wildomar policies listed in Section 4.3.2. Since the facilities are existing and mostly within road rights-of-way, no oak trees would be impacted.	**Same as Project**: This Alternative would require compliance with the County and Cities of Lake Elsinore and Wildomar General Plans related to biological resources. The Oak Tree Management Guideline would apply. No change in the significance determined from the proposed Project. Mitigation measures are the same as for the Project.	**Same as Project**: This Alternative would require compliance with the County and City of Lake Elsinore and Wildomar General Plans related to biological resources. The Oak Tree Management Guideline would apply. No change in the significance determined from the proposed Project. Mitigation measures are the same as for the Project.
Biological Resources – Conflict with the Provisions of an adopted Habitat Conservation Plan	**Less-than-Significant Impacts with Mitigation:** The Project is located within the MSHCP Plan Area and a portion of the MDP facilities is located in the Criteria Area. Per the MSHCP, projects proposed in the Criteria Area are subject to the Joint Power Review process through the Regional Conservation Authority. Each MDP facility would be subject to be reviewed for consistency with the other plan requirements in Section 6.1.2, Section 6.1.3, Section 6.3.2, and Section 6.1.4 of the MSHCP.	**Better than the Project:** There will be no MSHCP requirements since the facilities are existing facilities and no improvements or new construction is proposed under the No Project Alternative.	**Same as Project**: Compliance with MSHCP would be required for this Alternative. No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as Project**: Compliance with MSHCP would be required for this Alternative. No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Cultural Resources – Historical Resource	**Less-than-Significant Impacts with Mitigation:** When Project-specific MDP facilities are proposed in the future, and the MDP facility final design includes expansion of right-of-way and/or aboveground structures that would impact historic resources, field surveys and additional analysis shall be prepared.	**Better than the Project:** The No Project Alternative does not propose expansion of right-of-way or aboveground structures that would impact historic resources since no improvements are proposed to the existing facilities.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Cultural Resources – Archaeological Resource	**Less-than-Significant Impacts with Mitigation:** There are some MDP facilities located in proximity to known archaeological resources and some facilities that are in relatively undisturbed areas that have not been surveyed, and so it is unknown whether or not there are resources that could be impacted by the Project. Site surveys and mitigation measures would be implemented when Project-specific facilities are proposed. Mitigation measures have been incorporated to dictate the type of analysis and processes to follow should resources be discovered in future.	**Better than the Project:** The existing facilities have previously been disturbed and no archaeological resources were discovered. The No Project Alternative does not propose any improvements or new construction, therefore, no new disturbances will occur.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Cultural Resources – Paleontological Resource	**Less-than-Significant Impacts with Mitigation:** The majority of the Project is within Low and Undetermined areas, with one area being located within a High area of Paleontological Resources. Future proposed MDP facilities within High and Undetermined Paleontological Resources will be required to prepare a literature search and/or survey by a certified paleontologist.	**Better than the Project:** The No Project Alternative would not require a literature search or survey since no new facilities are being proposed.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Geology and Soils – Seismic-Related Ground Failure	**Less than Significant with Mitigation:** Potential for ground failure such as liquefaction is considered very high within portions of the Project boundary. The proposed debris and water quality basins, as a result of ground shaking, could indirectly expose humans and structures to adverse effects such as flooding if it were to occur during periods of high water levels in the basins. Future proposed MDP facilities will have to be designed and constructed in accordance with Greenbook requirements related to protection against seismic instability, subsidence, and liquefaction hazards. Liquefaction analysis and a geotechnical report will be prepared for future proposed MDP facilities during the design phase.	**Slightly Better than the Project:** The existing facilities have been designed in accordance with Greenbook standards and previous liquefaction and seismic risk was already assessed and remediated when these facilities were previously proposed.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Geology and Soils – Landslides or Mudflows	**Less than Significant with Mitigation:** Portions of the Project are located within an area of steep slopes (30% and greater) and within an area with documented subsidence. Site-specific geologic review will be performed to determine whether the potential for landsliding, or slope instability exists for applicable future MDP facilities.	**Worse than the Project:** No facilities will be constructed that will control debris and mudflows.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Geology and Soils – On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse	**Less than Significant with Mitigation:** The Project will most likely decrease the potential adverse impacts from landslides or mudflows by providing conduit within which storm flows, which are typically the cause of landslides or collapses could be conveyed. Site-specific geologic review and remediation, if necessary, will be performed to determine whether the potential for landsliding or slope instability exists for any future facility. Also, future grading and earthwork construction for future facilities will be required to conform to Greenbook standards related to seismic protection.	**Better than the Project:** The existing facilities have already been analyzed which ensures the facility designs incorporated measures to reduce risk associated with landslides, lateral spreading, subsidence, liquefaction, or collapses.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Hazards and Hazardous Materials – List of Hazardous Materials Sites	**Less than Significant with Mitigation:** As part of the final design of the MDP facilities, the design engineer or its designee shall check proposed sites for listing on the most recent Hazardous Waste and Substances List along with	**Better than the Project:** The No Project Alternatives consist of existing facilities that are mostly within road rights-of-way or underground	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	Enviromapper, GeoTracker, and EnviroStor, and shall avoid the site or mitigate accordingly. Also, all work on MDP facilities shall be performed under a site-specific health and safety plan and in compliance with applicable Occupational Safety and Health Administration regulations.	and are not located on a site, that is included on a list of hazardous materials sites.	Project.	
Hydrology and Water Quality – Violate adopted water quality standards or waste discharge requirements	**Less than Significant with Mitigation:** Future construction and maintenance of MDP facilities will have to conform to TMDLs with regards to exceeding any runoff requirements for pollutants of concern for Lake Elsinore. Activities relating to the construction of the MDP facilities will be regulated by the RWQCB under the NPDES MS4 permit program at the time future development projects are approved within the Project boundary. Stormwater Pollution Protection Plans (SWPPPs) and Best Management Practices (BMPs) will also be incorporated in accordance with RWRCB General Permit for Construction Activities and NPDES Municipal Stormwater Management Program, respectively. The RWQCB may regulate portions of the Project under the Porter-Cologne Water Quality Control Act or Section 401 of the CWA. Through the development review	**Worse than the Project:** The No Project Alternative consists of existing facilities that have already obtained the necessary permits and is in compliance with adopted water quality standards and waste discharge requirements. This Alternative does not include debris or water quality basins, and therefore would be worse than the Project since debris and other pollutants would not be captured and instead discharged directly to Lake Elsinore.	**Worse than the Project:** This Alternative only includes minimal debris basins, but no water quality basins and therefore would be worse than the project since debris and other pollutants would not be captured and instead discharged directly to Lake Elsinore.	**Worse than the Project:** This Alternative only includes debris basins, but no water quality basins and therefore would be worse than the project since pollutants would not be captured and instead discharged directly to Lake Elsinore.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	process, Riverside County and the Cities of Lake Elsinore and Wildomar would have to comply with various statutory requirements necessary to achieve regional water quality objectives and protect groundwater and surface waters from polluted stormwater runoff.			
Hydrology and Water Quality – Substantial discharges of typical stormwater pollutants or substantial changes to surface water quality	**Less than Significant with Mitigation:** The Project is designed to collect and convey stormwater runoff emanating from the surrounding developed areas. This runoff is expected to contain various stormwater pollutants in amounts that are typically found in stormwater runoff emanating from urbanized areas. The discharge of pollutants will be minimized through implementation of the NPDES MS4 permits which requires that the District, County of Riverside, and Cities of Lake Elsinore and Wildomar implement BMPs and SWPPP when appropriate.	**Worse than the Project:** The No Project Alternative consists of existing facilities that do not substantially discharge typical stormwater pollutants or substantially change surface water quality as it currently incorporates SWPPP and BMPs. However, because there are no water quality or debris basins proposed, this Alternative would cause pollutants to continue to discharge to the Lake.	**Worse than the Project:** This Alternative only includes minimal debris basins, but no water quality basins and therefore would be worse than the project since debris and other pollutants would not be captured and instead discharged directly to Lake Elsinore.	**Worse than the Project:** This Alternative only includes debris basins, but no water quality basins and therefore would be worse than the project since pollutants would not be captured and instead discharged directly to Lake Elsinore.
Hydrology and Water Quality – Substantial depletion of groundwater	**Less than Significant:** The Project is designed to collect and convey stormwater throughout the Project boundary. The proposed open channels will be all rectangular concrete channels	**Better than the Project:** The No Project Alternative consists of existing facilities and no concrete lined facilities	**Worse than the Project:** This Alternative does not include as many basins as the Project, therefore, there would be less	**Slightly Better than the Project:** Although there will still be concrete lined channels under this Alternative, parcels will be

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
supplies or interference with groundwater recharge	and would not provide groundwater recharge. However, the other non-concrete lined MDP facilities would be able to provide some amount of recharge. The proposed concrete channels would only be a small fraction of the area (approximately 4.35 acres of the approximately 44.61 acres of the MDP facilities). The water quality basins are designed to allow water to infiltrate and thus may offset loss of recharge from proposed impervious concrete-lined MDP facilities.	would be proposed that would reduce the amount of groundwater recharge.	pervious areas to offset the imperviousness of the concrete channels proposed under this Alternative.	purchased within the FEMA floodplain that will help with groundwater recharge.
Hydrology and Water Quality – Substantially alter existing drainage pattern that would result in substantial erosion or siltation on- or off-site	**Less than Significant with Mitigation:** The MDP facilities will generally follow the existing drainage pattern of the area and most MDP facilities will be constructed primarily within existing and proposed road rights-of-way. The proposed concrete-lined channels will add impervious areas to the Project area; however, implementation of the MDP facilities will improve stormwater and non-stormwater drainage within the Project boundary by channelizing and directing flows in the Project boundary. SWPPPs and BMPs will be incorporated into the construction and operation of the MDP facilities when appropriate. Site-specific Water Quality Management Plans may also be required.	**Better than the Project:** The No Project Alternative does not alter existing drainage patterns as no improvements would be proposed under this Alternative.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
Hydrology and Water Quality – Substantially alter existing drainage pattern that would result in flooding on- or off-site	**Less than Significant with Mitigation:** The proposed MDP facilities will generally follow the existing drainage pattern of the area. The Project will act as a guide for the location and size of drainage facilities and basins needed to resolve the existing flooding problems within the developed areas. Future MDP facilities will have to conform to all applicable provisions of the National Flood Insurance Program and incorporate SWPPPs and BMPS into the Project when appropriate.	**Worse than the Project:** Currently, the existing drainage facilities cannot accommodate the existing stormwater drainage systems thus causing flooding in some areas.	**Same as the Project:** No change in the significance determined from the Project.	**Same as the Project:** No change in the significance determined from the Project.
Hydrology and Water Quality – Runoff water	**Less than Significant with Mitigation:** The Project is intended to collect and convey stormwater through the Project boundary. SWPPPs and BMPs will be implemented to reduce the potential for runoff when appropriate. Also, a hydrology study including basin calculations will be prepared to verify that the basin volume is sufficient to detain necessary runoff flows.	**Worse than the Project:** Currently, there is runoff water within the Project boundary from lack of drainage facilities that cannot accommodate the existing stormwater drainage systems thus causing flooding in some areas.	**Same as the Project:** No change in the significance determined from the Project.	**Same as the Project:** No change in the significance determined from the Project.
Hydrology and Water Quality - Flooding	**Less than Significant:** Some of the debris basins are considered dams under the Division of Safety of Dams (DSOD) criteria. The proposed basins embankments will be designed and constructed in accordance with standard engineering and seismic	**Worse than the Project:** The Project area currently floods during rain events.	**Same as the Project:** The MDP facilities (storm drains and open channels) will be expanded to help control the flooding associated with stormwater runoff	**Same as the Project:** The MDP facilities (storm drains and open channels) will be expanded to help control the flooding associated with stormwater runoff with the Project boundary.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	criteria to minimize the risk of failures. The proposed MDP facilities will alleviate the current flooding during rain events by conveying the stormwater runoff.		within the Project boundary. Two debris basins are part of this alternative; one does qualify as a dam per DSOD criteria.	There are debris basins as part of this alternative; therefore some of the embankments would be considered dams under the DSOD. Parcels within the FEMA floodplain will be purchased to allow the stormwater runoff to flow reducing the likelihood of flooding within the area.
Hydrology and Water Quality – Inundation by seiche, tsunami, or mudflow	**Less than Significant:** Some areas within the Project boundary are located within an area that could be subject to inundation by seiches from Lake Elsinore. However, as stated in the City of Lake Elsinore's Draft General Plan EIR, although there is the potential for a seiche to occur in Lake Elsinore during an earthquake, it would take a geologically substantial earthquake to cause a seiche. Lake Elsinore lacks significant potential for a damaging seiche because it is shallow, and because of the flood control devices constructed by the ACOE, including the berm fill at the southern end of Lake Elsinore. Future MDP facilities will lower the potential for a seiche to occur. The MDP facilities will also convey stormwater and runoff that would	**Worse as the Project:** There are no debris basins to control mudflows under this Alternative, therefore, this alternative would be considered worse than the Project.	**Same as the Project:** No change in the significance determined from the proposed Project.	**Same as the Project:** No change in the significance determined from the proposed Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	reduce the likelihood of mudflow from the Project boundary. The potential for the occurrence of a tsunami is very low because the Pacific Ocean is the closest tsunami-producing open body of water and is located approximately 25 miles from the Project boundary.			
Noise – Noise Standards	**Significant with Mitigation:** The Project will not result in permanent sources of noise, nor would there be significant noise generated from operation of the MDP facilities, as most of them are underground. Temporary noise from construction activities includes the transport of workers and equipment to the construction areas and the actual on-site construction activities. Riverside County Noise Ordinance No. 847 exempts the District from its noise generation during construction activities. The City of Wildomar also uses Riverside County policies. Therefore, facilities within the County of Riverside's and City of Wildomar's jurisdiction would be exempt from the noise ordinance. The City of Lake Elsinore has a maximum noise threshold of 80 dBA for certain land uses. The construction equipment used	**Better than the Project:** No construction activities will take place as no new facilities are proposed under this alternative; therefore, noise levels would not exceed each jurisdiction's noise thresholds.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	for these MDP facilities can generate a noise level of up to 90 dBA. Mitigation measures have been incorporated to reduce the noise level within the City of Lake Elsinore's threshold; however, given that the City's noise standards are lower than the typical construction equipment noise levels, impacts in the City of Lake Elsinore were found to be significant.			
Noise – Ground-Borne Vibration or Ground-Borne Noise Levels	**Less than Significant with Mitigation:** Sometime during construction, vibrational noise may occur from equipment movement. According to the California Department of Transportation, continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to annoy people. Since specific MDP facility alignments is not determined at this time, future MDP facilities would need to be analyzed to determine whether the construction equipment used within proximity to sensitive land uses would be within the peak particle velocity of 0.1 inch/second threshold. There are no operational noise sources that would include vibration.	**Better than the Project:** No construction activities will take place as no new facilities are proposed under this alternative; therefore, no ground vibrations from construction equipment would occur.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Noise – Ambient Noise	**Significant with Mitigation:** Temporary construction noise impacts could occur during construction	**Better than the Project:** No construction activities will take place as no new	**Same as the Project:** No change in the significance determined	**Same as the Project:** No change in the significance determined from the

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	activities. The associated construction activities would increase the ambient noise levels above existing conditions, which could be perceived as annoying to sensitive receptors (i.e., residences and schools) within the Project boundary. However, this impact is temporary and would disappear once construction is completed. Provided that most construction activities are limited to the County and City of Wildomar. However, due to the City of Lake Elsinore's low noise standards, and the typical construction equipment noise levels exceeding 80 dBA, for the short term, construction noise in the City of Lake Elsinore is considered significant.	facilities are proposed under this alternative.	from the Project. Mitigation measures are the same as for the Project.	Project. Mitigation measures are the same as for the Project.
Transportation / Traffic – Circulation System	**Less than Significant with Mitigation:** The effectiveness of the local circulation system will not be affected by the Project as it will make the local circulation work better as it relieves flooding in the area. Construction of the MDP facilities will result in temporary street and lane closures, but will be coordinated with the Riverside County Transportation Department and the Department of Transportation to ensure that traffic flow is not adversely affected. A Traffic Control Plan will outline and coordinate traffic movement including construction	**Worse than Project**: Under this Alternative, there would be no debris basins to collect flows and prevent flooding across Grand Avenue which is the main circulation route for the Lakeland Village area.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.

Table 8.0-1
Summary of Comparison of Alternatives Impacts

Environmental Issue Area	Proposed Project	Alternative 1 – No Project	Alternative 2 – Upsizing Facilities	Alternative 3 – Debris Basins plus Floodplain Buyout
	vehicles. Encroachment permits for improvements and construction for facilities within State Route 74 will be required.			
Transportation / Traffic – Congestion Management Program	**Less than Significant with Mitigation:** A Traffic Control Plan will be prepared that addresses potential congestion, traffic flows, and detours from temporary street, shoulder, bike, and sidewalk closures when MDP facilities are constructed and/or maintained in the future. Compliance with the County of Riverside's Congestion Management Plan and Caltrans design standards and guidelines will also be required.	**Better than Project**: No facilities would be constructed with this Alternative, so no circulation impacts would occur.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Transportation / Traffic – Alternate Transportation	**Less than Significant with Mitigation:** A Traffic Control Plan will be prepared to address bus routes and other transportation modes that would be impacted by temporary street, shoulder, bike and sidewalk closure when MDP facilities are constructed and/or maintained in the future.	**Better than Project**: No facilities would be constructed with this Alternative, so no circulation impacts would occur.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.	**Same as the Project:** No change in the significance determined from the Project. Mitigation measures are the same as for the Project.
Environmentally Superior to the Proposed Project?	**N/A**	**Yes**	**No**	**Yes**

In addition to trying to minimize significant impacts of a project, a project alternative must be able to feasibility attain most of the basic objectives of the Project. Table 8.0-2, Evaluation of Project Alternatives and Project Objectives, provides an assessment of the Project Objectives under each alternative.

All three alternatives were analyzed against the above-listed Project Objectives. Various numerical "weights" have been assigned to each of the Objectives to emphasize the level of importance of the Objective. The assigned weights range from 10% (lowest) to 20% (highest), which would result in points ranging from 10 to 20 points, respectively, for each Objective. The total number of points possible is 100 points. As previously discussed above, 100-year flood protection and all-weather access along Grand Avenue are major concerns in the Lakeland Village area. Therefore, Objectives 1, 2, and 4 have been assigned the highest weight of 20% (20 points). The cost to implement this Project and the possibility of impacting potentially sensitive areas (Objectives 3 and 6) were also important areas of consideration. These two objectives have been assigned a weight of 15% (15 points). Lastly, the possibility of incorporating regional water quality facilities to mitigate impacts from existing development (Objective 5) was assigned a weight of 10% (10 points). The alternative with the highest score out of 100 that best met the Project Objectives was Alternative 2.

Table 8.0-2
Evaluation of Project Alternatives and Project Objectives

Objective		Alternative 1 (No Project)	Alternative 2 (Upsizing Facilities)	Alternative 3 (Debris Basins plus Floodplain Buyout)
1	Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the 100-year level Weight = 20% (Points = 20 out of 100)	5	20	20
2	Provide "all-weather" access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way Weight = 20% (Points = 20 out of 100)	0	20	20
3	Provide a Master Drainage Plan at the lowest construction and right-of-way acquisition cost Weight = 15% (Points = 15 out of 100)	0	15	5
4	Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events Weight = 20% (Points = 20 out of 100)	5	10	20

Table 8.0-2
Evaluation of Project Alternatives and Project Objectives

Objective		Alternative 1 (No Project)	Alternative 2 (Upsizing Facilities)	Alternative 3 (Debris Basins plus Floodplain Buyout)
5	Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore Weight = 10% (Points = 10 out of 100)	0	0	0
6	Avoid or minimize the impacts to potentially sensitive areas Weight = 15% (Points = 15 out of 100)	15	13	11
Total Score (out of 100):		**25**	**78**	**76**

The following provides the substantiation for the scores listed in Table 8.0-2.

Based on the discussion below, Alternative 1 (No Project) was assigned a total score of 25 out of 100 points.

1. **Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the "100-year" level**
   (Score = 5 out of 20 points)

   There are no new drainage facilities proposed in Alternative 1; therefore, this alternative would not provide any additional protection against the 100-year flood event.

2. **Provide "all-weather" access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way**
   (Score = 0 out of 20 points)

   Alternative 1 does not propose any additional facilities or improvements; therefore, access along Grand Avenue will continue to be limited or rendered impassable during storm events.

3. **Provide a Master Drainage Plan at the lowest construction and right-of-way acquisition cost**
   (Score = 0 out of 15 points)

   Alternative 1 does not propose any additional facilities or improvements; therefore, this alternative would be the least expensive but it would not meet the main Project objective of providing flooding protection to the Lakeland Village area.

4. **Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events**
   (Score = 5 out of 20 points)

   Alternative 1 does not propose any additional facilities or improvements; therefore, long-term maintenance costs would be incurred only for the maintenance of drainage facilities already in place in the area.

5. **Consider, and where feasible incorporate, regional water quality facilities to mitigate for the impacts from existing development to improve the water quality of Lake Elsinore**
   (Score = 0 out of 10 points)

   Alternative 1 does not include any water quality features; therefore, water quality concerns would not be addressed by this alternative.

6. **Avoid or minimize the impact to potentially sensitive areas**
   (Score = 15 out of 15 points)

   Alternative 1 does not propose any additional facilities or improvements; therefore, no biologically or culturally sensitive areas would be impacted.

Based on the discussion below, Alternative 2 (Upsizing Facilities) was assigned a total score of 78 out of 100 points.

1. **Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the "100-year" level**
   (Score = 20 out of 20 points)

   Alternative 2 proposes storm drains and open channels sized large enough to convey the bulked 100-year tributary flows to Lake Elsinore. In addition, improvements are proposed to the existing Lime Street, Ortega and Lakeland Village Channels.

2. **Provide "all-weather" access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way**
   (Score = 20 out of 20 points)

   Alternative 2 proposes underground storm drains sized to provide 100-year flood protection to Grand Avenue, thereby, making the road accessible during all but the most extreme storm events.

3. Provide a Master Drainage Plan at the lowest construction and right-of-way acquisition cost
(Score = 15 out of 15 points)

The cost to construct and acquire the necessary rights-of-way for the proposed improvements in Alternative 2 is approximately: $42,803,000. Aside from Alternative 1 (No Project), Alternative 2 is the least costly in terms of construction and right-of-way acquisition.

4. Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events
(Score = 10 out of 20 points)

The proposed storm drains and open channels would convey the bulked flows to Lake Elsinore. Since the debris would not be captured upstream, the proposed underground storm drains and open channels would need to be routinely maintained to ensure that the design capacity is conveyed at all times. Storm drain inspection and debris removal is especially critical for those drainage facilities aligned along Grand Avenue due to the abrupt change in the storm drain profile from steep to flat slope. This abrupt change would result in the accumulation of debris in the flatter reaches, thereby, requiring more frequent storm drain inspection and debris removal. Due to the enclosed nature of the underground storm drains, removing the sediment would involve specialized methods, such as jetting or vacuuming. These specialized maintenance methods are far more expensive than the simple excavation methods used on channels and debris basins.

5. Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore
(Score = 0 out of 10 points)

Alternative 2 does not include any water quality features; therefore, Lake Elsinore water quality concerns would not be addressed by this alternative.

6. Avoid or minimize the impacts to potentially sensitive areas
(Score = 13 out of 15 points)

Biologically Sensitive Areas: The proposed underground facilities located within existing street rights-of-way and the proposed improvements to existing facilities located outside of biologically sensitive survey areas would not substantially impact biological resources. However, the proposed open channels are generally aligned along existing natural watercourses that may support sensitive biological resources. These biological resources may be impacted by construction activities.

Based on the discussion below, Alternative 3 (Debris Basins plus Floodplain Buyout) was assigned a total score of 76 out of 100 points.

1. **Reduce the level of risk from flooding and debris flows to existing/future development and infrastructure to below the "100-year" level**
   (Score = 20 out of 20 points)

   Alternative 3 proposes a series of storm drains, channels and debris basins that would provide 100-year flooding protection to the Lakeland Village area. In addition to the proposed structural improvements, this alternative would also implement a non-structural approach to flood risk reduction by removing at-risk structures from the FEMA mapped SFHAs. Over 200 properties located within four separate SFHAs would be acquired, the structures located on the properties demolished, and the floodplain areas would revert to open space.

2. **Provide "all-weather" access along Grand Avenue by conveying 100-year tributary flood flows below the travelled way**
   (Score = 20 out of 20 points)

   Alternative 3 would provide underground storm drains and culverts sized to provide 100-year flood protection to Grand Avenue, thereby, making the road accessible during all but the most extreme storm events.

3. **Provide a Master Drainage Plan at the lowest construction and right-of-way acquisition cost**
   (Score = 5 out of 15 points)

   The cost to construct the proposed improvements in Alternative 3 is approximately: $36,630,000. Implementation of Alternative 3 would also include a non-structural approach to flood risk reduction and would require the acquisition of over 200 existing properties and structures. The cost to acquire properties, remove structures and relocate property owners is approximately: $75,000,000. Due to the extensive right-of-way acquisition cost, Alternative 3 would be the most costly in terms of construction and right-of-way acquisition, with a total cost of $111,630,000.

4. **Economically manage debris to ensure that the 100-year design capacity is maintained during major storm events**
   (Score = 20 out of 20 points)

   Alternative 3 proposes several debris basins to capture sediment and debris from the mountains before it enters into the proposed storm drains. Although this alternative proposes storm drains aligned along Grand Avenue where there is an abrupt change from a steep to flat slope, the debris would be captured upstream and would not affect the hydraulic capacity of the storm drain over time. Given the topography of the Lakeland Village area, implementation of debris

basins would best manage the debris and will ensure the hydraulic capacity of the underground systems is maintained at all times. The captured debris would need to be removed from the basins to ensure adequate storage capacity for subsequent storm events. Compared to the cost of specialized methods used to maintain underground storm drains, the cost to excavate debris from the basins would be significantly less.

5. **Consider, and where feasible, incorporate regional water quality facilities to mitigate for the impacts from existing development and to improve the water quality of Lake Elsinore**
   (Score = 0 out of 10 points)

   Other than the proposed debris basins, Alternative 3 does not include any water quality features; therefore, water quality concerns would not be addressed by this alternative.

6. **Avoid or minimize the impacts to potentially sensitive areas**
   (Score = 11 out of 15 points)

   Biologically Sensitive Areas: The proposed underground facilities located within existing street rights-of-way and the proposed improvements to existing facilities located outside of biologically sensitive survey areas would not substantially impact biological resources. However, the proposed open channels and debris basins are generally aligned along natural watercourses and may be located in areas that support sensitive biological resources. These biological resources may be permanently impacted by the facilities. Conversely, the acquired properties located within the FEMA mapped SFHA would be converted to open space and could support biological resources.

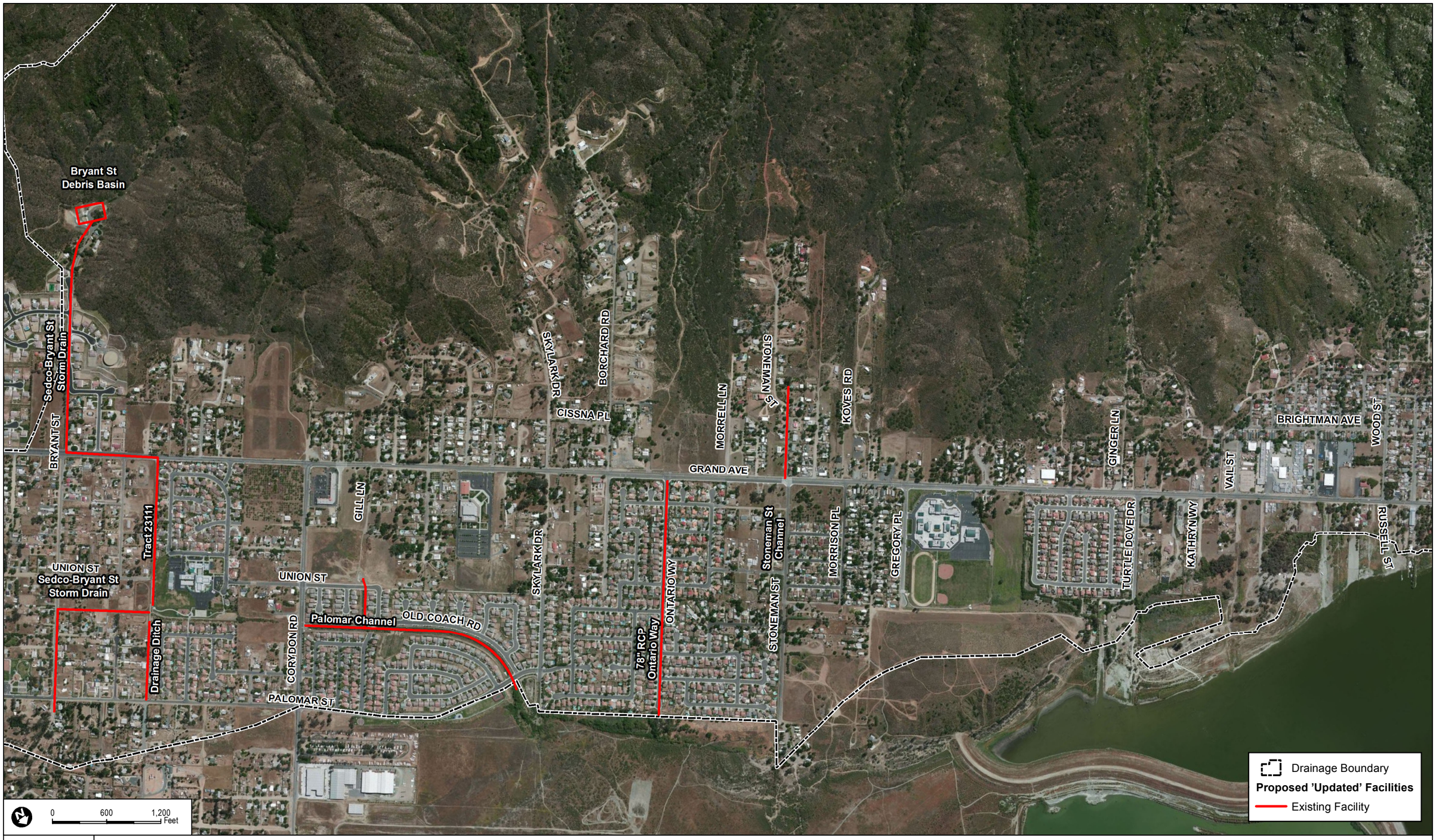
   Culturally Sensitive Areas: There are four recorded resources within 125 feet of the proposed storm drains and channels. Within the footprint of two of the debris basins, historical resources were found and further evaluation would be necessary. For the remaining debris basin footprints, there were no previous studies available. Since the proposed debris basins are generally located within undeveloped areas, there is a higher probability of finding prehistoric cultural resources in these areas.

   The acquisition of properties located within the FEMA mapped SFHA areas would include approximately 50 architectural resources (structures at least 50 years old) and would require further evaluation.

Based on the scoring above, Alternative 2, Upsizing Facilities, was the Alternative that best met all of the Project Objectives, with a score of 78 out of 100.

8.4 Environmentally Superior Alternative

Section 15126.6(e)(2) of the CEQA Guidelines requires the identification of the environmentally superior alternative other than the No Project Alternative be identified in an EIR. Of the alternatives evaluated in Table 8.0-1 and Table 8.0-2, Alternative 2 was found to be environmentally superior over the Project. Alternative 3 was found to have improved, or better, impacts related to air quality and biological resources, and the same impacts as the Proposed Project for cultural resources, geology and soils, hazards and hazardous materials, noise and transportation. There were worse impacts for Alternative 3 related to impacts to biological resources, violating water quality standards and stormwater pollutants. However, although Alternative 3 met most Project Objectives as outlined above, Alternative 2 was found to meet most of the Project Objectives. Even though Alternative 2 is the Environmentally Superior Alternative, Alternative 2 still does not meet 100% of the Project Objectives. The proposed underground storm drains and open channels under Alternative 2 requires specialized maintenance methods that are far more expensive than the simple excavation methods used on channels and debris basins. Alternative 2 does not include any water quality features; therefore, Lake Elsinore water quality concerns would not be addressed by this alternative. Additionally, the proposed open channels are generally aligned along existing natural watercourses that may support sensitive biological resources, which may be impacted by construction activities.



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SOURCE: County of Riverside MSHCP; Bing Maps

FIGURE 8.0-1a

Alternative 1 - No Project (Left)

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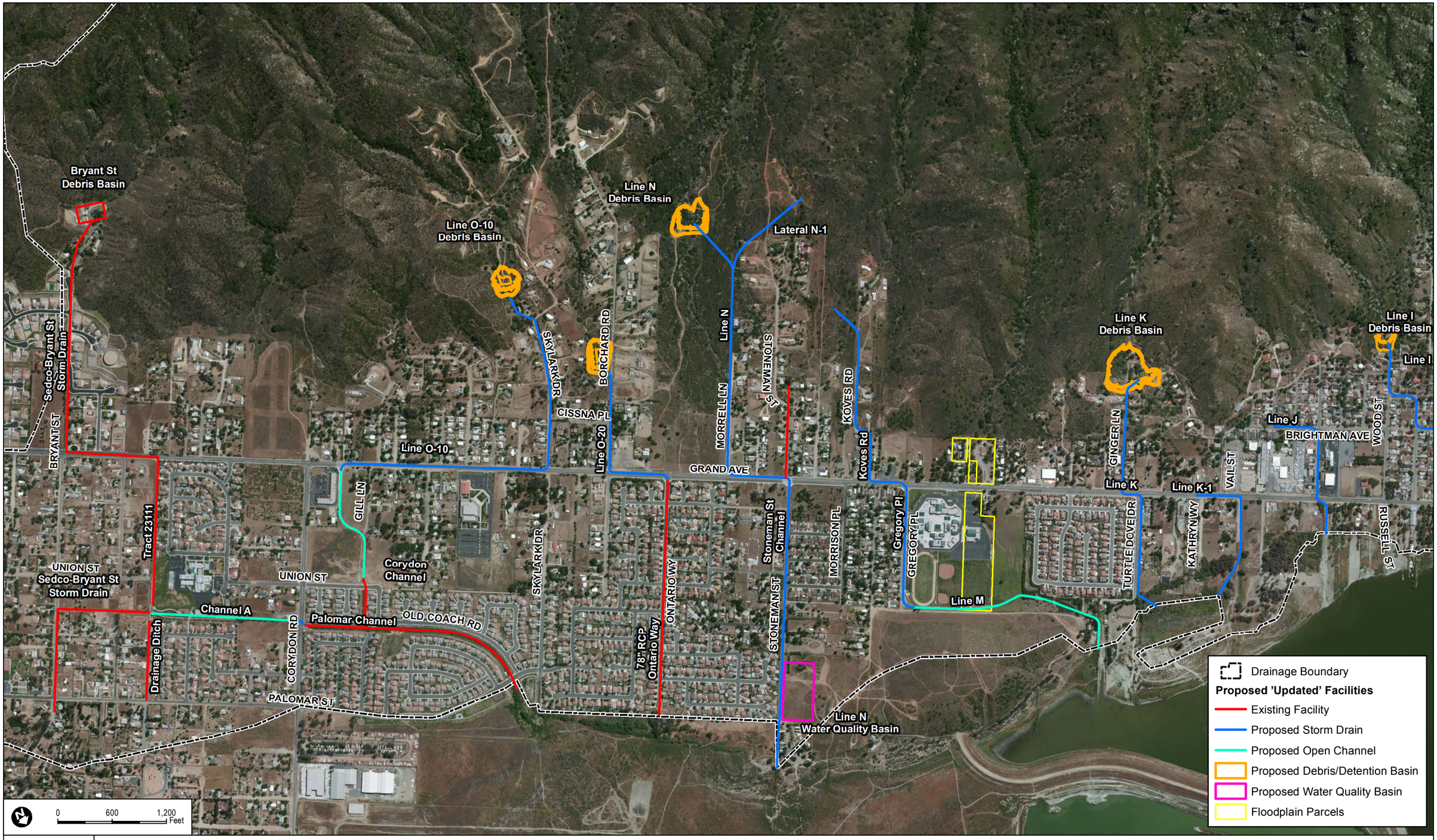
SOURCE: County of Riverside MSHCP; Bing Maps

FIGURE 8.0-1b

Alternative 1 - No Project (Right)

LAKELAND VILLAGE MDP DRAFT PROGRAM EIR

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SOURCE: Riverside County Flood Control and Water Conservation District 2013; County of Riverside MSHCP; Bing Maps

FIGURE 8.0-2a

Alternative 2 - Upsizing Facilities (Left)

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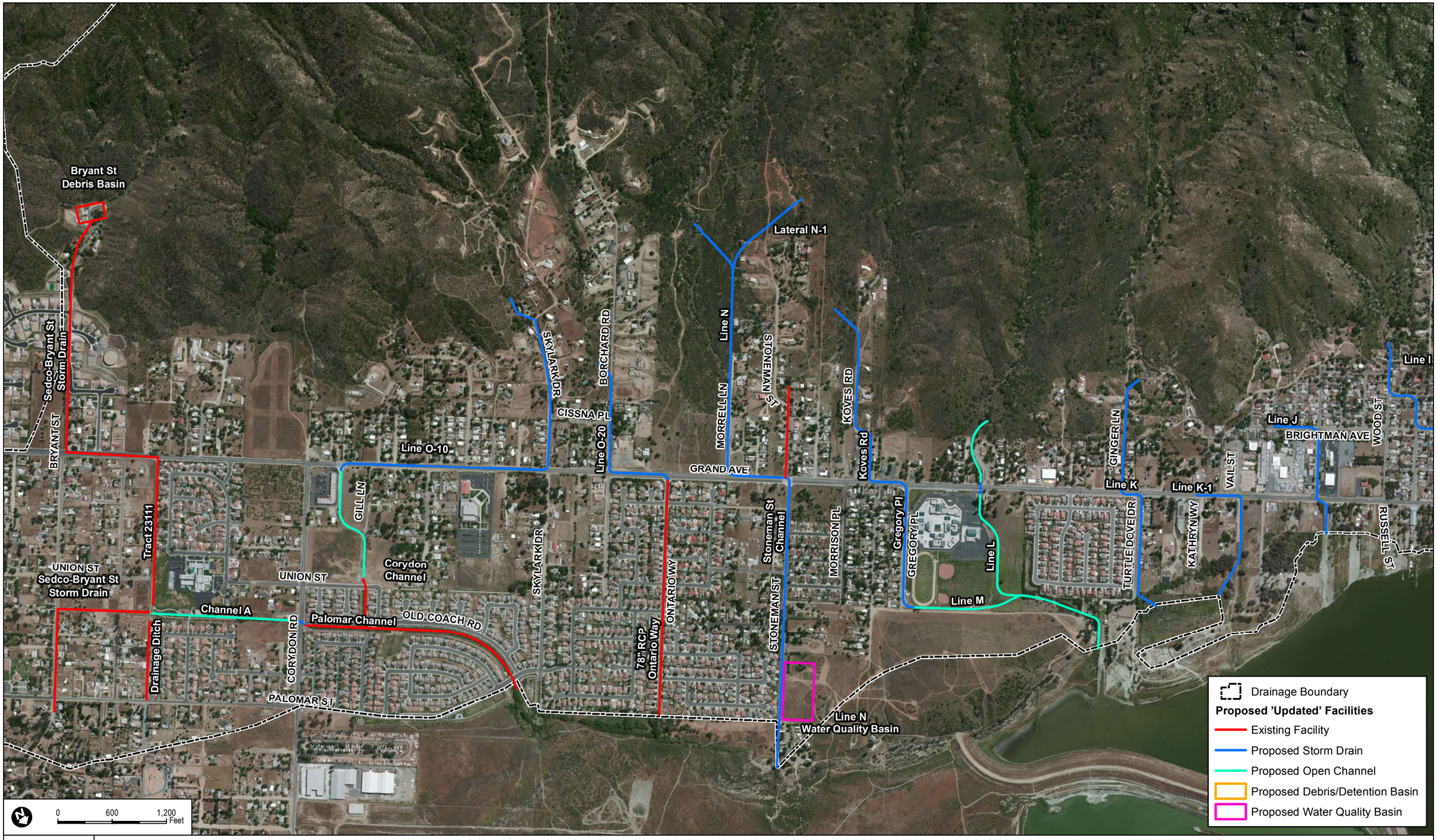
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SOURCE: Riverside County Flood Control and Water Conservation District 2013; County of Riverside MSHCP; Bing Maps

FIGURE 8.0-2b

Alternative 2 - Upsizing Facilities (Right)

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SOURCE: Riverside County Flood Control and Water Conservation District 2013; County of Riverside MSHCP; Bing Maps

FIGURE 8.0-3a

Alternative 3 - Debris Basin Plus Floodplain Buyout (Left)

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SOURCE: Riverside County Flood Control and Water Conservation District 2013; County of Riverside MSHCP; Bing Maps

FIGURE 8.0-3b

Alternative 3 - Debris Basin Plus Floodplain Buyout (Right)

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9.0 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the California Environmental Quality Act (CEQA) Guidelines requires a discussion of how the potential growth-inducing impacts of the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Induced growth is distinguished from the direct employment, population, or housing growth of a project. If a project has characteristics that "may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively," then these aspects of the project must be discussed as well. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of the proposed Project. The CEQA Guidelines also indicate that the topic of growth should not be assumed to be either beneficial or detrimental (Section 15126.2(d)). According to the CEQA Guidelines (14 CCR 15126.2 (d)), a project may foster economic or population growth, or additional housing, either indirectly or directly, in a geographical area if it meets any one of the following criteria:

- A project would remove obstacles to population growth
- Increases in the population may tax existing community service facilities, causing significant environmental effects
- A project would encourage and facilitate other activities that could significantly affect the environment.

A project could indirectly induce growth by removing barriers to growth, by creating a condition that attracts additional population or new economic activity, or by providing a catalyst for future unrelated growth in an area. While a project may have a potential to induce growth, it does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the public or private sectors. The land use policies established by the Cities of Lake Elsinore and Wildomar will regulate growth within those cities' limits, while land use policies established by the County of Riverside will regulate growth within the unincorporated area.

Growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some way. Long-range development plans within the Project boundary are reflected in the City of Lake Elsinore's General Plan, the City of Wildomar's General Plan, or the Riverside County General Plan, depending on the land use jurisdiction. The Project does not involve the development of additional housing or retail services that would foster population or economic growth and would not change any land uses. Since the Project does not include any building construction, the Project is considered to be consistent with the development envisioned in the general plans of the City of Lake Elsinore, the City of Wildomar, and Riverside County. Accordingly, it is reasonable to assume planned development within the Project boundary has

been anticipated in the Southern California Association of Governments (SCAG) growth projections because the land uses within the Project boundary would remain the same. Although most of the area within the Project boundary is either developed or is planned for "in-fill" development, the Project could stimulate indirect growth since the Project would serve to alleviate and control existing flooding and accommodate future capacity flows within the Project boundary. However, the growth would be consistent with population growth envisioned in local and regional land use plans and in projections made by regional planning authorities. Additionally, future "in-fill" development within the Project boundary has been factored into the underlying growth projections of the SCAG 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (SCAG 2012). Therefore, approval of the Project would not result in significant growth-inducing impacts.

9.1 References

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

SCAG (Southern California Association of Governments). 2012. *2012–2035 Regional Transportation Plan/Sustainable Communities Strategy*. Adopted April 2012. Accessed December 2013. http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf.

10.0 LIST OF PREPARERS

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