

**Draft Environmental Impact Statement/Supplemental Environmental Impact Report
Proposed Habitat Conservation Plan and Section 10 Permit
for the
Upper Santa Ana River Wash Plan**

U.S Fish and Wildlife Service
Pacific Southwest Region
Carlsbad Fish and Wildlife Office

SBVWCD SCH No. 2015031022 SEIR

Estimated EIS Preparation Costs:
\$708,000

December 2019



**San Bernardino Valley
Water Conservation District**
Helping Nature Store Our Water

**United States Fish and Wildlife Service and
San Bernardino Valley Water Conservation District**

**Draft Environmental Impact Statement/Supplemental Environmental Impact Report
Proposed Habitat Conservation Plan and Section 10 Permit for the Upper Santa
Ana River Wash Plan**

DOI-USFWS DEIS

SBVWCD SCH No. 2015031022 SEIR

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December 2019



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COVER SHEET

Proposed Action: Proposed Habitat Conservation Plan and Section 10 Permit for the Upper Santa Ana River Wash Plan

Type of Statement: Draft EIS/SEIR (Environmental Impact Statement/Supplemental Impact Report)

Lead agencies: U.S. Fish and Wildlife Service (NEPA)
San Bernardino Valley Water Conservation District (CEQA) **SBVWCD SCH No. 2015031022 SEIR**

Cooperating Agencies: Federal-
U.S. Bureau of Land Management

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Abstract:

This EIS evaluates the environmental consequences of issuing an incidental take permit for the Coastal California gnatcatcher, San Bernardino kangaroo rat, Cactus wren, Santa Ana River woolly-star, and Slender-horned spineflower (collectively the "Covered Species") under the federal Endangered Species Act within County of San Bernardino California, Upper Santa Ana River Wash, where the Proposed Projects by the San Bernardino Valley Water Conservation District (Conservation District) and other local lead agencies are evaluated in this DEIS/SEIR pursuant to NEPA and CEQA. Covered Activities are activities that may result in take of listed species that are mitigated through implementation of the HCP. Covered Activities include construction and/or operation and maintenance of land or facilities associated with the following: Aggregate Mining; Water Conservation; Wells and Water Infrastructure; Transportation; Flood Control; Trails; Habitat Enhancement; and Agriculture.

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TABLE OF CONTENTS

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
INTRODUCTION	ES-1
PURPOSE AND NEED	ES-2
PROPOSED ACTION AND ALTERNATIVES.....	ES-2
PROJECT SCOPING	ES-4
SUMMARY OF IMPACTS	ES-5
1.0 INTRODUCTION.....	1.0-1
1.1 PROJECT SETTING.....	1.0-2
1.1.1 HCP PRESERVE.....	1.0-4
1.1.2 COVERED ACTIVITIES.....	1.0-4
1.1.3 OTHER AREAS WITHIN THE PLAN AREA BOUNDARY.....	1.0-4
1.2 HISTORY OF THE PROPOSED ACTION	1.0-5
1.3 PURPOSE.....	1.0-5
1.4 NEED.....	1.0-5
1.5 CEQA OBJECTIVES.....	1.0-6
1.6 DEIS/SEIR PROCESS	1.0-6
1.7 DECISION FRAMEWORK.....	1.0-9
1.7.1 PUBLIC SCOPING.....	1.0-9
1.7.2 PLANNING ISSUES.....	1.0-9
1.8 RELATIONSHIP TO OTHER POLICIES, PROGRAMS, AND PLANS	1.0-13
1.9 COMPLIANCE WITH RELEVANT FEDERAL AND STATE LAWS.....	1.0-14
2.0 PROPOSED ACTION AND ALTERNATIVES	2.0-1
2.1 INTRODUCTION.....	2.0-1
2.2 ALTERNATIVE A: NO ACTION ALTERNATIVE	2.0-1
2.3 ALTERNATIVE B: PROPOSED ACTION	2.0-2
2.4 ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	2.0-10
2.5 ALTERNATIVES CONSIDERED BUT REJECTED	2.0-14
2.5.1 COMPLETE AVOIDANCE OF TAKE.....	2.0-14
2.5.2 NO ADVERSE IMPACTS TO SLENDER-HORNED SPINEFLOWER.....	2.0-14
3.0 ENVIRONMENTAL SETTING.....	3.1-1
3.1 AIR QUALITY.....	3.1-1
3.1.1 REGULATORY SETTING	3.1-1
3.1.1.1 FEDERAL.....	3.1-1
3.1.2 ENVIRONMENTAL SETTING	3.1-4
3.1.2.1 REGIONAL AIR QUALITY	3.1-4
3.1.2.2 LOCAL AIR QUALITY.....	3.1-4
3.1.2.3 TOXIC AIR CONTAMINANTS	3.1-5
3.1.3 GLOBAL CLIMATE CHANGE	3.1-6
3.1.4 EXISTING EMISSION SOURCES.....	3.1-6
3.2 GEOLOGY AND MINERAL RESOURCES.....	3.2-1

TABLE OF CONTENTS

3.2.1	REGULATORY SETTING	3.2-1
3.2.2	ENVIRONMENTAL SETTING	3.2-1
3.2.2.1	GEOLOGIC SETTING	3.2-1
3.2.2.2	SEISMIC SETTING	3.2-1
3.2.2.3	GEOLOGIC AND SEISMIC HAZARDS	3.2-2
3.2.2.4	MINERAL RESOURCES.....	3.2-5
3.3	HYDROLOGY AND WATER QUALITY	3.3-1
3.3.1	REGULATORY SETTING	3.3-1
3.3.1.1	WATERS OF THE US/STATE.....	3.3-1
3.3.2	ENVIRONMENTAL SETTING	3.3-1
3.3.2.1	SURFACE WATER	3.3-1
3.3.2.2	EXISTING FLOOD CONDITIONS	3.3-2
3.3.2.3	SURFACE WATER QUALITY.....	3.3-3
3.3.2.4	GROUNDWATER QUALITY AND MANAGEMENT.....	3.3-7
3.4	BIOLOGICAL RESOURCES.....	3.4-1
3.4.1	REGULATORY SETTING	3.4-1
3.4.2	VEGETATION COMMUNITIES AND LAND COVER TYPES.....	3.4-1
3.4.3	GENERAL WILDLIFE	3.4-2
3.4.4	CALIFORNIA SPECIAL STATUS PLANT SPECIES	3.4-2
3.4.5	SPECIAL STATUS WILDLIFE SPECIES	3.4-8
3.4.5.1	HCP COVERED SPECIES.....	3.4-15
3.4.6	WILDLIFE CORRIDORS	3.4-15
3.5	LAND USE	3.5-1
3.5.1	REGULATORY SETTING	3.5-1
3.5.2	ENVIRONMENTAL SETTING – EXISTING USE	3.5-1
3.5.2.1	MINING.....	3.5-1
3.5.2.2	FLOOD CONTROL	3.5-1
3.5.2.3	HABITAT CONSERVATION.....	3.5-1
3.5.2.4	WATER CONSERVATION.....	3.5-1
3.5.2.5	AIRPORTS	3.5-2
3.5.2.6	PUBLIC LANDS.....	3.5-2
3.6	SOCIOECONOMICS, POPULATION AND HOUSING, AND ENVIRONMENTAL JUSTICE.....	3.6-1
3.6.1	REGULATORY SETTING	3.6-1
3.6.2	REGIONAL SETTING	3.6-1
3.6.3	ENVIRONMENTAL SETTING	3.6-1
3.6.3.1	DEMOGRAPHIC CHARACTERISTICS.....	3.6-1
3.6.3.2	ECONOMIC CHARACTERISTICS.....	3.6-5
3.7	TRANSPORTATION SYSTEMS AND TRAFFIC.....	3.7-1
3.7.1	REGULATORY SETTING	3.7-1
3.7.2	ENVIRONMENTAL SETTING	3.7-1
3.7.2.1	EXISTING ROADWAYS AND HIGHWAYS.....	3.7-1
3.8	VISUAL RESOURCES.....	3.8-1
3.8.1	REGULATORY SETTING	3.8-1

TABLE OF CONTENTS

3.8.2	REGIONAL SETTING	3.8-1
3.8.3	METHODOLOGY.....	3.8-2
3.8.3.1	VISUAL RESOURCE MANAGEMENT (VRM) METHODOLOGY.....	3.8-2
3.9	CULTURAL RESOURCES	3.9-1
3.9.1	REGULATORY SETTING	3.9-1
3.9.2	ENVIRONMENTAL SETTING	3.9-1
3.9.2.1	LOCAL SEQUENCE	3.9-1
3.9.2.2	PRE-HISTORIC RESOURCES.....	3.9-2
3.9.2.3	HISTORIC RESOURCES.....	3.9-2
3.9.2.4	PALEONTOLOGICAL RESOURCES	3.9-6
3.10	NOISE.....	3.10-1
3.10.1	REGULATORY SETTING	3.10-1
3.10.2	ENVIRONMENTAL SETTING	3.10-1
3.10.2.1	EXISTING NOISE ENVIRONMENT	3.10-1
3.11	HAZARDS	3.11-1
3.11.1	REGULATORY SETTING	3.11-1
3.11.2	ENVIRONMENTAL SETTING	3.11-1
3.11.2.1	HAZARDOUS MATERIALS SITES.....	3.11-1
3.12	RECREATION.....	3.12-1
3.12.1	REGULATORY SETTING	3.12-1
3.12.2	RECREATIONAL SETTING	3.12-1
4.0	COMPARISON OF ALTERNATIVES.....	4.1-1
4.1	AIR QUALITY AND GREENHOUSE GASES	4.1-1
4.1.1	DIRECT AND INDIRECT EFFECTS	4.1-3
4.1.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.1-3
4.1.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.1-6
4.1.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.1-30
4.2	GEOLOGY AND MINERAL RESOURCES	4.2-1
4.2.1	DIRECT AND INDIRECT EFFECTS	4.2-2
4.2.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.2-2
4.2.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.2-4
4.2.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.2-13
4.3	HYDROLOGY AND WATER QUALITY	4.3-1
4.3.1	DIRECT AND INDIRECT EFFECTS	4.3-2
4.3.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.3-2
4.3.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.3-5
4.3.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.3-23

TABLE OF CONTENTS

4.4	BIOLOGICAL RESOURCES.....	4.4-1
4.4.1	DIRECT AND INDIRECT EFFECTS	4.4-1
4.4.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.4-1
4.4.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.4-2
4.4.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.4-28
4.5	LAND USE	4.5-1
4.5.1	DIRECT AND INDIRECT EFFECTS	4.5-1
4.5.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.5-1
4.5.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.5-2
4.5.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.5-6
4.6	SOCIOECONOMICS, POPULATION AND HOUSING, AND ENVIRONMENTAL JUSTICE	4.6-1
4.6.1	DIRECT AND INDIRECT EFFECTS	4.6-2
4.6.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.6-2
4.6.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.6-3
4.6.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.6-5
4.7	TRANSPORTATION SYSTEMS AND TRAFFIC.....	4.7-1
4.7.1	TRAFFIC STUDY	4.7-1
4.7.2	DIRECT AND INDIRECT EFFECTS	4.7-2
4.7.2.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.7-2
4.7.2.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.7-2
4.7.2.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.7-10
4.8	VISUAL RESOURCES.....	4.8-1
4.8.1	DIRECT AND INDIRECT EFFECTS	4.8-1
4.8.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.8-1
4.8.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.8-2
4.8.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.8-10
4.9	CULTURAL RESOURCES.....	4.9-1
4.9.1	DIRECT AND INDIRECT EFFECTS	4.9-1
4.9.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.9-1
4.9.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.9-1
4.9.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.9-6
4.10	NOISE.....	4.10-1
4.10.1	DIRECT AND INDIRECT EFFECTS	4.10-1
4.10.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.10-1
4.10.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.10-2
4.10.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN.....	4.10-9
4.11	HAZARDS	4.11-1
4.11.1	DIRECT AND INDIRECT EFFECTS	4.11-1
4.11.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.11-1
4.11.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.11-2

TABLE OF CONTENTS

4.11.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN	4.11-12
4.12	RECREATION	4.12-1
4.12.1	DIRECT AND INDIRECT EFFECTS	4.12-1
4.12.1.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.12-1
4.12.1.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.12-2
4.12.1.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN	4.12-5
4.13	CUMULATIVE EFFECTS	4.13-1
4.13.1	INTRODUCTION.....	4.13-1
4.13.2	PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS.....	4.13-1
4.13.2.1	CALMAT MINING AND INDUSTRIAL DEVELOPMENT	4.13-2
4.13.2.2	UPPER SANTA ANA RIVER WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLAN.....	4.13-4
4.13.2.3	CITY OF HIGHLAND DEVELOPMENT PROJECTS.....	4.13-5
4.13.2.4	CITY OF REDLANDS DEVELOPMENT PROJECTS	4.13-6
4.13.2.5	UNINCORPORATED SAN BERNARDINO COUNTY	4.13-9
4.13.3	CUMULATIVE EFFECTS BY RESOURCE	4.13-9
4.13.3.1	AIR QUALITY	4.13-9
4.13.3.2	GEOLOGY AND MINERAL RESOURCES	4.13-10
4.13.3.3	HYDROLOGY AND WATER QUALITY.....	4.13-12
4.13.3.4	BIOLOGICAL RESOURCES	4.13-14
4.13.3.5	LAND USE.....	4.13-15
4.13.3.6	SOCIOECONOMICS, POPULATION AND HOUSING, AND ENVIRONMENTAL JUSTICE	4.13-16
4.13.3.7	TRANSPORTATION SYSTEMS AND TRAFFIC	4.13-17
4.13.3.8	VISUAL RESOURCES	4.13-19
4.13.3.9	CULTURAL RESOURCES.....	4.13-19
4.13.3.10	NOISE	4.13-20
4.13.3.11	HAZARDS.....	4.13-22
4.13.3.12	RECREATION	4.13-23
4.13.4	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	4.13-24
4.13.4.1	AIR QUALITY AND GREENHOUSE GASES	4.13-24
4.13.4.2	GEOLOGY AND MINERAL RESOURCES	4.13-25
4.13.4.3	HYDROLOGY AND WATER QUALITY.....	4.13-25
4.13.4.4	BIOLOGICAL ENVIRONMENT	4.13-25
4.13.4.5	LAND USE.....	4.13-26
4.13.4.6	VISUAL RESOURCES	4.13-26
4.13.4.7	CULTURAL RESOURCES.....	4.13-26
4.13.5	SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT.....	4.13-27
4.13.5.1	AIR QUALITY AND GREENHOUSE GASES	4.13-27
4.13.5.2	GEOLOGY AND MINERAL RESOURCES	4.13-27
4.13.5.3	HYDROLOGY AND WATER QUALITY.....	4.13-27

TABLE OF CONTENTS

4.13.5.4	BIOLOGICAL ENVIRONMENT	4.13-27
4.13.5.5	LAND USE.....	4.13-28
4.13.5.6	SOCIOECONOMICS, POPULATION AND HOUSING, AND ENVIRONMENTAL JUSTICE	4.13-28
4.13.5.7	TRANSPORTATION SYSTEMS AND TRAFFIC	4.13-28
4.13.5.8	VISUAL RESOURCES	4.13-29
4.13.5.9	CULTURAL RESOURCES.....	4.13-29
4.13.6	GROWTH INDUCING IMPACTS	4.13-29
4.13.6.1	ALTERNATIVE A: NO ACTION ALTERNATIVE.....	4.13-30
4.13.6.2	ALTERNATIVE B: PROPOSED ACTION/PROJECT	4.13-30
4.13.6.3	ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN	4.13-31
5.0	PUBLIC INVOLVEMENT AND SCOPING	5.0-1
6.0	REFERENCES.....	6.0-1

List of Appendices

APPENDIX A: FIGURES

APPENDIX B: LAWS AND REGULATIONS

APPENDIX C: FURTHER DISCUSSION OF EXISTING CONDITIONS

APPENDIX D: NOTICE OF INTENT, NOTICE OF PREPARATION, COMMENT LETTERS

APPENDIX E: AB 52

List of Figures

FIGURE 1.0-1, REGIONAL CONTEXT AND WASH PLAN HCP BOUNDARY	A-2
FIGURE 1.0-2, USGS TOPOGRAPHIC MAP	A-3
FIGURE 1.0-3, OWNERSHIP WITHIN THE WASH PLAN HCP AREA	A-4
FIGURE 1.0-4, EASEMENTS, RIGHT-OF-WAYS AND ACEC	A-5
FIGURE 1.0-5, OVERVIEW OF WASH PLAN HCP.....	A-6
FIGURE 1.0-6, WASH PLAN HCP SUBCOMPONENTS	A-7
FIGURE 1.0-7, BLM LAND EXCHANGE	A-8
FIGURE 2.0-1, COVERED ACTIVITIES	A-9
FIGURE 2.0-2, WASH PLAN HCP SUBCOMPONENTS	A-10
FIGURE 3.2-1, ALQUIST-PRIOLO FAULT ZONES	A-11
FIGURE 3.2-2, LIQUEFACTION ZONE MAP	A-12
FIGURE 3.2-3, SOILS MAP	A-13
FIGURE 3.2-4, MINERAL RESOURCE MAP	A-14
FIGURE 3.3-1, SURFACE HYDROLOGY	A-15
FIGURE 3.3-2, GROUNDWATER BASIN	A-16
FIGURE 3.4-1, DESIGNATED CRITICAL HABITAT AND CONSERVED AREAS	A-17
FIGURE 3.4-2, VEGETATION COMMUNITIES	A-18
FIGURE 3.4-3, SLENDER-HORNED SPINEFLOWER OCCURRENCES.....	A-19

TABLE OF CONTENTS

FIGURE 3.4-4, SANTA ANA WOOLLY STAR OCCURRENCES.....	A-20
FIGURE 3.4-5, POTENTIALLY SUITABLE CACTUS WREN HABITAT AND OCCURRENCES	A-21
FIGURE 3.4-6, CALIFORNIA GNATCATCHER HABITAT ASSESSMENT AND OCCURRENCES	A-22
FIGURE 3.4-7, SBKR HABITAT ASSESSMENTS AND OCCURRENCES	A-23
FIGURE 3.4-8, PRELIMINARY ASSESSMENT OF WATERS OF THE US	A-24
FIGURE 3.5-1, EXISTING GENERAL PLAN LAND USE	A-25
FIGURE 3.5-2, EXISTING ZONING	A-26
FIGURE 3.6-1, CENSUS TRACTS AND BLOCK GROUPS	A-27
FIGURE 3.7-1, STUDY INTERSECTION LOCATIONS	A-28
FIGURE 3.7-2, BASELINE (2004) PCE PEAK HOUR TRAFFIC VOLUMES	A-29
FIGURE 3.7-3, 2008 BACKGROUND WITHOUT PROJECT PCE PEAK HOUR TRAFFIC VOLUMES	A-30
FIGURE 3.7-4, YEAR 2030 BACKGROUND WITHOUT PROJECT PCE PEAK HOUR TRAFFIC VOLUMES	A-31
FIGURE 3.10-1, SOUND LEVELS AND HUMAN RESPONSE	A-32
FIGURE 3.10-2, NOISE MONITORING LOCATIONS	A-33
FIGURE 4.1-1, NEAREST SENSITIVE RECEPTORS TO PROPOSED MINING SITE	A-34
FIGURE 4.4-1, POTENTIAL IMPACTS ON VEGETATION COMMUNITIES	A-35
FIGURE 4.4-2, POTENTIAL IMPACTS ON SLENDER-HORNED SPINEFLOWER	A-36
FIGURE 4.4-3, POTENTIAL IMPACTS ON SANTA ANA RIVER WOOLLY-STAR	A-37
FIGURE 4.4-4, POTENTIAL IMPACTS ON CACTUS WREN	A-38
FIGURE 4.4-5, POTENTIAL IMPACTS ON CALIFORNIA GNATCATCHER	A-39
FIGURE 4.4-6, POTENTIAL IMPACTS ON SBKR	A-40
FIGURE 4.4-7, PRELIMINARY ASSESSMENT OF WATER OF THE US	A-41
FIGURE 4.7-1, YEAR 2008 BACKGROUND WITH PROJECT PCE PEAK HOUR TRAFFIC VOLUMES	A-42
FIGURE 4.7-2, YEAR 2030 BACKGROUND WITH PROJECT PCE PEAK HOUR TRAFFIC VOLUMES	A-43
FIGURE 4.7-3, YEAR 2030 MITIGATED INTERSECTION GEOMETRICS AND STOP CONTROL	A-44
FIGURE 4.8-1, VIEWPOINT AND SIMULATION LOCATION	A-45
FIGURE 4.8-2, VIEWPOINTS 1 & 2	A-46
FIGURE 4.8-3, VIEWPOINTS 3 & 4	A-47
FIGURE 4.8-4, VIEWPOINTS 5 & 6	A-48
FIGURE 4.8-5, VIEWPOINTS 7 & 8	A-49
FIGURE 4.8-6, SIMULATIONS 5 & 8	A-50
FIGURE 4.8-7, SIMULATION 2	A-51

List of Tables

TABLE ES-1. SUMMARY OF IMPACTS	ES-5
TABLE 1.0-1. OWNERSHIP IN THE PLAN AREA.....	1.0-3
TABLE 1.0-2. PLANNING ISSUES	1.0-11
TABLE 2.0-1. PHASING OF AGGREGATE MINING ACTIVITY COVERED BY HCP.....	2.0-4
TABLE 2.0-2. SUMMARY OF CONSERVED NATURAL COMMUNITIES	2.0-7
TABLE 2.0-3. AVOIDANCE AND MINIMIZATION MEASURES	2.0-9

TABLE OF CONTENTS

TABLE 2.0-4. PHASING OF THE HCP	2.0-10
TABLE 2.0-5. COMPARISON OF COVERED SPECIES CONSERVATION BETWEEN ALTERNATIVES.....	2.0-13
TABLE 2.0-6. COMPARISON OF PERMANENT IMPACTS BETWEEN THE ALTERNATIVES.....	2.0-8
TABLE 3.1-1. NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE PROJECT AREA	3.1-2
TABLE 3.1-2. EXISTING WASH PLAN AREA EMISSIONS.....	3.1-9
TABLE 3.1-3. EXISTING CO CONCENTRATIONS	3.1-11
TABLE 3.3-1. PLAN AREA 100-YEAR FLOWS.....	3.3-3
TABLE 3.3-2. BENEFICIAL USES AND CONSTITUENTS FOR WATER BODIES WITHIN OR DOWNSTREAM OF THE PLAN AREA	3.3-4
TABLE 3.3-3. ABBREVIATION DEFINITIONS FOR BENEFICIAL USES	3.3-5
TABLE 3.3-4. WATER QUALITY OBJECTIVES FOR WATER BODIES WITHIN OR DOWNSTREAM OF THE PLAN AREA	3.3-5
TABLE 3.3-5. EXISTING CEMEX AND ROBERTSON'S OPERATIONS WATER USE	3.3-7
TABLE 3.3-6. WATER QUALITY OBJECTIVES FOR GROUNDWATER BASIN RELATIVE TO THE PLAN AREA	3.3-8
TABLE 3.4-1. VEGETATION AND LAND COVER TYPES IN THE PLAN AREA	3.4-2
TABLE 3.4-2. SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE WASH PLAN HCP AREA	3.4-4
TABLE 3.4-3. SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING WITHIN THE WASH PLAN HCP AREA.....	3.4-9
TABLE 3.6-1. POPULATION AND POPULATION CHANGE	3.6-2
TABLE 3.6-2. RACIAL AND ETHNIC COMPOSITION FOR THE COUNTY AND CITIES	3.6-3
TABLE 3.6-3. RACIAL AND ETHNIC COMPOSITION FOR THE PLAN AREA CENSUS TRACTS	3.6-3
TABLE 3.6-4. DEMOGRAPHIC PROFILE.....	3.6-4
TABLE 3.10-1. AMBIENT NOISE MONITORING RESULTS	3.10-2
TABLE 3.10-2. EXISTING TRAFFIC NOISE LEVELS.....	3.10-3
TABLE 3.10-3. CONSTRUCTION AND O&M EQUIPMENT NOISE LEVELS	3.10-6
TABLE 4.1-1. EXISTING FUGITIVE DUST EMISSIONS FROM CONTINUING MINING ACTIVITY	4.1-4
TABLE 4.1-2. EXISTING CRITERIA POLLUTANT CONCENTRATIONS AT NEAREST RESIDENCES	4.1-4
TABLE 4.1-3. TOTAL EMISSIONS FROM ACCESS ROAD CONSTRUCTION EQUIPMENT PER DAY	4.1-9
TABLE 4.1-4. CHANGES IN REGIONAL EMISSIONS RESULTING FROM THE PROPOSED EXPANSION.....	4.1-12
TABLE 4.1-5. 2030 PROPOSED PROJECT CO CONCENTRATIONS WITHOUT/WITH PROPOSED PROJECT	4.1-15
TABLE 4.1-6. CONSTRUCTION-RELATED HEALTH RISKS	4.1-18
TABLE 4.1-7. LONG-TERM HEALTH RISKS FROM THE PROPOSED PROJECT OPERATIONS	4.1-19
TABLE 4.1-8. EXISTING CRITERIA POLLUTANT CONCENTRATIONS AT NEAREST RESIDENCES	4.1-21
TABLE 4.1-9. PROPOSED CRITERIA POLLUTANT CONCENTRATIONS AT NEAREST RESIDENCES	4.1-21
TABLE 4.1-10. CARBON DIOXIDE EMISSIONS	4.1-26
TABLE 4.1-11. METHANE EMISSIONS.....	4.1-26
TABLE 4.1-12. NITROUS OXIDE EMISSIONS.....	4.1-27
TABLE 4.1-13. SOUTH COAST AQMD DISTRICT – SAN BERNARDINO COUNTY.....	4.1-31
TABLE 4.2-1. PHASING OF MINING ACTIVITY COVERED BY HCP	4.2-13
TABLE 4.4-1. EFFECTS ON AND CONSERVATION OF VEGETATION COMMUNITIES (ACRES).....	4.4-8
TABLE 4.4-2. EFFECTS ON AND CONSERVATION OF COVERED SPECIES	4.4-9

TABLE OF CONTENTS

TABLE 4.4-3. SANTA ANA SUCKER CRITICAL HABITAT IN THE PLAN AREA	4.4-16
TABLE 4.4-4. INCREASES IN COVERED SPECIES CONSERVATION IN 2019 HCP FROM 2008 LAND MANAGEMENT PLAN	4.4-29
TABLE 4.7-5. COMPARISON OF PERMANENT IMPACTS BETWEEN ALTERNATIVES B AND C	4.4-30
TABLE 4.7-1. PROJECT NEW TRIP GENERATION, AGGREGATE TRUCKS	4.7-4
TABLE 4.7-2. YEAR 2030 WITH IMPROVEMENTS INTERSECTION LEVELS OF SERVICE	4.7-8
TABLE 4.13-1. CITY OF HIGHLAND DEVELOPMENT PROJECTS	4.13-6
TABLE B.11-1. SUMMARY OF EPA NOISE LEVELS FOR PUBLIC PROTECTION	B-74
TABLE B.11-2. SUMMARY OF HUMAN EFFECTS IN AREAS EXPOSED TO 55DBA LDN	B-75
TABLE B.12-1. EXAMPLES FOR HAZARDOUS MATERIALS SECTIONS IN 2015 VEHICLE CODE	B-83
TABLE C.4.3-1. NON-COVERED SENSITIVE PLANT SPECIES PRESENT OR WITH POTENTIAL TO OCCUR IN THE PLAN AREA AND AVOIDANCE AND MITIGATION MEASURES	C-15
TABLE C.4.3-2. NON-COVERED SENSITIVE REPTILE AND AMPHIBIAN SPECIES PRESENT OR WITH POTENTIAL TO OCCUR IN THE PLAN AREA AND AVOIDANCE AND MITIGATION MEASURES	C-17
TABLE C.4.3-3. NON-COVERED SENSITIVE MAMMAL SPECIES PRESENT OR WITH POTENTIAL TO OCCUR IN THE PLAN AREA AND AVOIDANCE AND MITIGATION MEASURES	C-19
TABLE C.4.3-4. NON-COVERED SENSITIVE BIRD SPECIES PRESENT OR WITH POTENTIAL TO OCCUR IN THE PLAN AREA AND AVOIDANCE AND MITIGATION MEASURES	C-21
TABLE C.5-1. TRAFFIC VOLUMES ON SR-210 AT FIFTH STREET	C-24
TABLE C.5-2. TRAFFIC LEVEL OF SERVICE (LOS) DEFINITIONS	C-26
TABLE C.5-3. LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED AND SIGNALIZED INTERSECTIONS	C-26
TABLE C.5-4. BACKGROUND WITHOUT PRACTICE INTERSECTION LEVELS OF SERVICE	C-30
TABLE C.5-5. FREEWAY MAINLINE BACKGROUND LEVEL OF SERVICE WITHOUT PROJECT	C-31
TABLE C.5-6. LEVEL OF SERVICE CRITERIA FOR RAMP JUNCTIONS	C-32
TABLE C.7-1. NOISE DESCRIPTORS	C-36
TABLE C.7-2. TYPICAL OFF-ROAD EQUIPMENT AND OTHER CONSTRUCTION NOISE LEVELS	C-39
TABLE C.7-3. 2008 BASELINE TRAFFIC NOISE LEVELS	C-41
TABLE C.7-4. 2008 WITH PROJECT (MINING EXPANSION) TRAFFIC NOISE LEVELS	C-42
TABLE C.7-5. 2030 BASELINE TRAFFIC NOISE LEVELS	C-43
TABLE C.7-6. 2030 WITH PROJECT (MINING EXPANSION) TRAFFIC NOISE LEVELS	C-44
TABLE C.7-7. EXISTING ROBERTSON'S AND CEMEX MINING EQUIPMENT	C-45

TABLE OF CONTENTS

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EXECUTIVE SUMMARY

INTRODUCTION

The U.S. Fish and Wildlife Service (USFWS), is proposing to:

- Issue incidental take permits for 30 years consistent with the Upper Santa Ana River Wash Plan Habitat Conservation Plan (HCP) for the following covered species: the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*, SBKR), Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*, woolly-star), slender-horned spineflower (*Dodecahema leptoceras*, spineflower); the threatened coastal California gnatcatcher (*Polioptila californica californica*, gnatcatcher); and the cactus wren (*Campylorhynchus brunneicapillus*).

This action is the Proposed Action evaluated in this Draft Environmental Impact Statement/ Supplemental Environmental Impact Report (DEIS/SEIR) pursuant to the National Environmental Policy Act (NEPA). The HCP Covered Activities are the Proposed Projects by the San Bernardino Valley Water Conservation District (Conservation District) and other local lead agencies that are evaluated in this DEIS/SEIR pursuant to the California Environmental Quality Act (CEQA). Covered Activities are activities that may result in take of listed species that are mitigated through implementation of the HCP. Covered Activities include construction and/or operation and maintenance of land or facilities associated with the following: Aggregate mining; Water conservation; Wells and water infrastructure; Transportation; Flood Control; Trails; Habitat Enhancement; and Agriculture.

Existing land uses in the HCP Area (Plan Area) consist of water conservation and storage facilities, flood control, habitat conservation, aggregate mining, agriculture, and roadways. Aggregate mining is conducted in the western half of the Plan Area, while the Conservation District maintains water spreading basins in the eastern section. The San Bernardino County Flood Control District (SBCFCD) maintains flood control facilities along the Santa Ana River, Mill Creek, Plunge Creek, and City Creek. Implementation of the HCP would offset the ground-disturbing activities of water conservation, aggregate mining, transportation improvements, recreational activities, and other public services in the Plan Area with conservation of the Covered Species. The Applicant's land supporting these species will be preserved, managed and monitored in perpetuity to serve as mitigation for the effects on covered species. The HCP has been prepared as a part of the Incidental Take Permit (ITP) applications submitted by the Conservation District and SBCFCD to the United States Fish & Wildlife Service (USFWS). A number of other entities (Task Force Members) have participated in the development of the HCP and wish to receive coverage for their planned projects. They include: the City of Redlands (including Municipal Utilities), the City of Highland, San Bernardino Valley Municipal Water District (SBVMWD), East Valley Water District (EVWD), Cemex Construction Materials Pacific, LLC (Cemex), and Robertson's Ready Mix (Robertson's).

Incidental take authorization for covered activities affecting federally listed species is being sought under Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA) and for incidental take of state-listed species (woolly-star and spineflower) sought under Section 2081 of the California Fish and Game Code. Take of federally listed species on BLM-administered land will be authorized through a separate but related consultation between BLM and the USFWS under Section 7 of FESA.

PURPOSE AND NEED

Purpose

The purpose of the USFWS action is to protect and conserve multiple ESA listed species and other native species; to conserve, enhance and restore the habitat and ecosystems upon which these species depend upon; and to ensure the long-term survival of these species, within the Santa Ana River Wash.

Need

USFWS' need for the proposed action is to respond to the Conservation District's application for an ITP under the authority of section 10(a)(1)(B) of the ESA to take certain Covered Species as a result of their proposed aggregate mining, water conservation, wells and water infrastructure, transportation, flood control, trails, habitat enhancement, and agriculture.

The Santa Ana Rivers Wash's biodiversity has diminished as urban growth has caused wildlife habitat to become more fragmented, forming isolated small blocks of land and causing endangered species conflicts. There is an urgent need to preserve remaining biodiversity without halting urban development, aggregate mining, water conservation and other uses. The federally listed endangered SBKR, and threatened gnatcatcher are known to occur within the Plan Area. The USFWS has designated portions of the Plan Area as critical habitat for SBKR.

PROPOSED ACTION AND ALTERNATIVES

Alternative A: No Action Alternative

In the No Action Alternative, USFWS would not issue an incidental take permit. Current mining and water conservation would continue.

Aggregate mining operations would continue producing an average of 4.0 to 4.5 million tons per year (MTPY) of aggregate materials. The total average MTPY is the average production numbers of both Cemex and Robertson's operations within the Plan Area. The existing permitted mining would be mined to completion, but no additional mining permitting is presumed.

The HCP would not be permitted. Individual projects within the Plan Area would have to be addressed independently as they are proposed. Each new project would be analyzed for CEQA and NEPA compliance. Each new project with impacts to state or federally listed species would have to obtain a

Section 10 permit or complete a Section 7 consultation, if a Federal nexus exists, in conformance and compliance with FESA and/or a 2081 permit in compliance with CESA, respectively. Other regulatory permits could be required as well.

Alternative B: Proposed Action/Projects

Under the Proposed Action/Projects alternative USFWS would issue a permit for incidental take authorization consistent with the HCP.

This alternative includes issuance of ITPs by USFWS and CDFW to the Conservation District and the SBCFCD; approval and execution of the Implementing Agreement (IA) for the HCP; and implementation of the HCP by the Permit Applicants. The HCP is intended to establish and implement a program to conserve ecologically important resources in the Plan Area. In addition to the Permittees, the following parties plan to apply to be Participating Entities under the Conservation District ITP: City of Redlands, including the Redlands Municipal Utility District; City of Highland; SBVMWD; EVWD; Cemex; and Robertson's.

While the Conservation District will be one of two ITP holders, the other being SBCFCD, only the Conservation District will have the ability to convey the permit authority to the Participating Entities under Certificates of Inclusion (COI). Each COI will be associated with a single Participating Entity and will address one or a group of Covered Activities.

The permit area for the proposed action is the Plan Area which encompasses approximately 4,892.2 acres. The HCP includes the following Covered Activities: Aggregate Mining; Water Conservation; Wells and Water Infrastructure; Transportation; Flood Control; Trails; Agriculture; and Habitat Management and Monitoring.

Alternative C: 2008 Land Management Plan

Alternative C, the 2008 Land Management Plan¹, was prepared by the Conservation District to describe the comprehensive land management strategy for the Plan Area. The 2008 Land Management Plan outlined a plan for how to coordinate and manage the present and future activities in the Wash and balance the ground-disturbing activities of aggregate mining, recreation, water conservation and other public services with preservation of quality, natural habitat for endangered, threatened, and sensitive species. Under this alternative, the District would prepare an HCP based upon the 2008 Management Plan and submit it to the Service as part of the application for an ITP.

The purpose of the Land Management Plan was to allow the continued use of land and mineral resources while maintaining the biological and hydrological resources of the planning area in an

¹ The full name of the plan is the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan Document.

environmentally sensitive manner. The Land Management Plan was intended to coordinate and manage the present and future activities in the plan area, which are part of multiple jurisdictions, each with different needs. The goal was to balance the ground disturbing activities of aggregate mining, recreational activities, water conservation, and other public services with quality, natural habitat for endangered, threatened, and sensitive species.

The Conservation District prepared an EIR for the 2008 Land Management Plan and it was certified by the Conservation District's Board on November 12, 2008. A Draft EIS was prepared by BLM for the proposed land exchange between the Conservation District and BLM and a Notice of Availability was posted in the Federal Register on July 24, 2009. However, a final EIS for the proposed land exchange was not completed.

PROJECT SCOPING

The public scoping process was used to actively obtain input from the public and interested Federal, State, Tribal, and local agencies regarding the Proposed Action/Projects. Two public scoping meetings were held to solicit public comment as to the scope of the DEIS/SEIR. The first scoping meeting was held in the Conservation District's office in the City of Redlands on March 18, 2015 at 2:00 PM and the second later that same day at 6:00 PM. Opportunity for public comment (both oral and written) was provided (refer to Section 5.1, *Public Involvement and Scoping*, of this DEIS/SEIR for additional information about the public scoping process and comments).

Information received during scoping assisted BLM, USFWS and the Conservation District in identifying potential environmental issues, impacts, project alternatives, and mitigation measures associated with the Proposed Action. The process provided a mechanism for focusing and clarifying the issues to address in the DEIS/SEIR.

Predominant issue areas identified during public scoping included: threatened, endangered, and other special status species; mineral resources; water resources; recreation; visual resources; cultural resources; land management; and traffic management.

SUMMARY OF IMPACTS

Table ES-1. Summary of Impacts

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
Air Quality/ Greenhouse Gas (GHG)	<p>Ongoing operation and maintenance activities carried out in the Plan Area as part of aggregate mining and water conservation would be consistent with local, regional, state and federal air quality plans.</p> <p>No new or increased adverse health risk or greenhouse gas emissions generated by aggregate mining vehicle and equipment exhaust.</p> <p>Existing on-site and off-site emissions from ongoing aggregate mining operations exceed SCAQMD Operations thresholds for NOX, PM10 and PM 2.5 and would continue to violate air quality standards and contribute to an existing air quality violation, a significant and unavoidable impact.</p> <p>Ongoing aggregate mining operations result in concentrations of PM10 above state standards and PM2.5 above state and federal standards at the nearest sensitive receptors, also a significant and unavoidable impact.</p>	<p>Total short-term construction emissions that would result from grading activities and from equipment exhaust for the mining haul road and other proposed small projects do not exceed regional daily SCAQMD thresholds.</p> <p>The emissions of NOX, PM10, and PM2.5 from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS and thus, long-term regional impacts remain significant and unavoidable.</p> <p>Projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable. Therefore, as operational emissions of NOX, PM10, and PM2.5 would exceed the SCAQMD thresholds, even after implementation of mitigation measures, would have a cumulatively considerable net increase in these emissions. Impacts are significant and unavoidable.</p> <p>The Proposed Action/Projects would generate a substantial amount of greenhouse gas emissions annually, that may have a significant impact on the environment. Adverse impacts from the Proposed Action/ Projects related to greenhouse gas emissions are significant and unavoidable. However, the Proposed Action/Projects would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and potential impacts are less than significant.</p>	<p>Total short-term construction emissions that would result from grading activities and from equipment exhaust for the mining haul road and other proposed small projects do not exceed regional daily SCAQMD thresholds.</p> <p>The emissions of NOX, PM10, and PM2.5 from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS and thus, long-term regional impacts remain significant and unavoidable.</p> <p>Projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable. Therefore, as operational emissions of NOX, PM10, and PM2.5 would exceed the SCAQMD thresholds, even after implementation of mitigation measures, would have a cumulatively considerable net increase in these emissions. Impacts are significant and unavoidable.</p> <p>The Proposed Action/Projects would generate a substantial amount of greenhouse gas emissions annually, that may have a significant impact on the environment. Adverse impacts from the Proposed Action/ Projects related to greenhouse gas emissions are significant and unavoidable. However, the Proposed Action/Projects would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and potential impacts are less than significant.</p>
Geology and Mineral Resources	<p>No significant adverse impacts associated with geologic hazards or loss of locally available aggregate resources.</p>	<p>No significant adverse impacts related to geologic hazards including risk of loss, injury or death.</p> <p>No significant adverse impacts related to the loss of locally available aggregate resources.</p>	<p>No significant adverse impacts related to geologic hazards including risk of loss, injury or death.</p> <p>No significant adverse impacts related to the loss of locally available aggregate resources.</p>
Hydrology and Water Quality	<p>Although continued operation and maintenance activities carried out in the Plan Area as a part of aggregate mining and water conservation could result in adverse effects to surface and groundwater quality, implementation of BMPs and compliance with the General Construction Activity and Industrial Stormwater permits significantly reduced that potential. Alternative A is not anticipated to substantially affect hydrology and water quality within the Plan Area or downstream receiving water bodies.</p>	<p>There would be less than significant impacts related to water quality, groundwater supplies, drainage patterns and drainage systems, and flooding and other water related hazards within the Plan Area from the Proposed Action/Projects.</p>	<p>There would be less than significant impacts related to water quality, groundwater supplies, drainage patterns and drainage systems, and flooding and other water related hazards within the Plan Area from the 2008 Land Management Plan.</p>

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
Biological Resources	Under this alternative the HCP would not be implemented. There would be no new permanent or temporary significant impacts to Biological Resources, including Covered Species or other special status species.	<p>With implementation of the HCP conservation program, including the conservation and management of 1,529.8 acres of habitat in the Plan Area, impacts to Riversidean Alluvial Fan Sage Scrub (RAFSS) will be reduced to less than significant levels. Additional mitigation is not required.</p> <p>With implementation of the HCP conservation program impacts to slender-horned spineflower, Santa Ana River woolly-star, cactus wren, California gnatcatcher, and San Bernardino kangaroo rat are sufficiently compensated and impacts are reduced to less than significant levels. Additional mitigation is not required.</p> <p>With the implementation of the proposed conservation measures and avoidance and minimization measures impacts to special status plants, reptiles, amphibians, birds, and small mammals, Santa Ana sucker, American badger, and migratory birds would be less than significant. Additional mitigation is not required.</p> <p>Habitat linkages within the Plan Area and between it and other areas would be conserved and the linkage between the Santa Ana River and Plunge Creek would be improved through the construction of a crossing over the recharge basins and the control of non-native plants to enhance the habitat. Based on these conservation measures, impacts to wildlife movement and connectivity would be less than significant. Additional mitigation is not required.</p> <p>Impacts to jurisdictional areas would be less than significant with mitigation. Additional mitigation is not required.</p>	<p>Implementation of the Alternative C would not provide adequate conservation to address impacts to RAFSS from implementation of the plan. Therefore, impacts would be significant and unavoidable.</p> <p>Implementation of Alternative C would not provide adequate conservation to address the impacts to slender-horned spineflower, Santa Ana River woolly-star, cactus wren, California gnatcatcher, and San Bernardino kangaroo rat from implementation of the plan. Therefore, impacts would be significant and unavoidable.</p> <p>Implementation of Alternative C would not provide adequate conservation to address impacts to special status plants, amphibians, reptiles, birds, and small mammal species, American Badger, and migratory birds from implementation of the plan. Therefore, impacts would be significant and unavoidable.</p> <p>Alternative C would largely avoid Santa Ana Sucker critical habitat and substantial areas of upland habitat would be set aside for conservation, providing a source of coarse sediments. Although Alternative C would result in the loss of foraging habitat for the prairie falcon, this loss would be offset by the conservation of 1,347 acres that would provide substantial foraging opportunities. Therefore, with implementation of the proposed conservation measures, impacts to Santa Ana sucker and prairie falcon would be less than significant. Additional mitigation would not be required.</p> <p>Habitat linkages within the Plan Area and between it and other areas would be conserved. Impacts to wildlife movement and connectivity would be less than significant. Additional mitigation is not required.</p> <p>Impacts to jurisdictional areas would be less than significant with mitigation. Additional mitigation is not required.</p>
Land Use	No significant land use impacts.	The Proposed Action is consistent with the applicable land use plans, and it would not result in adverse impacts associated with land use. Rather, the Proposed Action would result in beneficial impacts associated with land use in the Plan Area as compared to the existing condition.	Alternative C is consistent with the applicable land use plans in the area, and they would not result in adverse impacts associated with land use. Rather, Alternative C would result in beneficial impacts associated with land use as compared to the existing condition.
Socioeconomics, Population and Housing, and Environmental Justice	As the aggregate resources are depleted under the current permits and leases, adverse effects from the loss of approximately 175 Robertson’s jobs in the next 1-2 years and 10-12 Cemex jobs in the next 10-15 years would result. However, this loss is not expected to have a significant impact on the local economy, and therefore potential impacts are less than significant. No environmental justice impacts would occur with this alternative.	This alternative would not have an adverse impact, rather it would have a beneficial impact related to socioeconomic conditions in the region and would not result in significant adverse impacts related to environmental justice.	This alternative would not have an adverse impact, rather it would have a beneficial impact related to socioeconomic conditions in the region and would not result in significant adverse impacts related to environmental justice.
Transportation Systems and Traffic	The No Action Alternative would not result in significant adverse impacts associated with transportations systems and traffic.	With implementation of Mitigation Measures MM TRAFFIC-1 through MM TRAFFIC-4 impacts to local City and freeway ramp intersections from expanded aggregate mining operations are reduced to less than significant levels. Impacts to freeway segments, SR-210 (SR-30) northbound and southbound 5 th Street on- and off-ramp influence areas, are significant and unavoidable as no feasible mitigation exists. The Proposed Projects would not conflict with plans, ordinances or policies related to the performance of the circulation system or programs regarding public transit, bicycle or pedestrian facilities. The Proposed Projects would not result in a change in air traffic patterns or safety risks, an increase in hazards, or result in inadequate emergency access. Potential impacts associated with these topics are less than significant.	With implementation of Mitigation Measures MM TRAFFIC-1 through MM TRAFFIC-4 impacts to local City and freeway ramp intersections from expanded aggregate mining operations are reduced to less than significant levels. Impacts to freeway segments, SR-210 (SR-30) northbound and southbound 5 th Street on- and off-ramp influence areas, are significant and unavoidable as no feasible mitigation exists. Potential impacts associated with safety risks, hazards, emergency access, and conflict with plans, policies, or ordinances related to the circulation system are less than significant.

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
Visual Resources	There would be no new permanent or temporary impacts to scenic vistas or to the existing visual character within the Wash Plan from the No Action Alternative. There would be no new sources of light or glare generated from the No Action Alternative.	Impacts to visual resources in the Plan Area from the Proposed Action/Projects are less than significant, with the exception of aggregate mining expansion. The creation of the Preserve would protect visual resources in the western portion of the Plan Area by preserving a more cohesive viewshed with intact natural landscape and vegetation. However, during the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the visual character and quality of the Plan Area will be substantially and adversely affected, even after implementation of these mitigation measures.	Projects on BLM acquired lands would be moderate and are not anticipated to dominate the landscape. The objective of VRM Class III management to partially retain the existing character of the landscape would be retained on BLM acquired lands. Impacts to visual resources in the Plan Area from 2008 Land Management Plan projects are less than significant, with the exception of aggregate mining expansion. Implementation of the land exchange and the Preserve would result in a positive impact on visual resources in the western portion of the Plan Area by preserving a more cohesive view shed with intact natural landscape and vegetation. However, during the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the visual character and quality of the Plan Area will be substantially and adversely affected, even after implementation of these mitigation measures. Adverse effects from mining on visual resources would be significant and unavoidable.
Cultural Resources	The No Action Alternative would not result in significant adverse impacts associated with cultural resources.	The Proposed Action/Projects could result in significant adverse impacts on P-36-5526 , the historic-period orchard complex, that was determined eligible for National Register listing in 1991 and is recommended a “historic property” under Section 106 of the NHPA. The Proposed Action/Projects are anticipated to result in significant adverse impacts on P-36-6062 , a multiple-episode deposit of historic-period debris, that is recommended potentially eligible for National Register listing. Implementation of Mitigation Measure CR-1 would reduce potential impacts to these cultural resources to less than significant levels.	The 2008 Land Management Plan alternative could result in significant adverse impacts on P-36-5526 , the historic-period orchard complex that was determined eligible for National Register listing in 1991 and is recommended a “historic property” under Section 106 of the NHPA. The 2008 Land Management Alternative is anticipated to result in significant adverse impacts on P-36-6062 , a multiple-episode deposit of historic-period debris that is recommended potentially eligible for National Register listing. Implementation of Mitigation Measure CR-1 would reduce potential impacts to these cultural resources to less than significant levels.
Noise	Under the No Action Alternative, mining operations would still occur, and the noise and vibrations generated from mining activities and traffic would continue. These noise levels currently range from 45.4 dBA to 69.2 dBA and are below established local and regional standards.	<p>The Proposed Action/Projects would not expose people working in the Plan Area to excessive noise levels from a private airstrip or public airport.</p> <p>Construction noise and groundborne vibration from aggregate mining would not exceed standards at nearby sensitive receptors.</p> <p>Water conservation, wells and water infrastructure, transportation, and flood control construction projects are not anticipated to result in substantial increases in ambient noise or significant groundborne vibration and implementation of Mitigation Measure NOI-1 would ensure potential impacts from construction on sensitive receptors are less than significant.</p> <p>Aggregate mining operations would not generate noise from mobile or stationary sources that would exceed standards and impacts on sensitive receptors are less than significant.</p> <p>Operation and maintenance of water conservation, water infrastructure, roads, and flood control facilities, and trails, habitat, agriculture would not generate noise from mobile or stationary sources that would exceed standards and potential impacts on sensitive receptors are less than significant.</p>	<p>The 2008 Land Management Plan would not expose people working in the Plan Area to excessive noise levels from a private airstrip or public airport.</p> <p>Construction noise and groundborne vibration from aggregate mining would not exceed standards at nearby sensitive receptors.</p> <p>Water conservation, wells and water infrastructure, transportation, and flood control construction projects and maintenance of these facilities are not anticipated to result in substantial increases in ambient noise or significant groundborne vibration and implementation of Mitigation Measure NOI-1 would ensure potential impacts from construction on sensitive receptors are less than significant.</p> <p>Aggregate mining operations would not generate noise from mobile or stationary sources that would exceed standards and impacts on sensitive receptors are less than significant.</p> <p>Operation and maintenance of water conservation, water infrastructure, roads, and flood control facilities, and trails, habitat, agriculture would not generate noise from mobile or stationary sources that would exceed standards and potential impacts on sensitive receptors are less than significant.</p>
Hazards	There would be no effects related to hazards or use or spill of hazardous materials, as no projects would be implemented.	Construction and maintenance activities for covered activities would involve temporary use of potentially hazardous materials (such as fuel and lubricants used with construction equipment), however, the amount of hazardous materials would be considered relatively small and use in the Plan Area would be temporary. These activities are required to and would follow all applicable Federal, State, and local regulations related to the use and handling of hazardous materials. Construction and maintenance activities are not expected to increase the potential for aviation hazards or wildlife fire hazards. Alternative B would not result in substantial adverse effects associated with hazards.	Construction and maintenance activities for covered activities would involve temporary use of potentially hazardous materials (such as fuel and lubricants used with construction equipment), however, the amount of hazardous materials would be considered relatively small and use in the Plan Area would be temporary. These activities are required to and would follow all applicable Federal, State, and local regulations related to the use and handling of hazardous materials. Construction and maintenance activities are not expected to increase the potential for aviation hazards or wildlife fire hazards. Alternative C would not result in substantial adverse effects associated with hazards.

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
Recreation	There would be no new effects from recreational uses because no trails or other recreational facilities would be developed.	Implementation of Alternative B, Proposed Action/Projects would be expected to result in a positive benefit by providing the public with an opportunity to experience the Preserve including visual, wildlife and plant resources. Significant increases in the use of existing parks and other recreational facilities such that physical deterioration of the facilities would occur or be accelerated will not occur; the expansion of existing facilities will not be required; and physical effects to the environment from the designation and construction of new trails would be minor and the impacts will be mitigated.	Implementation of the 2008 Land Management Plan would result in a positive benefit by providing addition recreational trails open to the public in the Plan Area that also provide the ability to view and enjoy existing natural open space and the sensitive plants and wildlife they support. However, because the SART is excluded from the 2008 Land Management Plan, this Alternative would not provide as much of a benefit to recreation as Alternative B, Proposed Action/Projects. Significant increases in the use of existing parks and other recreational facilities such that physical deterioration of the facilities would occur or be accelerated will not occur; the expansion of existing facilities will not be required; and physical effects to the environment from the designation and construction of new trails will be minor and the impacts will be mitigated.
Cumulative	<u>Air Quality/ GHG</u> No Action Alternative would continue to result in significant and unavoidable cumulative impacts on air quality.	<u>Air Quality/ GHG</u> The Proposed Action/Projects would result in significant and unavoidable cumulative impacts on air quality and GHG emissions and a Statement of Overriding Considerations would be required under CEQA.	<u>Air Quality/ GHG</u> Alternative C would result in significant and unavoidable cumulative impacts on air quality and GHG emissions and a Statement of Overriding Considerations would be required under CEQA.
	<u>Geology and Mineral Resources</u> No cumulative impacts related to geologic hazards. Impacts from the No Action Alternative on the availability of mineral aggregate is not cumulatively considerable.	<u>Geology and Mineral Resources</u> The Proposed Action/Projects would lead to an additional 401.5 acres of aggregate mining activities to occur and an increase in aggregate materials produced from the Plan Area. Therefore, there would be no loss of valuable statewide or regional mineral resources, but an increase in availability. The effects from Alternative B are not expected to result in seismic events, landslides, or other geologic hazards, or loss of availability of valuable mineral resources and therefore, are not cumulatively considerable.	<u>Geology and Mineral Resources</u> The effects from Alternative B are not expected to result in seismic events, landslides, or other geologic hazards, or loss of availability of valuable mineral resources and therefore, are not cumulatively considerable.
	<u>Hydrology and Water Quality</u> There would be no cumulative impacts related to water quality or hydrology.	<u>Hydrology and Water Quality</u> With compliance with state and federal regulations, including the General Construction Activity Permit and Water Quality Management Plans, the Proposed Action's/Project's contribution to cumulative hydrology and water quality impacts are less than significant.	<u>Hydrology and Water Quality</u> As with Alternative B, proposed Projects under Alternative C would also be required to comply with the same state and federal regulations. With compliance with state and federal regulations, including the General Construction Activity Permit and Water Quality Management Plans, the 2008 Land Management Plan's contribution to cumulative hydrology and water quality impacts are less than significant.
	<u>Biological Resources</u> The level of conservation would be reduced under the No Action Alternative as it would not be under one conservation strategy. With Alternative A the HCP would not be permitted and individual projects within the Plan Area would have to be addressed independently as they are proposed and mitigated for direct and indirect impacts on a project-by-project basis. The lack of a comprehensive plan would result in piecemeal approach to both development and conservation, greatly reducing the potential for a coordinated conservation strategy in the Plan Area. This could result in the fragmentation of conserved habitat and inconsistent and inefficient species and habitat management and monitoring. Individual projects would have limited or no ability to mitigate cumulative effects on the resources because the HCP conservation strategy would not be in place to coordinate mitigation and conservation throughout the Plan Area. Accordingly, the cumulative impacts on biological resources would remain significant. The cumulative affects to sensitive species and loss of RAFSS habitat under the No Action Alternative is significant and unavoidable.	<u>Biological Resources</u> Considering the limits on take set by the HCP, the regional scale of the conservation strategy designed to address cumulative impacts on covered species and natural communities, the long term management and monitoring of conservation lands and the HCP conservation strategy's contribution to species recovery, Alternative B would not result in cumulatively considerable contribution to cumulative effects on the affected biological resources. Alternative B provides a robust conservation plan for SBKR which is anticipated to mitigate the direct and indirect effects of Alternative B to less than significant.	<u>Biological Resources</u> Implementation of the Alternative C would not provide adequate conservation to address the cumulative impacts to RAFSS from implementation of the plan. Therefore, implementation of Alternative C would contribute adverse impacts to covered and other special status species and their habitats, including RAFSS, that are cumulatively considerable and significant.

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
	<u>Land Use</u> Impacts related to land use from the No Action Alternative are less than significant. There would be no cumulative impacts related to land use.	<u>Land Use</u> The Proposed Action/Projects would not result in adverse impacts associated with land use. Rather, the Proposed Action/Projects would result in beneficial impacts associated with land use in the Plan Area as compared to the existing condition. There would be no cumulative impacts related to land use from Alternative B.	<u>Land Use</u> The 2008 Land Management Plan would not result in adverse impacts associated with land use. Rather, the 2008 Land Management Plan would result in beneficial impacts associated with land use in the Plan Area as compared to the existing condition and there would be no cumulative impacts related to land use from Alternative C.
	<u>Socioeconomics, Population and Housing, and Environmental Justice</u> There are no impacts related to socioeconomics, environmental justice, or population and housing that are cumulatively considerable.	<u>Socioeconomics, Population and Housing, and Environmental Justice</u> As the Proposed Action/Projects would not result in adverse impacts related to socioeconomics, population and housing, or environmental justice it will not result in a cumulatively considerable contribution to impacts associated with these topics.	<u>Socioeconomics, Population and Housing, and Environmental Justice</u> As the 2008 Land Management Plan would not result in adverse impacts related to socioeconomics, population and housing, or environmental justice it would not result in a cumulatively considerable contribution to impacts associated with these topics.
	<u>Transportation Systems and Traffic</u> Under Alternative A, no expanded mining would occur, and no other projects would be implemented. There would be no cumulative impact.	<u>Transportation Systems and Traffic</u> Cumulatively, the aggregate mining activities would contribute to impacts that would require mitigation. As stated earlier in this section, cumulative impacts are evaluated as a part of the Proposed Action/Projects' impacts for traffic. As such any cumulative impacts would require the implementation of the mitigation measures recommended for the Proposed Action/Projects. The significant impacts are forecast to occur with or without implementation of the project and are therefore cumulative in nature. Because several of the improvements to the affected freeway ramp intersections would be included in yet-to-be determined improvement projects sponsored by Caltrans or SANBAG, the Project proponent has no control over the specific timing of when the improvements would be constructed. As a result, these cumulative impacts remain significant and unavoidable until such time as the improvements are constructed.	<u>Transportation Systems and Traffic</u> Although the traffic impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Therefore, potential cumulative impacts from implementation of Alternative C would be consistent with the analysis and conclusions outlined above for Alternative B.
	<u>Visual Resources</u> Under Alternative A no construction for new Projects would occur, so there would be no cumulative impacts related to visual resources.	<u>Visual Resources</u> Visual impacts from Alternative B range from beneficial to moderate and they are considered significant for mining in terms of the visual and scenic character of portions of the Plan Area; however, they are not anticipated to dominate the landscape. Therefore, the impacts from the Proposed Action/Projects are not considered cumulatively considerable.	<u>Visual Resources</u> Visual impacts from Alternative C range from beneficial to moderate and they are considered significant for mining in terms of the visual and scenic character of portions of the Plan Area; however, they are not anticipated to dominate the landscape. Therefore, the impacts from the Proposed Action/Projects are not considered cumulatively considerable.
	<u>Cultural Resources</u> Under Alternative A no new projects would be constructed. Therefore, there would not be a cumulatively considerable impact to cultural resources.	<u>Cultural Resources</u> With implementation of Mitigation Measure CR-1 potential adverse impacts to resources P-36-5526 and P-36-6062 would be reduced to less than significant levels. Other historic-period resources documented within the APE, including P-36-6068, P-36-6072, P-36-6074, and P-36-6078, are located in areas that would not be impacted by Covered Activities/projects and would be left in place. Therefore, Alternative B would not result in cumulatively considerable impacts to cultural resources.	<u>Cultural Resources</u> With implementation of Mitigation Measure CR-1 potential adverse impacts to resources P-36-5526 and P-36-6062 would be reduced to less than significant levels. Other historic-period resources documented within the APE, including P-36-6068, P-36-6072, P-36-6074, and P-36-6078, are located in areas that would not be impacted by Covered Activities/projects and would be left in place. Therefore, Alternative C would not result in cumulatively considerable impacts to cultural resources.
	<u>Noise</u> Under Alternative A, no expanded mining would occur, and no other projects would be implemented. There would be no cumulative noise impact.	<u>Noise</u> The Proposed Action/Projects in conjunction with other projects would not have a cumulative impact on the exposure of people to noise from a private airstrip or public airport, from noise or groundborne vibration on nearby sensitive receptors, or noise from mobile or stationary sources that would be cumulatively considerable.	<u>Noise</u> The 2008 Land Management Plan in conjunction with other projects would not have a cumulative impact on the exposure of people to noise from a private airstrip or public airport, from noise or groundborne vibration on nearby sensitive receptors, or noise from mobile or stationary sources that would be cumulatively considerable.
	<u>Hazards</u> Alternative A would not result in adverse impacts related to hazards they would not result in a cumulatively considerable contribution to impacts associated with this topic.	<u>Hazards</u> As the Proposed Action/Projects would not result in adverse impacts related to hazards they would not result in a cumulatively considerable contribution of impacts associated with hazards.	<u>Hazards</u> Alternative C would not result in a cumulatively considerable contribution of impacts associated with hazards.
	<u>Recreation</u> Under Alternative A no new trails or other recreational facilities would be developed. There would be no cumulative impacts.	<u>Recreation</u> Implementation of Alternative B would result in a positive benefit to recreation by providing additional recreational trails open to the public and an opportunity to enjoy and appreciate the natural area around them. The anticipated impacts from the trails planned under Alternative B do not constitute and cumulatively considerable incremental contribution to the impact of recreational facilities on the environment. The development of trails within the Plan Area, in conjunction with other projects in the area, are not significant.	<u>Recreation</u> Implementation of Alternative C would result in a positive benefit to recreation by providing additional recreational trails open to the public and an opportunity to enjoy and appreciate the natural area around them.

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
Irreversible and Irretrievable Commitment of Resources (CEQA required analysis and prepared for “proposed projects” under Alternative B only)	<p><u>Air Quality</u> As operational emissions of NOX, PM10, and PM2.5 would exceed the SCAQMD thresholds, even after implementation of mitigation measures, and would have a cumulatively considerable net increase in these emissions and potential for irreversible and/or irretrievable commitments of good air quality.</p> <p><u>Geology and Mineral Resources</u> The expanded mining activities would continue to extract aggregate from the Plan Area. This aggregate is used for construction throughout the region and is not retrievable. Although the natural alluvial processes of the Santa Ana River would result in the transport of aggregate resources from upstream areas into the Plan Area the time it would take to replenish the aggregate being removed is so much greater than the rate of extraction that the expanded mining activities are also considered an irreversible commitment of resources.</p> <p><u>Hydrology and Water Quality</u> Although implementation of the Mining and Reclamation Plans will help restore some of the riverine hydraulic function and values of quarried areas, the mining activities are considered an irreversible commitment of resources as the riverine hydraulic functions and values for habitat are lost for an extremely long period of time. Filling the quarries with aggregate through the natural hydrology of the alluvial process would be required to fully restore the riverine hydraulic functions and values of the quarried areas, which could take hundreds of years. The conversion of areas from natural or disturbed-natural to developed from construction of wells, recharge basins, haul route and roadway expansions) is considered an irretrievable and irreversible commitment of natural hydraulic functions.</p> <p><u>Biological Resources</u> The modification to the Santa Ana River, Plunge Creek and City Creek washes, floodplains and associated habitats from expansion of mining activities are considered an irretrievable commitment of resources as they are lost for a short period of time. The riverine areas in the Plan Area support habitat for federally listed threatened or endangered species. Although implementation of the Mining and Reclamation Plans will help restore some of the riverine function and values of quarried areas, the mining activities are considered an irreversible commitment of resources as the riverine functions and values are lost for an extremely long period of time. Filling the quarries with aggregate through the natural alluvial process would be required to fully restore the riverine functions and values of the quarried areas, which could take hundreds of years.</p> <p>Although the construction activities (wells, new recharge basins, mining haul route, roadway expansions) will not affect large areas they will result in the permanent alteration by removal of any vegetation, compaction of the soils or installation of pavement, concrete and/or rip-rap. The conversion of these areas from natural or disturbed-natural to developed is considered an irretrievable and irreversible commitment of habitat.</p> <p><u>Visual Resources</u> The expansion of mining activities and construction of various projects (wells, new haul road, expanded roadways, recharge basins) in the Plan Area would primarily affect near views, which are considered to be points of view that are observed at close range. Prime views, those that are considered to be scenic views of the mountains, would not be affected by the proposed covered activities. As the covered activities are consistent with the existing uses and facilities located in the Plan Area they would not result in an irreversible or irretrievable commitment of visual resources.</p> <p><u>Cultural Resources</u> Proposed Projects such as aggregate mining, new recharge basins, well and pipeline infrastructure, would include grading or excavation. Thus, the vertical APE includes all subsurface areas where archaeological deposits could be affected. Implemented mitigation measures would greatly reduce the potential for irreversible and/or irretrievable commitments of resources.</p>		

Environmental Element	Alternative A: No Action	Alternative B: Proposed Action/Projects	Alternative C: 2008 Land Management Plan
Short-term Use Versus Long-Term Productivity CEQA required analysis and prepared for “proposed projects” under Alternative B only)	<p><u>Air Quality and Greenhouse Gases</u> The emissions of NOX, PM10, and PM2.5 from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS. While there are control measures regulating emissions of heavy-duty vehicles, there is no way to quantify the reduction of these emissions. Long-term regional impacts remain significant and unavoidable.</p> <p><u>Geology and Mineral Resources</u> The mining activity contributes to the local economy as a source of employment and sales tax. Although the natural alluvial processes of the Santa Ana River would result in the transport of aggregate resources from upstream areas into the Wash Plan Area it would take a very long time, anticipated to be hundreds of years, to replenish the aggregate being removed. Therefore, implementation of the Proposed Action would allow for the short-term extraction of aggregate for use in the region which will reduce the amount of this resource locally available in the long-term.</p> <p><u>Hydrology and Water Quality</u> Construction and grading activities would be short-term and considered less than significant impacts with the required implementation of mitigation measures. Mining operations could have a potential for long-term impacts, but those impacts would be less than significant due to mandated compliance with mining permits and other applicable regulations. As identified in the Cemex and Robertson’s Mining and Reclamation Plans, mining would be restricted to no less than 20 feet above ground water, with no operations allowed in standing groundwater. Existing monitoring wells would be used to monitor ground water levels and to determine the depth to groundwater. Overall, long-term hydrology and water quality would have beneficial productivity of the environment as additional water resources facilities, such as groundwater basins and wells, would be expanded and improved for future and long-term benefits.</p> <p><u>Biological Resources</u> The purpose of the HCP is for conservation of species and habitat in the Plan Area. The HCP will provide the conservation of federally- and state-listed Santa Ana River woolly-star, slender-horned spineflower, and the federally-listed California gnatcatcher and San Bernardino kangaroo rat, as well as the State Species of Special Concern-listed coastal cactus wren. The federally-listed endangered SBKR and California gnatcatcher are known to occur within the Wash Plan Area and the Service has designated portions of the Wash Plan Area as critical habitat for SBKR.</p> <p>Southern California’s biodiversity has diminished as urban growth has caused wildlife habitat to become more fragmented, forming isolated small blocks of land and causing endangered species conflicts. Although the covered activities will result in short-term take of federally- and state-listed plant and wildlife species it will significantly contribute to the long-term productivity of the environment to continue to support these species. Implementation of the Plan helps accomplish the urgent need to preserve remaining biodiversity in Southern California without halting aggregate mining, water conservation and other uses.</p> <p><u>Land Use</u> Land use within the Wash Plan Area combines a diverse arrangement of projects and land uses, of which predominantly involves new development of aggregate mining and new habitat conservation of federally- and state-listed species-related habitats. Thus, long-term productivity of the land uses within the Wash Plan Area is considered a best-case scenario to balance the uses and demands of highly valuable aggregate land, such as habitat conservation, aggregate mining, water conservation, flood control, recreation, transportation and other uses. Long-term productivity of the environment would be deemed most beneficial.</p> <p><u>Socioeconomics, Population and Housing, and Environmental Justice</u> Short-term construction and grading activities could result in employment that would benefit the local labor supply, such as with construction equipment and materials suppliers and service businesses that directly support construction workers. This increase in employment and economic gains, although beneficial, would not be of great enough magnitude to substantially alter existing population patterns, housing demand, or subsequently, socioeconomic conditions within or surrounding the Plan Area. However, long-term productivity of the environment would translate to an overall beneficial socioeconomic impact.</p> <p><u>Transportation Systems and Traffic</u> While not significant, short-term construction and grading activities would result in some increase in traffic that would be temporary in nature. With mitigation measures implemented, the long-term operations and maintenance activities would have a minor benefit for the productivity of the local environment. However, mining and operations would result in potentially significant long-term impacts to freeway segments that traverse the region in year 2030. Because improvements to the freeway segments are under the authority of Caltrans, there is no mechanism for development Project proponents to pay fees or make fair-share contributions toward improving mainline freeway lanes. Long-term productivity related to transportation is minorly beneficial to the local systems, but potentially adverse to freeway segments for the region.</p> <p><u>Visual Resources</u> Short-term construction and grading activities would have temporary disruptions of visual quality within the Wash Plan Area. While not significant, mining activities would have the greatest disruptions and impacts to visual resources. Overall, long-term productivity of visual resources ranges from beneficial to moderate and are considered significant for mining in terms of the visual and scenic character of portions of the Plan Area; however, they are not anticipated to dominate the landscape.</p> <p><u>Cultural Resources</u> Short-term construction and grading activities could have potential adverse or beneficial impacts related to cultural resources as these resources could be uncovered during construction and grading activities. Cultural resources being uncovered during these activities could cause damage to the resource but could also educate people about the cultural resources in the area. Long-term productivity of cultural resources for the area is difficult to estimate. It could be beneficial and/or could be adverse but would not be significantly adverse.</p>		
Growth Inducing Impacts	<p>The No Action Alternative does not include the construction of housing that would directly increase the population in the Plan Area or surrounding areas.</p> <p>The No Action Alternative is not anticipated to foster substantial economic or residential growth in the region; potential impacts from growth inducement are less than significant. No further analysis is included in this DEIS/SEIR.</p>	<p>The Proposed Action/Projects do not include the construction of housing that would directly increase the population in the Plan Area or surrounding areas.</p> <p>The expanded mining is not expected to have a substantial increase in jobs that would foster economic growth and indirectly foster population growth. The Plan Area is located in a region of southern California with a poor jobs-to-housing ratio. Thus, it is anticipated that any new jobs generated by the Proposed Action/ Projects would likely be filled by existing residents in the region.</p> <p>The Proposed Action/Projects are not anticipated to foster substantial economic or residential growth in the region; potential impacts from growth inducement are less than significant. No further analysis is included in this DEIS/SEIR.</p>	<p>The 2008 Land Management Plan alternative does not include the construction of housing that would directly increase the population in the Plan Area or surrounding areas.</p> <p>The 2008 Land Management Plan would have allowed for 32 more acres of new mining as compared to the 2019 HCP. However, consistent with the Proposed Action/Projects, the expanded mining is not expected to have a substantial increase in jobs that would foster economic growth and indirectly foster population growth.</p> <p>The 2008 Land Management Plan alternative is not anticipated to foster substantial economic or residential growth in the region; potential impacts from growth inducement are less than significant. No further analysis is included in this DEIS/SEIR.</p>

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1.0 INTRODUCTION

The U.S. Fish and Wildlife Service (USFWS), is proposing to:

- Issue incidental take permits for 30 years consistent with the Upper Santa Ana River Wash Plan Habitat Conservation Plan (HCP) for the following covered species: the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*, SBKR), Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*, woolly-star), slender-horned spineflower (*Dodecahema leptoceras*, spineflower); the federally threatened coastal California gnatcatcher (*Polioptila californica californica*, gnatcatcher); and the cactus wren (*Campylorhynchus brunneicapillus*).

This Proposed Action is evaluated in this Draft Environmental Impact Statement/ Supplemental Environmental Impact Report (DEIS/SEIR) pursuant to the National Environmental Policy Act (NEPA). The HCP Covered Activities are the Proposed Projects by the Conservation District and other local lead agencies that are evaluated in this DEIS/SEIR pursuant to the California Environmental Quality Act (CEQA). Covered Activities are activities that may result in take of listed species that are mitigated through implementation of the HCP. Covered Activities include construction and/or operation and maintenance of land or facilities associated with the following: Aggregate Mining; Water Conservation; Wells and Water Infrastructure; Transportation; Flood Control; Trails; Habitat Enhancement; and Agriculture.

Existing land uses in the HCP Area (Plan Area) consist of water conservation and storage facilities, flood control, habitat conservation, aggregate mining, agriculture, and roadways. Aggregate mining occurs in the western half of the Plan Area, while the Conservation District maintains water spreading basins in the eastern section. The San Bernardino County Flood Control District (SBCFCD) maintains flood control facilities along the Santa Ana River, Mill Creek, Plunge Creek, and City Creek. Implementation of the HCP would offset environmental effects to the Covered Species from the ground-disturbing activities of water conservation, aggregate mining, transportation improvements, recreational activities, and other public services in the Plan Area with species habitat conservation measures. Land supporting these species will be preserved, managed and monitored in perpetuity to mitigate the effects on covered species. The HCP is a part of the Incidental Take Permit (ITP) applications submitted by the Conservation District and SBCFCD to the USFWS. Other entities (Task Force Members) have also participated in the development of the HCP and wish to receive coverage for their planned projects. They include the City of Redlands (including Municipal Utilities), the City of Highland, San Bernardino Valley Municipal Water District (SBVMWD), East Valley Water District (EVWD), Cemex Construction Materials Pacific, LLC (Cemex), and Robertson's Ready Mix (Robertson's). The SBCFCD is pursuing a separate Implementing Agreement (IA) and ITP under the HCP. The Bureau of Land Management (BLM) will serve as a cooperating agency in the development of this EIS/SEIR.

Incidental take authorization for covered activities affecting federally listed species is being sought under Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA) and for incidental take of state-listed species (woolly-star and spineflower) sought under Section 2081 of the California Fish and Game

Code. Take of federally listed species on BLM land will be authorized through a separate but related consultation between the BLM and the USFWS under Section 7 of FESA.

1.1 PROJECT SETTING

The Plan Area, located in southwestern San Bernardino County, California, is approximately one mile downstream of the Seven Oaks Dam (refer to Figure 1.0-1, *Regional Context and Wash Plan HCP Area Boundary*). The Plan Area encompasses approximately 4,892.2 acres, extending approximately six miles westward from Greenspot Road in the City of Highland to Alabama Street in the City of Redlands. The Plan Area contains both public and private lands supporting a variety of functions. The principal landowners in the Plan Area are the Conservation District, the SBCFCD, the BLM, the City of Highland, the City of Redlands, and Robertson's Ready Mix.

Greenspot Road forms the northern and eastern boundary of the Plan Area and the bluffs on the south side of the Santa Ana River generally form the southern boundary (refer to Figure 1.0-2, *USGS Topographic Map*). The Plan Area is located on an alluvial plain that provides excellent geological conditions for groundwater recharge. The geological conditions also provide excellent aggregate resources for construction materials such as gravel and sand.

Refer to Table 1.0-1, below, and Figure 1.0-3, *Ownership within the Wash Plan HCP Area* for a map of these ownership designations.

Table 1.0-1: Ownership in the Plan Area

Ownership	Acres in Plan Area
<i>Planned Participants</i>	
San Bernardino Valley Water Conservation District	1,906.9
San Bernardino County Flood Control District	1,034.6
BLM	972.3
Robertson's Ready Mix	338.8
City of Redlands	159.6
City of Highland	39.9
East Valley Water District	25.0
San Bernardino Valley Municipal Water District	8.2
<i>Non-Planned Participants</i>	
Private	198.7
Right-of-way Holders	149.8
Caltrans	37.6
Orange County Flood Control District	14.8
Metropolitan Water District	5.5
Total	4,892.2

Easements and existing mitigation areas that overlap the Plan Area include a Conservation District conservation easement established as mitigation for an aggregate vehicle haul road, the Woolly-star Preserve Area (WSPA) that was established as mitigation for the Seven Oaks Dam and the City of Highland's biological mitigation area. The majority of BLM-administered land in the Plan Area is designated as the Santa Ana River Wash ACEC and Research Natural Area (RNA) (refer to Appendix A Figure 1.0-4, *Easements, Right-of-Ways, and ACEC*).

The primary goal of the HCP is to balance the ground-disturbing activities of water conservation, aggregate mining and other public services in the area with the conservation of natural communities and populations of special-status plants and wildlife. Refer to Figure 1.0-5, *Overview of Wash Plan HCP* for the collective areas of conservation (2,302 acres), mining (1,040 acres), and water conservation (253 acres) proposed in the Plan Area.

For planning and implementation, the Plan Area is divided into eight subcomponents (refer to Figure 1.0-6, *Wash Plan HCP Subcomponents*). The HCP Preserve includes three subcomponents: (1) District Conserved Lands, (2) District Managed Lands, and (3) San Bernardino County Flood Control District (SBCFCD) Conserved Lands. These are the areas identified as mitigation to offset the impacts of the Wash Plan HCP Covered Activities. Figure 1.0-6 also displays existing Conservation Areas and a proposed SBCFCD Mitigation Area not covered by the HCP within the Plan Area. There are three main categories of Covered Activities: aggregate mining, groundwater facilities, and all other Covered Activities. Lands not affected by impacts associated with Covered Activities and not included in the HCP preserve or Other Conservation Areas comprise Neutral Lands. Any remaining lands are private inholdings or Caltrans rights-of-way and are not a part of the Plan Area. Subcomponents are further described below.

1.1.1 HCP PRESERVE

1. District Conserved Lands – lands that during HCP phasing would be owned and managed by the Conservation District providing permanent conservation for the five Covered Species and their habitat under the HCP. These areas include lands currently owned by the Conservation District and by the City of Redlands, and lands included in the proposed land exchange between BLM and the Conservation District.
2. SBCFCD Conserved Lands – lands that will be permanently conserved and managed for the five species covered by the HCP and under the SBCFCD IA and ITP. These areas include lands owned by SBCFCD.
3. District Managed Lands – lands that include certain BLM-administered lands and 42.29 acres of WSPA¹ lands for which the HCP will provide additional management and monitoring of HCP implementation by the Conservation District for the benefit of the Covered Species. These areas will include those lands retained by BLM after the land exchange (acquired lands) and a portion of the BLM-administered lands received by the Conservation District in the exchange.

1.1.2 COVERED ACTIVITIES

1. Mining Impact Areas – the areas in which existing aggregate mining operations by Robertson's Ready Mix and Cemex would continue and expand as delineated in the HCP in the land exchanged between BLM and the Conservation District.
2. Other Covered Activities Areas – the areas where non-mining Covered Activities are planned, including operations and maintenance (O&M) of existing facilities and construction of new facilities.

1.1.3 OTHER AREAS WITHIN THE PLAN AREA BOUNDARY

1. Existing Conservation Lands – In addition to BLM-administered lands, two other areas within the Plan Area have already been placed in conservation:
 - a. Santa Ana River Woolly-Star Preserve Area (WSPA) – an existing 544.5-acre area preserve established as mitigation for impacts on SBKR, spineflower, and woolly-star resulting from the construction and operation of the Seven Oaks Dam.
 - b. Highland Biological Mitigation Area – this mitigation area includes 20 acres (two 10-acre parcels) purchased and set aside by the City of Highland to mitigate for a project located outside of the Plan Area. The mitigation area was set aside for preservation. No conservator and no endowment set aside are identified for long-term management of

¹ The Conservation District will provide additional management of 43.5 acres of land that is being added to the WSPA through a land exchange between SBCFCD and Robertson's.

the parcels.

2. Future SBCFCD Mitigation Area – approximately 150.9 acres of alluvial habitat in the active channel of the Santa Ana River immediately south of the WSPA is identified as Future Flood Control Mitigation Area and is available for mitigation of future SBCFCD infrastructure construction and maintenance activities not covered by the HCP.
3. Neutral Lands – areas within the Plan Area not expected to be impacted by Covered Activities and not designated as conservation areas (existing or proposed with the HCP). These lands would be monitored for highly invasive weeds such as mustards and pepperweeds (but not non-native grasses) to ensure the lands are not a source for infestation of conserved and managed lands. Management would occur when additional resources are available.
4. Not A Part – lands owned by other entities including areas within the Caltrans right-of-way along State Route 210, and other lands with private owners who are Non-Planned Participants or a Task Force Member/Participating Entity under the HCP. These areas are inholdings in the Plan Area and are not addressed by the HCP.

1.2 HISTORY OF THE PROPOSED ACTION

For a detailed history of the proposed action see section 1.1.3 of the Wash Plan HCP.²

1.3 PURPOSE

The purpose of the USFWS action is to protect and conserve multiple Endangered Species Act (ESA) listed species and other native species; to conserve, enhance and restore the habitat and ecosystems upon which these species depend upon; and to ensure the long-term survival of these species, within the Santa Ana River Wash.

1.4 NEED

The need for the proposed action is to respond to the Conservation District's application for an ITP under the authority of section 10(a)(1)(B) of the ESA to take certain Covered Species as a result of their proposed aggregate mining, water conservation, wells and water infrastructure, transportation, flood control, trails, habitat enhancement, and agriculture.

The Santa Ana Rivers Wash's biodiversity has diminished as urban growth has caused wildlife habitat to become more fragmented, forming isolated small blocks of land and causing endangered species conflicts. There is an urgent need to preserve remaining biodiversity, while minimizing constraints to urban development, aggregate mining, water conservation and other uses in the Plan Area. The federally listed endangered SBKR, and threatened gnatcatcher are known to occur within the Plan Area. The USFWS has designated portions of the Plan Area as critical habitat for SBKR.

² See <https://www.sbvwd.org/docman-wash-plan/hcp/5218-january-2018-public-review-draft-wash-plan-hcp/file.html>.

1.5 CEQA OBJECTIVES

The purpose of the Proposed Action is to allow the continued use of land and mineral resources while maintaining and enhancing the biological and hydrological resources of the Plan Area in an environmentally sensitive manner. Implementation of the HCP is intended to coordinate and manage the present and future activities in the Plan Area, which is part of multiple jurisdictions, each with different needs. The goal of the HCP is to balance the ground-disturbing activities of aggregate mining, recreational activities, water conservation, and other public services with quality, natural habitat for special-status plant and wildlife species. Objectives of the HCP are:

- Ensure the continued ability of the Conservation District to replenish the Bunker Hill Groundwater Basin with native Santa Ana River water using existing and potential future water recharge facilities in the Plan Area;
- Ensure the continued ability of the SBCFCD to protect land and property by managing the floodwaters of the Santa Ana River and its local tributaries (Mill Creek, Plunge Creek, and City Creek);
- Accommodate the relocation and expansion of aggregate mining quarries, to help ensure long-term availability of high quality aggregate reserves located within the Plan Area for local and regional use, consistent with the MRZ-2 designation for reserves in this area, and do so on land adjacent to existing quarries, that have mostly been disturbed;
- Accommodate improvements to existing arterial roads and highways to provide safe modes of travel;
- Accommodate other small projects and future Operations and Maintenance of facilities within the Plan Area;
- Provide public access in the form of recreational trails when funding for their management becomes available;
- Conserve and enhance populations of Covered Species and their habitats in the Plan Area by conserving land in a configuration and area sufficient to maintain ecological processes, and protect core habitat areas and the connections between them;
- Avoid and minimize effects on Covered Species and their habitats during Covered Activities; and
- Actively manage conserved lands within the Plan Area for the benefit of Covered Species, including control of invasive plant species, selective vegetation thinning, revegetation, development of specific habitat enhancement projects and species and habitat monitoring.

1.6 DEIS/SEIR PROCESS

The intent of this DEIS/SEIR is to inform the USFWS and representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental consequences that may be associated with the Proposed Action/Projects and to present a reasonable range of alternatives. The

DEIS/SEIR has been prepared in accordance with NEPA, 40 Code of Federal Regulations (C.F.R.) Part 1500, the guidelines and regulations for NEPA as administered by the Council on Environmental Quality (CEQ).

The USFWS is the Federal Lead Agency responsible for the preparation of this DEIS/SEIR in compliance with the requirements of NEPA and the CEQ regulations for implementing NEPA (40 C.F.R. 1500-1508). NEPA mandates that Federal agencies consider the environmental consequences of their actions. When a Federal agency determines that a Proposed Action may “significantly affect the quality of human environment,” preparation of an EIS is required (42 U.S.C. 4332 (2) (c)).

Notice of Intent (NOI) to prepare a Supplemental DEIS for the SCRMP Amendment for the Proposed Upper Santa Ana River Wash Plan HCP and land exchange was published in the *Federal Register* on March 3, 2015 (Volume 69, Number 80). The NOI announced that the DEIS would be a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to assess the land exchange between the BLM and the Conservation District and the amendment of the SCRMP. The NOI also announced the intent to prepare and analyze a detailed HCP for the Upper Santa Ana Wash that would include goal and objectives for species and habitats, Covered Activities, Mitigation and Monitoring Protocols, as well as Adaptive Management. As federal co-leads, BLM and USFWS conducted two scoping meetings to solicit public comments on the preparation of an EIS and SEIR to analyze the proposed land exchange between BLM and the San Bernardino Valley Water Conservation District (Conservation District) and issuance of an incidental take permit by FWS. The land exchange would include up to 400 acres of BLM-administered public lands within the Upper Santa Ana River Wash Area.

On March 12, 2019, President Trump signed the Natural Resources Management Act (S. 47), which included specific guidelines directing the land exchange between the BLM and the Conservation District (Section 1003). As a result, the BLM is withdrawing as the co-lead in the preparation of this EIS, and will now serve as a cooperating agency in the development of this EIS. The BLM will implement actions in the legislation to initiate/facilitate the land exchange, but is no longer required to conduct an analysis under the National Environmental Policy Act.

The USFWS will continue to serve as the federal lead agency in the development of the EIS/EIR, in collaboration with the Conservation District, a political subdivision of the State of California. The land transfer and modification to the SCRMP will be covered by separate NEPA analysis by BLM where required.

This DEIS/SEIR has been filed with the United States Environmental Protection Agency (EPA), and issued for public review and comment. The public review period for the DEIS will last at least 45 days from the date when EPA’s Notice Of Availability is published in the Federal Register for the DEIS/SEIR. Depending on the number and complexity of comments received and any additional analysis required, USFWS will either select or, if necessary, revise the preferred alternative. USFWS will then issue the Final EIS/SEIR. After the release of the Final EIS/SEIR, USFWS will circulate the Final EIS/SEIR for at least 30 days prior to making a decision on the Proposed Action. The 30-day time period of a Final EIS/SEIR begins on the date

of the publication in the Federal Register. USFWS may adopt an EIS/SEIR only after they determine that it meets the standards for EIS adequacy under NEPA. After the EIS/SEIR has been adopted, USFWS will make a decision on the Proposed Action and will issue a Record of Decision (ROD) explaining why the agency has taken its particular course of action.

An EIR was prepared for the Upper Santa Ana River Wash Plan and certified in 2008 by the Conservation District's Board of Directors. After the certification of that EIR the current Santa Ana River Wash HCP was developed with USFWS. In conjunction with USFWS, the Conservation District decided to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to analyze the detailed Santa Ana Wash HCP. A Notice of Preparation (NOP) to prepare a joint EIS/Supplemental EIR was filed with the State Clearinghouse (SCH# 2015031022) by the Conservation District on March 5, 2015 for a public and agency review of 30 days, through April 3, 2015. The NOP was also filed with the San Bernardino County Clerk of the Board.

The DEIS/SEIR has been prepared in accordance with CEQA, (Public Resources Code 21000-21189) and the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387) as administered by the Governor's Office of Planning and Research (OPR). For the Proposed Projects/Covered Activities the Conservation District is the Lead Agency for the preparation of this DEIS/SEIR in compliance with the requirements of CEQA. This DEIS/SEIR has been distributed to responsible and trustee agencies, other affected agencies, and interested parties. Additionally, in accordance with Public Resources Code 21092(b)(3), the DEIS/SEIR has been provided to all parties who have previously requested copies. Notice of Completion and Availability of the DEIS/SEIR has been distributed as required by CEQA. During the 45-day public review period, the DEIS/SEIR and technical appendices are available for review.

After the 45-day public review period, written responses to all environmental issues raised will be prepared. The responses to public agencies will be provided at a minimum of 10 days prior to the public hearing before the Conservation District's Board of Directors, at which time the certification of the Final EIS/SEIR will be considered. The Final EIS/SEIR, which includes the Draft EIS/SEIR, the responses to public and agency comments, and findings will be considered by the Conservation District and USFWS decision-makers.

1.7 DECISION FRAMEWORK

1.7.1 PUBLIC SCOPING

The public scoping process was used to actively obtain input from the public and interested Federal, State, Tribal, and local agencies regarding the Proposed Action/Projects. Two public scoping meetings were held to solicit public comment as to the scope of the DEIS/SEIR. The first scoping meeting was held in the Conservation District's office in the City of Redlands on March 18, 2015 at 2:00 PM and the second later that same day at 6:00 PM. Opportunity for public comment (both oral and written) was provided (refer to Section 5.1, *Public Involvement and Scoping*, of this DEIS/SEIR for additional information about the public scoping process and comments).

Information received during scoping assisted USFWS and the Conservation District in identifying potential environmental issues, impacts, project alternatives, and mitigation measures associated with the Proposed Action. The process provided a mechanism for focusing and clarifying the issues to address in the DEIS/SEIR.

Predominant issue areas identified during public scoping included: threatened, endangered, and other special status species; mineral resources; water resources; recreation; visual resources; cultural resources; land management; and traffic management.

1.7.2 PLANNING ISSUES

A wide range of issues were identified and evaluated during development of the Proposed Action and the public scoping period. Issues relating to the following environmental elements identified to have potential direct and indirect effects from the Proposed Action/Projects are evaluated in Chapters 3, *Affected Environment* and 4, *Environmental Consequences* of this document. There are separate discussions of direct and indirect effects for NEPA and CEQA, respectively. For cumulative effects the NEPA and CEQA discussions are combined.

- Air Quality/Greenhouse Gases
- Geology and Mineral Resources
- Hydrology and Water Quality
- Biological Resources
- Socioeconomics/Population & Housing/Environmental Justice
- Noise
- Hazards
- Land Use
- Recreation

- Transportation Systems and Traffic
- Visual Resources
- Cultural Resources

Planning issues relating to other environmental elements were assessed to have no direct or indirect effects and/or less than significant impacts from the Proposed Action/Projects, the No Action Alternative, and the 2008 Land Management Plan. These environmental elements are identified below in Table 1.0-2, *Planning Issues*, and are not analyzed further in this DEIS/SEIR.

Table 1.0-2: Planning Issues

Environmental Element	Proposed Action/Projects	No Action Alternative	2008 Land Management Plan
Agriculture and Forestry	No impacts are anticipated because the citrus orchard would remain. The Proposed Action/Projects would not convert any Farmland to non-agricultural uses; would not conflict with existing zoning for agricultural use or Williamson Act Contract; would not conflict with zoning or cause rezoning of forest land; would not result in the loss or conversion of forest land; and would not involve other environmental changes that could result in a conversion of farmland. No further analysis is included in this DEIS/SEIR.	Same as the Proposed Action/Projects; No impacts are anticipated because the citrus orchard would remain. The No Action Alternative would not convert any Farmland to non-agricultural uses; would not conflict with existing zoning for agricultural use or Williamson Act Contract; would not conflict with zoning or cause rezoning of forest land; would not result in the loss or conversion of forest land; and would not involve other environmental changes that could result in a conversion of farmland. No further analysis is included in this DEIS/SEIR.	No impacts are anticipated because the citrus orchard would remain. The 2008 Land Management Plan would not convert any Farmland to non-agricultural uses; would not conflict with existing zoning for agricultural use or Williamson Act Contract; would not conflict with zoning or cause rezoning of forest land; would not result in the loss or conversion of forest land; and would not involve other environmental changes that could result in a conversion of farmland. No further analysis is included in this DEIS/SEIR.
Utility Services	The Proposed Action/Projects would not include the construction of habitable structures or a substantial increase in jobs that would increase the population in the area and therefore would not exceed wastewater treatment requirements, result in new construction of wastewater facilities or storm drain facilities, or exceed capacity of existing wastewater treatment facilities. The Proposed Action/Projects would not adversely affect landfills and covered activities would be completed in compliance with laws and regulations related to solid waste. An evaluation of water supplies is evaluated in the Hydrology and Water Quality sections of this document. No further analysis is included in this DEIS/SEIR.	Same as Proposed Action/Projects. The No Action Alternative would not include the construction of habitable structures or a substantial increase in jobs that would increase the population in the area and therefore would not exceed wastewater treatment requirements, result in new construction of wastewater facilities or storm drain facilities, or exceed capacity of existing wastewater treatment facilities. Ongoing operations and maintenance of public facilities and ongoing mining in accordance with existing permits and leases would not adversely affect landfills and would be completed in compliance with laws and regulations related to solid waste. No further analysis is included in this DEIS/SEIR.	The 2008 Land Management Plan would not include the construction of habitable structures or a substantial increase in jobs that would increase the population in the area and therefore would not exceed wastewater treatment requirements, result in new construction of wastewater facilities or storm drain facilities, or exceed capacity of existing wastewater treatment facilities. The 2008 Land Management Plan would not adversely affect landfills and covered activities would be completed in compliance with laws and regulations related to solid waste. An evaluation of water supplies is evaluated in the Hydrology and Water Quality sections of this document. No further analysis is included in this DEIS/SEIR.

Environmental Element	Proposed Action/Projects	No Action Alternative	2008 Land Management Plan
Public Services	No impacts are anticipated. The Proposed Action/Projects would not include the construction of habitable structures or a substantial increase in jobs that would increase the population in the area that would result in substantial adverse physical impacts. No additional services will be required for fire protection, police protection, schools, parks or other public facilities. Current local programs and policies for public safety would remain in place. Existing levels of public services, such as fire and police, which serve the area, would be adequate to serve any additional mining activities in the Plan Area that could indirectly result from the land exchange. No further analysis is included in this DEIS/SEIR.	No impacts are anticipated. The No Action Alternative would not include planned development that would include residential uses or substantial employment generating uses, therefore additional public services are not needed. No further analysis is included in this DEIS/SEIR.	No impacts are anticipated. The 2008 Land Management Plan would not include the construction of habitable structures or a substantial increase in jobs that would increase the population in the area that would result in substantial adverse physical impacts. No additional services will be required for fire protection, police protection, schools, parks or other public facilities. Current local programs and policies for public safety would remain in place. Existing levels of public services, such as fire and police, which serve the area, would be adequate to serve any additional mining activities in the Plan Area that could indirectly result from the land exchange. No further analysis is included in this DEIS/SEIR.

1.8 RELATIONSHIP TO OTHER POLICIES, PROGRAMS, AND PLANS

This section evaluates the consistency of the Proposed Action/Projects with several relevant policies, programs and plans, including state, county and local documents. In general, the Proposed Action/Projects would be consistent with applicable Federal, State and local plans, policies and regulations. Key plans that have been evaluated in this DEIS/SEIR, which are applicable to the activities on the exchanged lands include the following:

- South Coast Resource Management Plan (SCRMP): The Proposed Action/Projects include components that are subject to the BLM SCRMP (approved June 1994). The SCRMP provides policy guidance to manage the resource values and multiple uses of BLM-administered public lands. The SCRMP provides direction for the management of sensitive resources and open space, and balances the protection of these resources with potential uses such as recreation and mineral development.
- Woolly-star Preserve Area Multi-Species Habitat Management Plan (MSHMP): A plan was prepared for the WSPA in 1993 to guide the management of the woolly-star. The plan is a multi-species habitat management plan that also addresses spineflower and SBKR. The purpose of the MSHMP is to guide management of the WSPA lands to sustain all three of these covered species. The MSHMP identifies hierarchical objectives to guide implementation of all program elements associated with the WSPA management. Additionally, objectives for information management are provided to ensure data consistency and to facilitate management and retrieval of data over time. As part of the Wash Plan HCP the Conservation District will provide additional management of 43.5 acres of land that is being added to the WSPA through exchange between SBCFCD and Robertson's. Management of this portion of the WSPA is consistent with management outlined in the WSPA MSHMP.
- Memorandum of Agreement (MOA) Between the San Manuel Band of Serrano Mission Indians And San Bernardino Valley Water Conservation District: The purpose of this MOA between the Tribe and the Conservation District is to set out a process that will:
 1. Ensure that the Tribe and tribal members have access to plant materials used for cultural purposes. These plants are located within the Upper Santa Ana River Wash Plan Habitat Conservation area; land that is administered by the Conservation District.
 2. Provide and define a consistent MOA for the Tribe and Conservation District to carry out Native American traditional gathering and management of culturally important plants.
 3. Provide for mutual consultation, collaboration and cooperation by Tribe and Conservation District in order to identify, preserve culturally important plants in the Wash Conservation Area and ensure such materials are managed in a manner that promotes ecosystem health and utilizes traditional management practices where appropriate by the Native American communities.

4. Promote consistency and to develop opportunities and partnerships in the areas of mutual interest including an education component between the Tribe and Conservation District.

The Wash Plan HCP includes avoidance and minimization measures that the Tribe will follow when collecting plant material in the Plan Area.

- General Plans: As mentioned above, portions of the Plan Area are located within the city boundaries of Redlands, Highland and unincorporated San Bernardino County. Proposed projects in these areas are subject to consistency with the current General Plans for each jurisdiction. These local government entities have been Task Force members since the Task Force's inception. Each of these local jurisdictions have been involved in the development of the HCP, will be Participating Entities of the Incidental Take Permit and have agreed to amend applicable provisions of their respective General Plans to coincide with the HCP. For additional information on the Proposed Action/Projects consistency with applicable plans and policies, refer to Sections 3.5 and 4.5, Land Use Planning, of this DEIS/SEIR.

1.9 COMPLIANCE WITH RELEVANT FEDERAL AND STATE LAWS

This section evaluates the consistency of the Proposed Action/Projects with relevant Federal and State laws. In general, the Proposed Action/Projects would be consistent with Federal and State laws.

Key laws that have been evaluated in this DEIS/SEIR, which are applicable to the Proposed Action/Projects include the following:

- Multiple Use Mining Act of 1955
- Mining and Mineral Policy Act of 1970
- Surface Mining and Reclamation Act (SMARA) of 1975
- Federal Endangered Species Act (FESA) of 1973
- California Endangered Species Act (CESA)
- Federal Land Policy and Management Act (FLPMA) of 1976
- Federal Water Pollution Control Act (Clean Water Act)
- California Fish and Game Code
- Clean Air Act (CAA) of 1970
- Noise Control Act of 1972

Detailed descriptions of the laws and regulations pertaining to this DEIS/SEIR can be found in Appendix H.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

Nine alternatives were evaluated for this Draft Environmental Impact Statement/Supplemental Environmental Impact Report (DEIS/SEIR). Six alternatives were eliminated with specific rationales explained at the end of this chapter, and three alternatives have been carried forward for detailed analysis in this DEIS/SEIR. Under alternative A, the No Action Alternative, lands would continue to be managed and used as intended or planned, including leases for future mining. Authorization for incidental take would be sought for projects on a case-by-case basis. Alternative B, the Proposed Action, would allow the United States Fish & Wildlife Service (USFWS) to issue an incidental take permit for Covered Activities/Projects, and for the Conservation District to implement the HCP and complete Covered Activities/Projects. Alternative C is implementation of the 2008 Upper Santa Ana River Wash Land Management and Habitat Conservation Plan (2008 Land Management Plan).

NEPA regulations (40 Code of Federal Regulations [CFR] 1502.14) state that an EIS must consider a reasonable range of alternatives that could accomplish some or all of the objectives established for the Proposed Action. “Reasonable” alternatives are those that could be carried out based on technical, economic, environmental, and other factors. Alternatives that do not meet some or all of the objectives or do not satisfy the Lead Agency’s “reasonableness” criteria need not be evaluated in the Draft EIS. Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines also requires the EIR evaluate a reasonable range of alternatives that could feasibly attain the basic objectives of a Project. NEPA regulations and CEQA Guidelines also require a No Action or No Project, respectively, Alternative be analyzed. Alternatives to the Proposed Action/Projects were developed utilizing an interdisciplinary team that included the Conservation District, BLM, and the USFWS.

2.2 ALTERNATIVE A: NO ACTION ALTERNATIVE

In the No Action Alternative, the USFWS would not issue the incidental take permit (ITP) for Covered Species. Current mining and water conservation would continue.

Aggregate mining operations would continue producing an average of 4.0 to 4.5 million tons per year (MTPY) of aggregate materials. The total average MTPY is the average production numbers of both Cemex’s and Robertson’s operations within the Plan Area. The existing permitted mining would be mined to completion, but no additional mining permitting in the Plan Area is presumed.

The ITP would not be issued nor the HCP implemented. Individual projects within the Plan Area would have to be addressed independently once they are proposed. Each newly proposed project listed in the draft HCP would be analyzed for CEQA and NEPA compliance. Each new project with impacts to state or federally listed species may have to obtain a Section 10 permit or a Section 7 incidental take statement/consultation in conformance and compliance with FESA (if a Federal nexus exists) and/or a

2081 permit in compliance with CESA. Other regulatory permits could be required as well. The Conservation Strategy, which includes the designation of new onsite conservation of lands, additional management on already conserved lands, biological goals and objectives for 5 covered species, adaptive management and monitoring, and habitat restoration and maintenance, would not be implemented. The lack of a comprehensive plan would result in piecemeal approach to both development and conservation, greatly reducing the potential for a coordinated conservation strategy in the Plan Area. Lack of coordinated strategy could result in further fragmentation of conserved habitat and inconsistent and inefficient management and monitoring of species and their habitat.

2.3 ALTERNATIVE B: PROPOSED ACTION/PROJECTS

The Proposed Action is the USFWS's issuance of permits for authorization of incidental take consistent with the HCP. Covered Activities with incidental take authorization, anticipated take, and conservation included in the HCP are described below. This DEIS/SEIR analyzes and addresses anticipated environmental effects resulting from the Federal action and from the related implementation of the HCP by the applicants. This DEIS/SEIR does not obviate the need for project-specific CEQA or NEPA analysis.

This alternative includes issuance of a 30-year ITPs by USFWS to the Conservation District and SBCFCD; approval and execution of the Implementing Agreement (IA) for the HCP; and implementation of the HCP by the Permit Applicants. The HCP is intended to establish and implement a program to conserve ecologically important resources in the Plan Area. In addition to the Permittees, the following parties plan to apply to be Participating Entities under the Conservation District ITP: City of Redlands, including the Redlands Municipal Utility District; City of Highland; SBVMWD; EVWD; Cemex; and Robertson's.

Only the Conservation District will have the ability to convey the permit authority to the Participating Entities under Certificates of Inclusion (COI). Each COI will be associated with a single Participating Entity and will address one or more Covered Activities.

The HCP identifies a number of Covered Activities. These activities and projects were considered when assessing the total amount of take of Covered Species that is expected in the Plan Area over the life of the permits and in developing the overall HCP conservation strategy. A summary of the proposed action is presented below, describing the Plan Area, the covered activities, the covered species, the proposed conservation strategy, and the aquatic resources plan. For more details on all of these topics, see the HCP.

Plan Area

The permit area for the proposed action is the Plan Area which encompasses approximately 4,892.2 acres extending approximately 6 miles westward from Greenspot Road in the City of Highland to Alabama Street in the City of Redlands. Greenspot Road forms the northern and eastern boundary of the Plan Area and the bluffs on the south side of the Santa Ana River generally form the southern boundary (Figures 1.0-2, USGS Topo and 1.0-6, Wash Plan HCP Subcomponents). It includes reaches of Mill and Plunge Creeks and the Santa Ana River and the upland areas in between them. Existing land uses in the

Plan Area consist of water conservation and storage facilities, flood control, habitat conservation, aggregate mining, agriculture, and roadways. Aggregate mining is conducted in the western half of the Plan Area, while the Conservation District maintains spreading basins for water recharge in the eastern section. Flood Control maintains flood control facilities along the Santa Ana River, Plunge Creek, and City Creek. The predominant native plant communities are Riversidean alluvial fan sage scrub (RAFSS) and Riversidean sage scrub (RSS) with components of chaparral and non-native grassland.

Covered Activities

Figure 2.0-1, *Covered Activities* shows the specific location of each covered activity, the category of activity, and the entity that will complete the activity. In order to track Covered Activities in tabular impact calculations and locate projects in the figures in this document, the Covered Activities have been assigned a unique identification code in the HCP. Refer to HCP Table 2-1 for a list of Covered Activity identity codes associated with each Covered Activity. For more detailed description of each Covered Activity, refer to the HCP.

Acreages reported represent the area of ground disturbance, including the project or activity footprint associated with construction or operations and maintenance. All Covered Activities associated with new or expanded facilities will be implemented during Phase 1 of the HCP, with the exception of the mining activities scheduled for implementation in Phase 2. O&M Covered Activities will occur in both phases.

The Covered Activities have been subdivided into the following categories:

Aggregate Mining—the areas in which gravel and rock (aggregate) mining operations by the Task Force members Robertson’s and Cemex will continue (existing mining) and expand (new mining) as delineated in the HCP. Currently, aggregate mining and associated support activities, such as haul roads, are occurring within the Plan Area. As part of the implementation of the HCP, the existing mining area would be expanded for new aggregate mining. An expansion of the existing haul road would also occur. However, other lands currently permitted for mining would be designated for habitat conservation resulting in an overall reduction in lands available for mining. Mining infrastructure such as buildings, parking lots, lighting, settling ponds, pits, and haul roads would be operated 24 hours a day. Existing mining operations in the established mining pits would cause no new permanent impacts in these areas.¹

New mining will occur on 401.5 acres, resulting in permanent impacts. It will occur in two phases, as outlined in Table 2.0-1 below.

¹ A small amount of acreage of temporary impacts in the existing mining areas is included in the HCP to account for the incidental take of a small number of SBKR that may enter active mining areas during periods of inactivity.

Table 2.0-1: Phasing of Aggregate Mining Activity Covered by HCP

HCP Implementation Phase	Acreage
Phase 1	201.3 acres
Phase 2	200.2 acres
Total New Aggregate Mining	401.5 acres

Aggregate mining operations are expected to result in permanent impacts to 12 historic occurrences and 1 extant patch² of spineflower, 29.7 acres of woolly-star habitat³, 289.9 acres of gnatcatcher habitat, 8.8 acres of cactus wren habitat⁴, and 380.8 acres of SBKR habitat. Aggregate mining operations are expected to result in temporary impacts to 33 acres of gnatcatcher nesting habitat.

Water Conservation—Water conservation and management activities, both ongoing and planned future activities are activities needed to support the conservation/recharge of water into the Bunker Hill groundwater basin for consumptive use, the monitoring of groundwater basins, and pumping to meet customer demands. The facilities required to support those water management efforts are also included. These facilities include pipeline easements, canals, maintenance roads, tanks and recharge basins, and the construction of groundwater wells. The Conservation District, SBVMWD, and EVWD, are the Task Force members associated with these activities.

Water conservation and management activities are expected to result in permanent impacts to 2 acres of woolly-star habitat, 126 acres of gnatcatcher habitat, 4.6 acres of cactus wren habitat, and 161.9 acres of SBKR habitat. Water conservation and management activities are expected to result in temporary impacts to 1.1 acres of woolly-star habitat, 4.7 acres of gnatcatcher habitat, 0.1 acres of cactus wren habitat, and 4.7 acres of SBKR habitat. (Impact acreages are from *Table 4-7, Potential Permanent Impacts of Individual Covered Activities on Covered Species* and *Table 4-8, Potential Temporary Impacts of Individual Covered Activities on Covered Species* in the HCP).

Wells and Water Infrastructure—Activities related to the creation of new wells⁵ and access roads and the maintenance of existing well and access roads. Currently ten wells, some with associated tanks and boosters, are in use or proposed in the Plan Area. Four are observation wells used to monitor groundwater levels as part of the management of the Bunker Hill Basin. Also four supply wells are operating in the Plan Area. There are two municipal potable water wells located adjacent to, and east of, Orange Street near the Cemex plant. The wells service pipeline is located in the Orange Street/Boulder Avenue ROW. The Task Force members associated with these activities are SBVMWD, City of Redlands, EVWD, and the Conservation District.

²

The distribution of spineflower in the Plan Area is quantified in two ways: (1) by determining all of the known occurrence locations and categorizing them as historic (pre-2005) or current (2005 to present); and (2) by estimating the total acreage and number of extant spineflower patches based on survey data.

³

The distribution of woolly-star in the Plan area is quantified by indicating the total area of occupied grid areas (25 by 25 meters) documented as occupied by woolly-star.

⁴

Cactus wren habitat in the Plan Area is quantified in terms of nesting habitat based on the field mapping of cactus patches suitable for nesting and buffered by 50 feet.

⁵

New wells located on BLM land will require a BLM permit and new wells will also need a county permit.

Wells and infrastructure activities are expected to result in permanent impacts to 13 extant patches of spineflower, 1.7 acres of woolly-star habitat, 1.8 acres of gnatcatcher habitat, and 3.5 acres of SBKR habitat. Wells and water infrastructure activities are expected to result in temporary impacts to 0.5 acre of woolly-star habitat, 18.1 acres of gnatcatcher habitat, 0.1 acre of cactus wren habitat, and 24.9 acres of SBKR habitat.

Transportation—Activities related to the construction, operations, and maintenance of planned transportation facilities. Arterial road/highway maintenance and expansion is planned at a number of locations in the Plan Area. Four projects are proposed for coverage under the HCP: widening of two existing roadways and the construction or replacement of two additional roadways across the Plan Area. The Task Force members associated with these activities are the City of Highland and the City of Redlands.

Transportation activities are expected to result in permanent impacts to 1 extant patch of spineflower, 0.6 acre of woolly-star habitat, 0.4 acre of gnatcatcher habitat, and 13 acres of SBKR habitat. Transportation activities are expected to result in temporary impacts to 0.3 acre of woolly-star habitat, and 0.1 acre of SBKR habitat.

Flood Control—Activities related to the construction of new flood control structures and the operations and maintenance of existing and new flood control facilities. The SBCFCD maintains flood control levee structures on the Santa Ana River, Mill Creek, Plunge Creek and City Creek within the Plan Area. Regular and ongoing maintenance is required so these levees continue to provide flood protection to the public. The Task Force members are SBCFCD, City of Highland, and City of Redlands.

Flood control activities are expected to result in permanent impacts to 0.4 acre of woolly-star habitat, 4.6 acres of gnatcatcher habitat, and 13.2 acres of SBKR habitat. Flood control activities are expected to result in temporary impacts to 1.6 acre of woolly-star habitat, 9.6 acres of gnatcatcher habitat, and 79.4 acres of SBKR habitat.

Trails—The HCP Preserve Area has the potential to provide recreational benefit to those in adjoining communities and would also provide an educational resource illustrating the benefits of species and open space protection. A carefully planned trail system that does not diminish habitat and species conservation can further conservation goals as well as provide recreational opportunities. The HCP addresses Covered Species and their habitats associated with the development and operations of a trail system within the HCP Area using primarily existing roads and access easements to minimize impacts to Covered Species habitat. The trail system would be for non-motorized recreational use. Note that a conceptual trail crossing of the WSPA to connect a trail to the Santa Ana River Trail (SART) in Redlands is not a Covered Activity in this HCP, and approval of the WSPA crossing would require separate approval by the Wildlife Agencies. The WSPA crossing is included here only to provide a full description of activities contemplated in the Plan Area.

The construction, operation and maintenance of trails is covered by the HCP and is considered a conditionally compatible use, meaning trails are permissible following preparation of a Trail

Management Plan (Trail Plan) and its approval by the Wildlife Agencies. The Task Force members associated with these activities are the Cities of Redlands and Highland. Trails are expected to result in permanent impacts to 1.5 acres of gnatcatcher habitat, and 5.1 acres of SBKR habitat.

Agriculture—The continued operations and maintenance of existing citrus groves and a small recharge demonstration project area at the EVWD headquarters. Operation of the groves requires maintenance of access roads and irrigation infrastructure, including a sampling well, application of herbicide, insecticide, fungicide and fertilizer as needed. Vertebrate pests of the citrus groves are also managed using procedures designed to avoid impacts on sensitive vertebrate species in adjoining areas. The Task Force member associated with these activities is EVWD. Grove maintenance activities are expected to result in 0.1 acre of temporary impacts to SBKR habitat.

Habitat Management and Monitoring—Activities that support the restoration and maintenance of habitat values in the Plan Area. The conservation and mitigation strategy discussed within the HCP is designed to mitigate incidental take (for wildlife) or adverse impacts (for plants) of covered species from Covered Activities within the Plan Area and to manage and monitor those species in the future. However, implementation of some conservation and mitigation actions may result in low levels of incidental take and therefore, are being addressed in this HCP as Covered Activities. The Task Force member associated with these activities is the Conservation District. Activities related to implementation of the conservation and mitigation strategy that may result in take may include the following:

- Habitat enhancement, restoration, and creation.
- Operational changes to enhance in-stream habitat.
- Control of invasive plant species (e.g., mowing, grazing, herbicide application, prescribed fire and hand clearing).
- Relocation of Covered Species from impact sites to the HCP Preserve (e.g., in cases where impacts are unavoidable and relocation has a high likelihood of success).
- Monitoring activities in the Plan Area and mitigation areas.
- Species surveys and research.
- Vegetation thinning using livestock grazing, manual labor, herbicide application, or prescribed burning.
- Fire management including prescribed burning, mowing, and establishment of temporary fuel breaks.

Take Authorization for Activities on Federal Lands

For HCP-related activities that occur on federal lands, such as groundwater recharge basin construction, aggregate mining, management and monitoring, and O&M activities on BLM lands, exemption for any associated incidental take will be provided through a formal Section 7 consultation on the proposed land

exchange between the BLM and the Conservation District or through other future formal consultation. The HCP includes an analysis of HCP associated activities on federal land in the Plan Area and provides mitigation for them in the form of permanent conservation and management and avoidance and minimization measures. The impacts analysis and mitigation provided in the HCP will be incorporated into the Section 7 consultation. A conservation program will be implemented by the Conservation District, the Participating Entities, and SBCFCD for SBKR, gnatcatcher, woolly-star, spineflower and cactus wren in the Plan Area to avoid, minimize, and mitigate the effect of incidental take (for wildlife) or adverse impacts (for plants) and contribute to their survival and recovery. The HCP outlines the biological goals and objectives of the HCP conservation program, followed by the conservation, management, and monitoring actions that will be implemented under the HCP to achieve the biological goals and objectives. For more detailed description of the conservation, management, and monitoring, refer to the HCP.

Covered Species

Covered species are species for which incidental take would be authorized and conservation and management of lands would occur and includes slender-horned spineflower, Santa Ana River woolly-star, cactus wren, Coastal California gnatcatcher, and San Bernardino kangaroo rat.

Habitat Conservation

A primary conservation measure in the proposed HCP is the conservation of natural communities which are occupied by or are suitable habitat for the Covered Species. These communities also support Other Special Status Species known or with the potential to occur in the Plan Area. Table 2.0-2 summarizes the acres of conserved natural communities. The HCP will also conserve 156.3 acres of non-native grassland which may also be utilized by SBKR and some of the Other Special Status Species.

Table 2.0-2: Summary of Conserved Natural Communities

Conserved Natural Community	District Conserved Lands	SBCFCD Conserved Lands	District Managed Lands	HCP Preserve Total
RAFSS– Pioneer	119.9	87	35.9	242.7
RAFSS– Intermediate	230.6	74.9	236.8	542.3
RAFSS– Intermediate/Mature	160	7.9	316.5	484.4
RAFSS– Mature	127	9	57.3	232.6
RAFSS– Mature/Non-Native Grassland	27.8	0	0	27.8
<i>Subtotal:</i>	665.3	178.8	646.5	1529.8
Chamise Chaparral	39.3	0	0	39.3
<i>Total Acreage:</i>	704.6	178.8	646.5	1,569.1

Refer to HCP Section 5.1.2 for a summary of habitat- and species-specific biological objectives that have been developed to implement the conservation strategy and the actions (referred to as conservation measures) that will help achieve the objectives.

Habitat restoration and enhancement would generate temporary disturbances; these activities could involve soil disturbance, removal of undesirable plants and limited grading. All habitat restoration and enhancement is expected to result in a net long-term benefit for Covered Species and vegetation communities. However, these activities might have temporary or short-term adverse effects and might result in limited take of Covered Species.

Impact acreages related to habitat management and monitoring were calculated in Table 4-7, Potential Permanent Impacts of Individual Covered Activities on Covered Species and Table 4-8, Potential Temporary Impacts of Individual Covered Activities on Covered Species in the HCP. Permanent and temporary impacts to spineflower habitat, woolly-star habitat, gnatcatcher habitat and SBKR habitat are minimal and fall within the rounding to 0 acres as noted in the HCP.

Avoidance and Minimization Measures

Avoidance and Minimization Measures are designed to avoid or minimize the take of covered species and to reduce impacts on natural communities, covered species populations, and species habitats (including designated critical habitat). These measures include avoidance of species occurrences and habitat through project design; timing of construction activities in the vicinity of occupied habitat to avoid times when a covered species is present; and avoidance of habitat removal during breeding periods. Alterations to construction plans or activities may also avoid or minimize the potential for take by reducing effects on covered and other native species.

Table 2.0-3 lists a summary of avoidance and minimization measures that were developed to avoid and minimize temporary or short-term adverse effects of Covered Activities on the Plan Area.

Table 2.0-3 Avoidance and Minimization Measures⁶

Slender-horned Spineflower
Project footprint for Covered Activities whose final location has not been determined will avoid impact to occupied spineflower habitat.
Prior to ground disturbance in suitable spineflower habitat, surveys for spineflower will be conducted.
If spineflower are detected, seeds will be collected for 4 years prior to permanent impact ground disturbance.
If spineflowers are present, surface soils and cryptogamic crusts will be removed and sequestered prior to ground disturbance. The area will be replanted with stockpiled soils and crusts after disturbance.
The replanting will be monitored and maintained until the spineflower is considered to be re-established.
No Covered Activities are permitted in the contingency parcel until the objectives for new spineflower patches have been met.
Covered Activities occurring within 50m of known occurrences will have a temporary fence erected to protect the spineflower.
Santa Ana River Woolly-star
New construction projects in occupied woolly-star habitat will be avoided if feasible or mitigated if avoidance is not feasible.
Prior to ground disturbance in potentially suitable habitat, surveys will be conducted.
If woolly-star is detected, seeds will be collected prior to ground disturbance.
Temporary impact sites will be replanted with the previously collected woolly-star seed over consecutive years.
The replanting site will be monitored and maintained until the woolly-star is considered to be re-established.
Covered Activities within 50m of known occurrences will have a temporary fence erected to protect the woolly-star.
San Bernardino Kangaroo Rat
New construction in medium or high-quality habitat for SBKR will be avoided if feasible or mitigated if avoidance is not feasible.
Covered Activity disturbances will be confined to the smallest practical area.
Impacted areas that contain native vegetation will be restored after the project is completed.
Equipment will be cleaned prior to entering the worksite and between worksites.
No open trenches will be left overnight without covering, fencing, or provision of escape ramps.
Soil temporarily stockpiled in or adjacent to low, medium, or high quality SBKR habitat will be fenced to exclude SBKR and removed within 45 days after construction.
An integrated weed management plan will be developed and implemented.
Adequate fire suppression capability will be maintained in active construction areas.
No firearms or pets will be allowed in the work areas.
Litter control measures will be implemented.
Dust emissions will be controlled according to a Fugitive Dust Control Plan to comply with the South Coast Regional Air Quality Management District Rule 403.
Except where posted, vehicle speeds will not exceed 15 mph during the day and 10 mph at night.
Covered Activities will take place during the daylight hours to the extent feasible. If nighttime work occurs, lighting will be shielded away from the HCP Preserve.
Covered Activities that generate noise in excess of 60 dBA Leq hourly will incorporate methods to minimize the effects of noise on the HCP Preserve.
Any landscaping will be reviewed and approved by the Preserve Manager.

⁶ Explained in more detail in HCP Chapter 5, Conservation Program

Phasing of the HCP

The HCP will be implemented in two phases linked to the BLM land exchange. The phasing of the conservation and impacts is outlined in Table 2.0-4 and depicted in Figure 2.0-2. Additional description of the phasing can be found in Chapter 5.2 of the HCP.

Table 2.0-4: Phasing of the HCP

Phase	HCP Preserve	Conservation	Impacts of Covered Activities
Phase 1 Pre-BLM Land Exchange	Total Phase 1 Conservation - 1,171.0 acres District Conserved - 482.8 acres SBCFCD Conserved - 185.7 acres District Managed – 502.5 acres	Land dedication of all HCP Preserve areas identified as District Conserved Lands, that are not part of the BLM Land Exchange Management and monitoring of all District Conserved Lands that are not part of the BLM land exchange Management and monitoring of all District Managed Lands that are not part of the BLM land exchange	Mining identified for Phase 1 – 201.3 acres Construction of all non-mining Covered Activities Ongoing operations and maintenance
Phase 2 Post-BLM Land Exchange	Total Phase 2 Conservation – 488.4 acres District Conserved – 294.8 acres District Managed – 193.6 acres	Completion of BLM land transfer ⁷ Dedication of all District Conserved Lands obtained by the Conservation District in the BLM land exchange Management and monitoring of all District Managed Lands and District Conserved Lands acquired by BLM in the land exchange Ongoing management and monitoring of the whole HCP Preserve	Mining identified for Phase 2 – 200.2 acres Ongoing operations and maintenance

2.4 ALTERNATIVE C: 2008 LAND MANAGEMENT PLAN

Alternative C, the 2008 Land Management Plan⁸, was prepared by the Conservation District to describe the comprehensive land management strategy for the Plan Area. The 2008 Land Management Plan outlined a plan for how to coordinate and manage the present and future activities in the Wash and balance the ground-disturbing activities of aggregate mining, recreation, water conservation and other public services with preservation of quality, natural habitat for endangered, threatened, and sensitive species. Under this alternative, the District would prepare an HCP based upon the 2008 Management Plan and submit it the Service requesting a 50-year ITP for the covered species.

⁷ BLM will maintain current administrative measures to manage the lands for conservation, and the Permittee will continue to work with BLM to ensure that habitat values are not degraded prior to the transfer (e.g., continuing patrol and controlling unauthorized access and use.

⁸ The full name of the plan is the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan Document.

Summary of 2008 Land Management Plan

As outlined in Section 2.0 Introduction of the 2008 Land Management Plan, the purpose of the Land Management Plan was to allow the continued use of land and mineral resources while maintaining the biological and hydrological resources of the planning area in an environmentally sensitive manner. The Land Management Plan was intended to coordinate and manage the present and future activities in the plan area, which are part of multiple jurisdictions, each with different needs. The goal was to balance the ground disturbing activities of aggregate mining, recreational activities, water conservation, and other public services with quality, natural habitat for endangered, threatened, and sensitive species.

Objectives of the Land Management Plan were:

- Ensure the continued ability of the Conservation District to replenish the Bunker Hill Groundwater Basin with native Santa Ana River water using existing and potential future water recharge facilities in the planning area;
- Ensure the continued ability of Flood Control to protect land and property by managing the floodwaters of the Santa Ana River and its local tributaries (Mill Creek, Plunge Creek, and City Creek);
- Set aside and maintain habitat for sensitive, threatened, or endangered species populations in the planning area and prevent colonization by non-native plants and animals, as mitigation for impacts from mining, designation of areas for future roadways or water spreading facilities;
- Accommodate the relocation and expansion of aggregate mining quarries, to help ensure long-term availability of high quality aggregate reserves located within the planning area for local and regional use, consistent with the MRZ-2 designation for reserves in the area, and do so on land adjacent to existing quarries, that have mostly been disturbed;
- Accommodate arterial roads and highways to provide safe modes of travel; and
- Provide trails for public enjoyment of the existing environment.

The Land Use Management Plan contained nine components including the activities, by category, which would have resulted in impacts to listed species and proposed habitat conservation to address impacts to those species. The nine components are:

1. Continued water conservation operations and maintenance activities of the Conservation District within the planning area, and designation of area for, and environmental mitigation for, potential future groundwater recharge facilities within the area designated for “Water Conservation” and accepted as a joint use by BLM in a portion of the Habitat Conservation area of the plan;
2. Continued Flood Control operations and maintenance activities within the planning area, and streams adjacent to or leading into the planning area, Mill Creek, Plunge Creek, and City Creek;

3. Continued water production operations and maintenance activities of EVWD and RMUD in the planning area;
4. Aggregate mining activities of Robertson's and Cemex, on the areas designated in the plan for mining, including construction of aggregate vehicle haul road, an access road from the mining area to 5th Street in Highland, and reclamation of the mine pits at the end of mining operations;
5. Adoption of General Plan Amendments by the City of Highland for land use amendments and One change and by the Cities of Highland and Redlands for trails plan and habitat conservation plans and granting of a recreational trail right-of-way easements from the Conservation District to the Cities of Highland and Redlands;
6. Designation of, and environmental mitigation for, expanded roadway rights-of-way on Alabama Street and Orange Street-Boulder Avenue widening, straightening, and realignment of Greenspot Road, and designation of right-of-way for a new Greenspot Road Bridge.
7. Designation of rights-of-way for and management of recreational trails in the planning area;
8. A land exchange between the Conservation District and BLM; and
9. A land exchange between Flood Control and Robertson's.

The Conservation District prepared an EIR for the 2008 Land Management Plan and it was certified by the Conservation District's Board on November 12, 2008. A Draft EIS was prepared by BLM for the proposed land exchange between the Conservation District and BLM and a Notice of Availability was posted in the Federal Register on July 24, 2009. However, a final EIS for the proposed land exchange was not completed.

Comparison of 2008 Land Management Plan and 2019 HCP

As with Alternative B, the Proposed Action, the 2008 Land Management Plan addressed four federally listed species, the endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*), Santa Ana River woolly-star (*Eriastrum densifolium ssp. sanctorum*), and slender horned spineflower (*Dodecahema leptoceras*), and the threatened coastal California gnatcatcher (*Polioptila californica californica*). Unlike the Alternative B, it did not provide for conservation of the cactus wren.

Alternative C would conserve fewer known locations of woolly-star and spineflower and less gnatcatcher and SBKR habitat. Table 2.0-5 below, provides a comparison of species conservation between the two alternatives.

A Habitat Enhancement Plan (HEP) was part of the 2008 Land Management Plan proposed alternative (FEIR Chapter 4.4, Mitigation Measures). While lacking in specifics, the 2008 Land Management Plan

states that it would maintain adequate habitat for the four federally listed species and that there would be surveys for and eradication of exotic plant.

Table 2.0-5: Comparison of Covered Species Conservation between the Alternatives

Species	Alternative B Proposed Action/Projects	Alternative C 2008 Land Management Plan	Increase by Unit	Percent Increase	Unit
Slender-horned spineflower	111	79	32	25%	occurrences ⁹
Santa Ana River woolly-star					
Individuals	612	509	103	14%	grid cell ¹⁰
1-25	773	612	161	18%	grid cell
25-50	261	213	48	16%	grid cell
>50	180	163	17	8%	grid cell
Total	1826	1497	329	15%	grid cell
San Bernardino kangaroo rat					
Habitat Quality					
High	380	318	61	15%	acres
Medium	383	285	98	21%	acres
Low	497	322	175	27%	acres
Total	1260	925	335	22%	acres
Coastal California gnatcatcher					
Habitat Quality					
High	66	56	10	12%	acres
Medium	226	153	72	24%	acres
Low	1104	837	267	14%	acres
Total	1396	1046	350	15%	acres

It also states that a minimum of 1,496 acres of RAFSS, the preferred habitat for SBKR, would be maintained (in a combination of all seral stages and combinations with non-native grassland), a decline of 10 percent from the estimated 1,662 acres of RAFSS estimated to be present. The 2008 Plan also provides specific acreages for the amount of RAFSS which would be maintained along the Santa Ana River and for intermediate and intermediate/mature RAFSS. It does not provide specifics as to how the habitat would be maintained.

If adopted, the 2008 Land Management Plan alternative would conserve approximately 312 fewer acres of habitat than would be conserved by implementation of the 2019 HCP under Alternative B, and it would result in approximately 88 more acres of permanent impacts than the 2019 HCP. A comparison of the permanent impacts from proposed activities and the proposed conservation for each of the two alternatives can be found in Table 2.0-6 below.

⁹ Includes historic and current locations of spineflower.

¹⁰ A comprehensive survey of woolly-star was conducted in the Plan Area by dividing it up into grid cells and sampling them.

Table 2.0-6: Comparison of Permanent Impacts between the Alternatives

Land Use Type	Alternative C - 2008 Management Plan (acres)	Alternative B - 2019 HCP (acres)
New Groundwater Recharge Basins	238	150
New Mining	434	402
Transportation	47	35
Trails	0	9
Flood Control	0	18
Wells and Water Infrastructure	0	17
Total of Permanent Impacts:	719	631
District Conserved	673	963
District Managed	670	696
Total Conservation:	1,347	1,659

Adoption of the 2008 Land Management Plan would allow mining of an area containing spineflower (after relocation of the plants) between two existing mining pits with no contingency. Development of this area in the 2019 HCP is contingent upon the establishment of six new spineflower areas within the Preserve.

2.5 ALTERNATIVES CONSIDERED BUT REJECTED

In the 2008 EIR, alternatives involving BLM's SCRMP Amendment and the BLM's acquisition of other lands, increased acreage, or disposal of reduced acreage were not considered for analysis because they do not meet the purpose and need described in Section 1.3, *Purpose* and Section 1.4, *Need*. With the congressional authorization of the Wash Plan Land Exchange Act other BLM-related alternative are no longer relevant. Two alternatives that were eliminated from further analysis are summarized below.

2.5.1 COMPLETE AVOIDANCE OF TAKE

Under this alternative, activities in the Plan Area would be conducted to avoid take of SBKR, gnatcatcher, woolly star, and spineflower. Because of the widespread distribution of SBKR and woolly star within the Plan Area, complete avoidance of take of all listed species would require substantial changes to existing and future O&M activities and to the design and implementation of planned projects in the Plan Area by all of the proposed covered parties. The impracticality of this alternative was the trigger for preparation of this HCP. The alternative was rejected in favor of reconciling land use and species/habitat conservation goals for the Plan Area and seeking authorization for incidental take.

2.5.2 NO ADVERSE IMPACTS TO SLENDER-HORNED SPINEFLOWER

Of the five proposed covered species in the HCP, the slender-horned spineflower is the most at risk. The Plan Area is one of only eight known remaining locations for this narrowly distributed endemic plant species and one of only two locations in San Bernardino County. Further, the cryptic nature of this plant and lack of information about why it occurs in certain areas make conservation planning or effective mitigation for impacts difficult. Excluding spineflower from the list of species covered by the plan and coverage for adverse effects was considered in the early stages of the HCP preparation, but was rejected

in favor of the approach developed in cooperation with the USFWS and CDFW. That approach makes Covered Activity-related adverse effects to spineflower contingent on the successful development of a habitat enhancement program for spineflower in the Plan Area as part of the HCP implementation. Because of the known and potential occurrence of spineflower on lands that would be managed under the HCP, development of the enhancement program has the potential to directly contribute to the recovery of this species. In that context, the species would tolerate some adverse effects, but the effects would not reduce the likelihood of its survival and recovery.

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3.0 ENVIRONMENTAL SETTING

3.1 AIR QUALITY

This section describes the existing air quality conditions and greenhouse gas (GHG) emissions within the Plan Area.

3.1.1 REGULATORY SETTING

3.1.1.1 Federal

Air Quality Standards

Pursuant to the Federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed criteria pollutants. The criteria pollutants are carbon monoxide (CO), oxides of nitrogen (NO_x), ozone (O₃), atmospheric particulate matter (PM), sulfur dioxide (SO₂), and lead (Pb). Criteria pollutants are defined as those pollutants for which Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations that safeguard public health. These standards identify concentrations for criteria pollutants that are the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare; refer to Table 3.1-1.

Table 3.1-1: National and California Ambient Air Quality Standards and Attainment Status for the Project Area

Pollutant	Averaging Time	California ¹		Federal ²	
		Standard ³	Attainment Status	Standards ^{3,4}	Attainment Status
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Nonattainment Severe	N/A	Nonattainment/ Extreme
	8 Hour	0.070 ppm (137 µg/m ³)	N/A	0.070 ppm (147 µg/m ³)	Nonattainment/ Extreme
Particulate Matter (PM) ₁₀ ⁵	24 Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Attainment/ Maintenance
	Annual Arithmetic Mean	20 µg/m ³	Nonattainment	N/A	N/A
Fine Particulate Matter (PM) _{2.5} ⁵	24 Hour	No Separate State Standard		35 µg/m ³	Nonattainment/ Serious
	Annual Arithmetic Mean	12.0 µg/m ³	Nonattainment	12.0 µg/m ³	Nonattainment/ Moderate
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment/ Maintenance
	1 Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment/ Maintenance
Nitrogen Dioxide (NO ₂) ⁶	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Attainment	53 ppb (100 µg/m ³)	Maintenance
	1 Hour	0.18 ppm (339 µg/m ³)	Attainment	100 ppb (188 µg/m ³)	Attainment/ Maintenance
LEAD (Pb) ^{8, 9}	30 day average	1.5 µg/m ³	Nonattainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m ³ (for certain areas)	Unclassified
	Rolling 3-month Average	N/A	N/A	0.15 µg/m ³	Unclassified/ Attainment
Sulfur Dioxide (SO ₂) ⁷	Annual Arithmetic Mean	N/A	N/A	0.030 ppm (for certain areas)	Attainment
	24 Hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (for certain areas)	Attainment
	3 Hour	N/A	N/A	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m ³)	Attainment	75 ppb (196 µg/m ³)	Attainment/ Unclassifiable

DEIS/SEIR FOR A PROPOSED HCP AND SECTION 10 PERMIT FOR THE UPPER SANTA ANA RIVER WASH PLAN

SECTION 3.1

Visibility-Reducing Particles ¹⁰	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	No Federal Standards
Sulfates	24 Hour	25 µg/m ³	Attainment	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Unclassified	
Vinyl Chloride ⁸	24 Hour	0.01 ppm (26 µg/m ³)	N/A	
µg/m ³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.				
<div>1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM₁₀ and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations</div> <div>2. National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ 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 three years, are equal to or less than the standard.</div> <div>3. Concentration is 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.</div> <div>4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.</div> <div>5. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.</div> <div>6. To attain the 1-hour standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm.</div> <div>7. On June 2, 2010, a new 1-hour SO₂ 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 SO₂ 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 for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.</div> <div>8. CARB has identified lead and vinyl chloride as 'toxic contaminants 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.</div> <div>9. The national lead standard, rolling 3-month average; final rule signed October 15, 2008.</div> <div>10. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.</div>				

Source: California Air Resources Board and U.S. Environmental Protection Agency, May 4, 2016. (www.arb.ca.gov/research/aaqs2.pdf)

Detailed information on state and local air quality regulations can be found in Appendix B.

3.1.2 ENVIRONMENTAL SETTING

The Plan Area is located in the non-desert portion of the South Coast Air Basin (Basin), a geographic area that includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin encompasses the coastal plain and connects broad inland valleys, low hills, and mountains. The South Coast Air Quality Management District (SCAQMD) administers air quality regulation in the Basin.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of a subtropical high-pressure system which holds air contaminants near the ground. During the summer, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties. The long daylight hours and sunshine combine to cause a reaction between hydrocarbons, designated volatile organic compounds (VOCs) or reactive organic gases (ROGs), and oxides of nitrogen (NO_x) to form photochemical smog. In the fall and winter, strong, dry north or northeasterly winds known as the Santa Ana winds disperse air contaminants. The greatest pollution problems during these seasons are carbon monoxide (CO) and oxides of nitrogen (NO_x), because of extremely low inversions and air stagnation during the night and early morning hours.

Predominant winds in the Basin have relatively low average velocities, averaging about 4.0 miles per hour (mph). These low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin.

3.1.2.1 Regional Air Quality

The Federal CAA of 1970 established the National Ambient Air Quality Standards (NAAQS). Six “criteria” air pollutants were identified using specific medical evidence available at that time, and NAAQS were established for those chemicals. The State of California has adopted the same six chemicals as criteria pollutants, but has established in some instances different allowable levels or different methods to measure criteria pollutants (Table 3-1.1). The six criteria pollutants are: carbon monoxide, ozone, nitrogen dioxide, particulates less than 10 microns in size (PM_{10}), sulfur dioxide, and lead. A further discussion of the criteria pollutants, as well as $\text{PM}_{2.5}$ and volatile organic compounds can be found in Section C.1.1 of Appendix C.

3.1.2.2 Local Air Quality

The California Air Resources Board (CARB) coordinates and oversees Federal and State air pollution control programs in California, oversees activities of local air quality management agencies, incorporates the Air Quality Management Plan (AQMP) for local air basins into a State Implementation Plan (SIP) for US EPA approval, and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air districts. The CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Based on air quality data for the most recent three calendar

years compared with federal and California AAQS, data collected at these stations are used by the CARB and EPA to classify air basins using the following four classifications:

- Attainment: A pollutant is designated attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period;
- Nonattainment: A pollutant is designated nonattainment if there was at least one violation of an AAQS for that pollutant in the area;
- Nonattainment-transition: This is a subcategory of the nonattainment designation. An area is designated nonattainment-transitional to signify that the area is close to attaining the standard for that pollutant;
- Attainment / Maintenance: This subcategory refers to a former nonattainment area that has attained the AAQ by following a maintenance plan consisting of best available controls and technologies to ensure ongoing attainment; and
- Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

The Plan Area is located in the South Coast Air Basin (Basin) which is in nonattainment for ozone and PM_{2.5} (See Table 3.1-1).

Air quality data are also used to monitor progress in attaining air quality standards. The SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the Plan Area is in the City of Redlands, but only monitors O₃ and PM₁₀. The closest station that monitors most of the criteria pollutants is located in the City of San Bernardino. SO₂ is not monitored at most stations because there has been no exceedance of the Federal standards in the past 10 years. However, the Fontana station monitors SO₂. The existing levels in the Plan Area can be sorted into two categories: 1) consistently below the relevant Federal standards for NO₂, SO₂, and CO; and 2) regularly exceeding Federal standards for O₃ and PM_{2.5}.

3.1.2.3 Toxic Air Contaminants

Toxic Air Contaminants (TACs) are another group of pollutants of concern. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome-plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different toxic air contaminants. The most important, in terms of health risk, are diesel particulate matter, benzene, formaldehyde, acrolein, 1, 3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as well as accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death. The CARB has developed recommendations regarding the siting of new land uses with sensitive receptors near sources of TACs, such as freeways with heavy diesel truck traffic. The recommendations identify minimum separations between sources and receptors (CARB, 2005).

Determining how hazardous a substance depends on many factors, including the amount of the substance in the air, how it enters the body, and how long the exposure lasts. One major way these substances enter the body is through inhalation of either gas or particulate. While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. The Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel exhaust particulates (PM) poses the highest cancer risk of any TAC it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some contaminants. The Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, when fully implemented in 2020, will result in an 85 percent reduction in particle emissions from diesel-powered trucks and other equipment compared to 2000 levels.

CARB proposes to:

- Establish more stringent emission standards for new diesel-fueled engines and vehicles;
- Establish particulate trap retrofit requirements for existing engines and vehicles where traps are determined to be technically feasible and cost-effective;
- Require the sulfur content of diesel fuel to be reduced to enable the use of advanced diesel PM emission controls; and
- Evaluate alternatives for diesel-fueled engines and vehicles.

3.1.3 GLOBAL CLIMATE CHANGE

Although the Federal government has not regulated emissions of GHGs, the State of California has been proactive in the study of impacts of climate change and reducing emissions of GHG. According to the California Energy Commission (CEC) California is a substantial contributor of global GHG as it is the second largest contributor in the U.S. and the sixteenth largest in the world (CEC 2006). During 1990 to 2003, California's gross state product grew 83 percent, while GHG emissions grew 12 percent. Although California has a high amount of GHG emissions, it has low emissions per capita.

The major source of GHG in California is transportation, contributing 39 percent of the State's total GHG emissions (CEC 2018). GHG emissions from the electricity sector declined by 18% in 2016 compared to 2015 (CEC 2016). The decrease in GHG was driven primarily by the large increase in renewable energy resources as a result of California's Renewable Portfolio Standard and the Cap-and-Trade Program.

There are currently no direct Federal rules or legislation pertaining to GHG emissions under the CAA.

3.1.4 EXISTING EMISSION SOURCES

The existing land uses in the Plan Area consist of water conservation, flood control, water production, habitat conservation, unmanaged open space, aggregate mining, arterial/highway, agriculture, and

vacant land. Of the current existing uses permitted within the Plan Area, water conservation and flood control activities have the tendency to emit coarse particulate matter (PM₁₀) due to the need to regularly maintain and monitor their respective primarily earthen facilities. Coarse particulate matter is primarily emitted from water conservation and flood control activities due to the lack of paved maintenance roads. Additionally, mining activities would emit coarse particles (fugitive dust) from the daily mining and processing of aggregate material as well as from the proposed construction and vehicle use of haul roads and access roads.

To combat the emission of PM₁₀ in the air, the Conservation District and the SBCFCD enforce speed limits of 15 mph for their service vehicles on all maintenance roads within the Plan Area. Mining vehicle speed limits are established per their mining plan. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) to reduce fugitive dust. Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter.

Currently, Cemex is permitted to produce up to 5.4 million tons of aggregate materials per year, and Robertson's is permitted to produce up to 2.55 million tons per year as per their SCAQMD permits. Existing mining operations include excavation, transport, and processing of materials in the Plan Area. Excavation operations require the use of excavators, and transporting operations require the use of haul trucks and water trucks. The processing of materials requires the use of crushers, screens, conveyors, and stacking conveyors. The existing rate of production at both Cemex and Robertson's facilities is approximately 4.0-4.5 million tons per year (MTPY).

Existing Cemex and Robertson's mining activities and Conservation District and SBCFCD activities contribute fugitive dust and fuel-combustion emissions generated during operations within the Plan Area. Existing emissions sources fall under the following categories:

- **Off-Site Mobile Emissions:** Vehicle emissions resulting from traffic traveling to and from the processing facilities;
- **On-Site Mobile Emissions:** Vehicle and heavy-duty mobile equipment exhaust emissions, including when idling;
- **On-Site Stationary Emissions:** Cemex and Robertson's currently operate the following stationary sources: (1) a rock plant used for crushing and screening of quarried materials; and (2) a ready-mix plant. Commercial electric power is used for all plant operations and operations are scheduled around peak energy demands in coordination with Southern California Edison; and
- **On-Site Fugitive Emissions:** Dust from heavy-duty mobile equipment used on site for quarry and loading operations, and wind erosion of disturbed areas, including topsoil stockpiles.

Cemex, Robertson's, SBCFCD, and the Conservation District reduce the amount of emissions emitted from their respective activities conducted within the Plan Area with compliance with applicable SCAQMD Rules and with the air quality policies contained in the general plans of the City of Highland and City of Redlands which include (but are not limited to) the following:

- Enforced speed limits;
- Watering of road surfaces on a regular basis;
- Maintaining a smooth road bed through grading and filling of potholes to reduce spillage;
- Shut down of plant and quarry operations in winds over 25 mph;
- Shifts at non-peak traffic hours;
- Reduced power usage during peak consumption hours when applicable (summer);
- Spraying of water in active mining areas during removal and loading of haul trucks;
- Specific control measures (not inclusive) to meet standards of SCAQMD Rules 403 and 1157:
 - Paved entrances (driveways), scales, washing areas, and front office areas.
 - Water truck wash racks to wash truck sides and wheels and to moisten load.
 - Ruble grates to reduce track-out.
 - Loading of trucks per California Vehicle Code 23114 including covering of load or maintaining a 6-inch freeboard.
 - Loading of some trucks from bins with drop chutes to reduce dust.
 - Wet sweeping paved plant areas and surrounding paved public streets as needed to remove track-out every 8-hour shift or two times per day.
 - Application of dust suppressants approved by the SCAQMD and CARB on other heavily used internal roads.
 - Waters spraying of stockpiles.
 - Operate stationary plant equipment per SCAQMD permit conditions including controlling dust with baghouses, water sprays, enclosures, and production limits.
 - Maintenance of the 20-foot high landscaped berm on the west side of the Orange Street plant to reduce blowing dust.

In addition, managers and other selected employees receive dust control training and certification at SCAQMD to have a certified dust control employee at all times. A person must be trained and/or certified to conduct opacity or visibility readings as required by Rule 1157, and employees are provided instruction on how to reduce dust during scheduled safety and training sessions. Dust is not only a nuisance for the public, it can cause major costly maintenance issues for on-site equipment and engines, so it is to the benefit of the operator to reduce dust.

From 2004 through 2008, the Inland Empire experienced a drastic increase in development, thus increasing air quality emissions within the vicinity of the Plan Area. Subsequently that time, a significant

decrease in development has occurred. Therefore, the air quality analysis conducted in 2007 is expected to still illustrate a reasonable scenario when compared to current conditions.

Also, due to implementation of existing regulations for the fleet of haul trucks and processing equipment that would be in use at the time the Proposed Projects are implemented are anticipated to be cleaner than those used in 2007 when the emissions analysis was conducted. Some statewide regulations proposed to reduce one form of pollutant have the added benefit of reducing other forms of pollution. For example, after the CARB approved the Heavy-Duty Vehicle Greenhouse Gas Reduction Measure in 2008 and the most recent amendments in December 2014 to reduce greenhouse gas emissions from heavy-duty trucks, it also reduces NO_x emissions. This measure requires a compliance schedule for trucks to be certified under the USEPA SmartWay Program, which reduces fuel consumption by improving fuel efficiency through improvements to tractor and trailer aerodynamics and low-rolling resistance tires. Also, on February 1, 2005, a requirement limiting the idling of diesel-fueled commercial vehicles to five minutes at any location pursuant to Section 2485 of Chapter 10 within Title 13 of CCR was adopted. Similarly, Section 2449 prohibits construction equipment and truck idling times shall be prohibited in excess of five minutes on site. Therefore, emissions from the fleet of haul trucks and processing equipment when the Proposed Projects and expanded aggregate mining are implemented are anticipated to be less than what was estimated in the 2008 EIR.

On-site exhaust emissions for mining operations, off-site emissions for haul trucks, and fugitive dust sources were estimated and included in the Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan. Table 3.1-2, *Existing Wash Plan Area Emissions*, shows the existing on-site and off-site emissions for the Plan Area that were included in the 2008 EIR. Existing emissions rates do not exceed Operations thresholds set by the South Coast Air Quality Management District (SCAQMD) for CO or VOCs but do exceed thresholds for NO_x, PM₁₀ and PM_{2.5}.

Table 3.1-2: Existing Wash Plan Area Emissions

Emission Source	Emission Rates (lbs/day)					
	CO	VOC	NO _x	PM ₁₀	PM _{2.5}	CO ₂
Off-site Exhaust Sources	19	6.4	35	2.4	2.2	3,800
On-site Exhaust Sources	128	40	364	62	29	N/C
On-site Fugitive Dust Sources	—	—	—	781	234	—
SAQMD Thresholds	550	55	55	150	55	No Threshold
Significant?	No	No	Yes	Yes	Yes	

Source: Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Note that numbers are rounded.

N/C = Not Calculated

Existing vehicular trips associated with aggregate mining contribute to the congestion at intersections and along roadway segments in the Plan Area. The primary mobile source pollutant of local concern is CO. CO is a direct result of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes.

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated during peak traffic conditions would represent a worst-case analysis. Based on the *Traffic Study* (LSA Associates, Inc., August 2007), CO hot spot analyses were conducted for existing conditions. The impact on local CO levels was assessed with the CARB-approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of CO hot spots. Table 3.1-3 shows the existing CO concentrations at principal intersections that would be affected by traffic from ongoing mining operations.

Table 3.1-3 – Existing CO Concentrations

Intersection	Receptor Distance to Road Centerline (Meters)	Existing 1- hour CO Concentration (ppm)	Existing 8- hour CO Concentration (ppm)	Exceeds State Standards	
				1-Hr	8-Hr
Palm Avenue and 5 th Street	12	6.5	5.1	No	No
	12	6.5	5.1	No	No
	10	6.3	4.9	No	No
	10	6.2	4.9	No	No
Palm Avenue and 3 rd Street	14	5.7	4.5	No	NO
	14	5.6	4.5	No	No
	12	5.6	4.5	No	No
	7	5.6	4.5	No	No
Palm Avenue and Robertson's Access	10	5.5	4.4	No	No
	7	5.5	4.4	No	No
	7	5.5	4.4	No	No
	7	5.4	4.3	No	No
Palm Avenue and Cemex Access	14	5.3	4.2	No	No
	12	5.3	4.2	No	No
	7	5.2	4.2	No	No
	7	5.2	4.2	No	No
Church Avenue and 5 th Street	14	5.9	4.7	No	No
	14	5.8	4.6	No	No
	14	5.7	4.5	No	No
	12	5.5	4.4	No	No
Truck Access Road and 5 th Street	17	5.7	4.5	No	No
	17	5.5	4.4	No	No
	17	5.5	4.4	No	No
	15	5.4	4.3	No	No
State Route 210 Southbound Ramps and 5 th Street	10	6.4	5.0	No	No
	10	6.3	4.9	No	No
	10	6.2	4.9	No	No
	10	5.9	4.7	No	No
State Route 210 Northbound Ramps and 5 th Street	7	6.8	5.3	No	No
	7	6.6	5.2	No	No
	7	6.5	5.1	No	No
	7	6.4	5.0	No	No
Boulder Avenue and Greenspot Road	7	6.6	5.2	No	No
	7	6.4	5.0	No	No
	7	6.3	4.9	No	No
	7	6.3	4.9	No	No
Orange Street and Cemex Access	7	6.4	5.0	No	No
	7	6.4	5.0	No	No
	7	6.3	4.9	No	No
	7	6.3	4.9	No	No

Includes ambient 1-hour concentration of 3.8 ppm and ambient 8-hour concentration of 2.9 ppm. Measured at the 24302 4th Street, San Bernardino, California, AQ Station (San Bernardino County).

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

None of the principal intersections that would be affected by expanded mining have existing CO concentrations that exceed state standards; there are no existing hot spots at principal intersections.

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3.2 GEOLOGY AND MINERAL RESOURCES

The purpose of this section is to identify and describe the current geologic and soil conditions and mineral resources in the Plan Area.

3.2.1 REGULATORY SETTING

Federal, state, and local regulations in regards to geology and mineral resources can be found in Appendix B.

3.2.2 ENVIRONMENTAL SETTING

3.2.2.1 Geologic Setting

The Plan Area is located within the Bunker Hill-San Timoteo Basin portion of the San Bernardino Valley at the northeastern edge of the Peninsular Ranges Geomorphic Province. The geomorphology of the Peninsular Ranges is characterized by northwest/southwest-trending mountain ridges, valleys, and faults which run parallel and sub-parallel to the San Andreas Fault. As a result of the active tectonism of the area, the surficial geology of this province is typified by gently to moderately sloping igneous and metamorphic rocks of the Peninsular Ranges. The Bunker Hill-San Timoteo Basin is a subsiding series of horsts (high ground flanked by faults) and grabens (low ground flanked by faults) bounded on the northeast by the San Andreas Fault and on the southeast by the San Jacinto Fault. Alluvial fans derived from the San Bernardino Mountains (to the north) and, to a lesser extent, from the San Timoteo Badlands (to the south) are filling the basin with sediment as it subsides. These alluvial deposits have formed the alluvial plain known as the Santa Ana River Wash (Conservation District 2008 EIR).

The Santa Ana River Wash is comprised of recent and older washes deposited by several stream channels and drainages that are derived from the San Bernardino Mountains to the north, several of which impact the Plan Area. These channels include Santa Ana River, Mill Creek, City Creek, and Plunge Creek. Due to the irregular surface of the basin floor, the alluvial deposits vary in thickness and depth between 600 to 1,200 feet. Artificial fill associated with man-made earthen berms, roadways, and unprocessed stockpiles at mining sites, is also found within the limits of the Plan Area. (Conservation District 2008 EIR).

3.2.2.2 Seismic Setting

The Plan Area is in a seismically active region between two major fault systems, the San Andreas and San Jacinto Faults. The Alquist-Priolo Earthquake Fault Zone established for the San Andreas Fault extends into the northeastern corner of the Plan Area. The San Jacinto Fault is outside the Plan Area and at its closest approach is approximately 4.75 miles to the west. Motion on both the San Andreas and San

Jacinto Faults is transferred laterally from one fault to another and then back again. Activity on any fault in this transfer zone will produce associated motion on other faults in the zone. Figure 3.2-1 depicts the San Andreas fault and its associated Alquist-Priolo Fault Zone in relation to the Plan Area and vicinity (Conservation District 2008 EIR).

The San Andreas Fault is the major surface expression of the tectonic boundary between the Pacific and North American plates. The San Andreas Fault zone near the Plan Area is composed of numerous echelon fault strands that traverse the base of the San Bernardino Mountains. The San Bernardino Mountains segment of the San Andreas Fault consists of three paleotectonic strands (the Wilson Creek, Mission Creek, and Mill Creek Faults). These strands separate the San Bernardino Mountains Block, which is being actively pushed upward and over the San Bernardino Block. The Wilson Creek Fault is the oldest of the three strands and has generated about 40 kilometers of displacement (Conservation District 2008 EIR).

In the San Bernardino area, the toe of the mountain delineates the present active expression of the San Andreas Fault. The Working Group on California Earthquake Probabilities has assigned a 28 percent probability that a major earthquake could occur on the San Bernardino Mountain segment of the San Andreas Fault between 1994 and 2024. (Conservation District 2008 EIR) The 3rd Uniform California Earthquake Rupture Forecast (UCERF3) assigned a 19 percent probability that a major earthquake will occur in the next 30 years (starting from 2014).

The main expression of the San Jacinto Fault is approximately 4.75 miles west of the Plan Area. The San Jacinto Fault zone is a system of northwest-trending, right-lateral, strike-slip faults. The Working Group on California Earthquake Probabilities assigned a 37 percent probability that a major earthquake would occur on the San Bernardino Valley segment of the San Jacinto Fault between 1994 and 2024. (Conservation District 2008 EIR) The 3rd Uniform California Earthquake Rupture Forecast (UCERF3) assigned a 5 percent probability that a major earthquake will occur in the next 30 years (starting from 2014).

The Greenspot Fault is located outside the eastern boundary of the Plan Area and somewhat parallel to and is considered part of the San Andreas/San Jacinto Fault zone. This fault is considered by the CGS to be potentially active. Studies performed to date have not established activity, nor have structural setbacks been recommended for this feature (Conservation District 2008 EIR).

3.2.2.3 Geologic and Seismic Hazards

Geologic and seismic hazards include the following:

- Surface rupture;
- Ground shaking;
- Liquefaction;
- Subsidence and seismic settlement;

- Landslides/slope stability; and
- Expansive soils.

Surface Rupture

Surface rupture occurs when displacement or fissuring develops adjacent to a fault. Significant structural damage may result when a structure is located close to a surface rupture. Reduction of the potential damage due to surface rupture is difficult to achieve through structural design. The primary way to avoid surface rupture hazard is to set structures and facilities away from active faults, or avoid their construction in close relation to an active fault. The California Building Code regulations include avoidance of faults.

Ground Shaking

Ground shaking causes the vast majority of earthquake damage. Because of the proximity of the Plan Area to two major faults (San Andreas and San Jacinto), the Plan Area can be expected to be subject to severe ground shaking during the lifetime of the Proposed Action/Projects. In general, the degree of shaking depends upon source effects, path effects, and site effects. Source effects include earthquake size, location, and distance. The bigger and closer the earthquake is, the more severe the damage will be. The exact way that rocks move along the fault can also influence shaking, as well as the orientation of the fault in the ground. Path effects are caused by seismic waves that change direction as they travel through the earth's contrasting layers, just as light bounces (reflects) and bends (refracts) as it moves from air to water. Sometimes this can focus seismic energy at one location, and cause damage in unexpected areas. Site effects are brought about by seismic waves that slowdown in the loose sediments and weathered rock at the surface of the earth. As they slow, their energy converts from speed to amplitude, which increases shaking. This is identical to the behavior of ocean waves. As the waves slow down near shore their crests grow higher. Sometimes, too, seismic waves get trapped at the surface and resonate. Whether resonance will occur depends on the period (the length) of the incoming waves. Waves, soils and buildings all have resonant periods. When these match, tremendous damage can occur (District 2008).

Liquefaction

Liquefaction occurs in saturated, poorly consolidated, fine-to-medium-grained soils in areas where the groundwater table is within 50 feet of the surface. Ground shaking can cause soil to suddenly lose strength and behave as a liquid. During such an event, an increase in interstitial pore-water pressure causes the resulting liquid mass to move upward through fissures in the soil. This can cause a water-soil slurry mixture to bubble onto the ground surface. The resulting features are commonly identified as "sand boils," or "sand blows." Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, or slumping.

The Plan Area is located within the Santa Ana River Wash, an area of relatively shallow historical groundwater levels. Groundwater levels in the Plan Area fluctuate as a result of changes in surface flows and regional changes in the extraction and recharge of groundwater (Conservation District 2008 EIR).

Based on data the Conservation District has been collecting from five monitoring wells in the Plan Area from 2006 until present, groundwater depths range from the most shallow depth recorded at 14 feet below ground level to the deepest depth recorded at 336 feet below ground level in the Plan Area. However most of the recorded groundwater levels fall within the range of 100-300 feet below ground level.

The majority of the Plan Area is mapped as having a high liquefaction susceptibility, refer to Figure 3.2-2, *Liquefaction Zone Map* (Conservation District 2008 EIR).

Subsidence

Ground subsidence is the gradual settling or sinking of the ground surface, with little or no lateral displacement. Fissures, a common feature of subsidence, may develop in the form of cracks or separations. Ground subsidence may occur as a result of dewatering of peat or organic soils, dissolution of limestone aquifers, hydrocompaction, natural compaction, liquefaction, crustal deformation, subterranean mining, or withdrawal of fluids such as groundwater, petroleum, and geothermal vapor.

Due to decades of groundwater withdrawal, portions of southwestern San Bernardino County have subsided considerably in certain areas. This phenomenon has not been recognized to have occurred within the cities of Redlands and Highland. As a result, ground subsidence has not been recorded for the area within and near the limits of the Plan Area (Conservation District 2008 EIR).

Collapsible and Expansive Soils

The Plan Area is composed of interfingering layers of channel deposits which are made up of stony, loamy sands and sandy, gravelly detritus derived from the San Bernardino Mountains and San Timoteo Badlands. These soils are classified as very rapidly permeable with a low shrink-swell potential. They are somewhat excessively to excessively drained (*Soil Survey of San Bernardino County, Southwestern Part*).

Expansive soils generally contain a significant amount of fines (clays and silts) that can take on and release large amounts of water. The cities of Highland and Redlands do not identify expansive soils as a hazard within the Plan Area (Conservation District 2008 EIR).

Landslides and Slope Stability

The susceptibility of a geologic unit to landslides is dependent upon various factors which primarily include: the presence and orientation of weak structures, such as fractures, faults, and clay beds; the height and steepness of the pertinent natural or cut slopes; the presence and quantity of groundwater; and the occurrence and intensity of seismic shaking. Landslides along undisturbed slopes are not considered a potential hazard within or near the Plan Area due to the gentle slope of the topography

that is indicative of the City of Redlands and the City of Highland, and the rapidly draining soil that comprises the Plan Area. Regardless, slope failure is considered a potential hazard due to mining operations which have created steep, near-vertical slopes with heights of greater than 30 feet. Movement from nearby faults may trigger slope failure and soil settlement from a near vertical condition down to as gentle as a 2:1 inclination.

Soils

Soils within the limits of the Plan Area include Soboba and Riverwash Association soils (Lilburn Corporation 2006). The Soboba Association soils form along the gentle to moderately sloping terrace banks of creeks and washes, within alluvial or stream outwash deposits. The soils are characterized by a surficial cover of cobbly, coarse, loamy sand over single grain, very gravelly and cobbly sand and loamy sand subsoils. The Riverwash Association soils form along the active channels, main washes, and creek beds. Consequently, Riverwash Association soils comprise river-deposited sands, gravels, cobbles, and stones. Ten specific soils can be found within the limits of the Plan Area as outlined in Figure 3.2-3, *Soils Map*:

	NRCS Wind Erodibility Group ¹
• Soboba stony loamy sand, 2 to 9 percent slopes (SpC);	2
• Hanford Coarse Sandy Loam, 2 to 9 percent slopes (HaC);	3
• Soboba gravelly loamy sand, 0 to 9 percent slopes (SoC);	2
• Soboba-Hanford Families Association (AbD);	
• Hanford Sandy Loam, 0 to 2 percent slopes (HbA);	3
• Ramona Sandy Loam (RmC);	3
• Quarries and Pits soils (GP);	2
• Psamments, Fluvents and Frequently flooded soils (Ps);	1
• Tujunga Gravelly Loamy Sand, 0-9 percent slopes (TvC); and	2
• Tujunga Loamy Sand, 0 to 5 percent slopes (TuB).	2

3.2.2.4 Mineral Resources

In general, the Plan Area is not within an area of high mineral resources other than aggregate (BLM Mineral Report, August 2006). There is a very low potential for oil and gas based on the geologic setting of the area; however, high-quality sand, gravel, and aggregate resources are present in the alluvial deposits throughout the Santa Ana River Wash. Large alluvial fans and alluvial wash deposits have developed in the San Bernardino Valley, including the Plan Area. The maximum alluvial thickness in the San Bernardino Valley is 1,200 feet. The thickness varies, generally thinning out in areas adjacent to the

¹ Wind erodibility groups are made up of soils that have similar properties affecting their resistance to soil blowing. Soils assigned to group 1 are the most susceptible to soil blowing (Natural Resource Conservation Service).

San Bernardino Mountains and in upstream areas. The thickness of Holocene alluvium suitable for commercial grade aggregate ranges from 15 to 390 feet (BLM Mineral Report, August 2006).

The entirety of the Plan Area has been classified as MRZ-2, which indicates the likelihood of significant mineral deposits (refer to Figure 3.2-4, *Mineral Resource Map*). There are currently two active aggregate mining operations within the Plan Area by Cemex and Robertson's. There are no unpatented mining claims within the Plan Area boundary.²

² <http://www.mylandmatters.org/Maps/ClaimsCa/GetMap>

3.3 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrology in the Plan Area, including the drainages and their associated floodplains, and the groundwater, as well as the water quality of these surface and groundwater bodies.

3.3.1 REGULATORY SETTING

Information regarding, Federal, State, and Local regulations in regards to hydrology can be found in Appendix B.

3.3.1.1 Waters of the US/State

The Santa Ana River and its major tributaries (Mill Creek, Plunge Creek and City Creek) are tributary to the Pacific Ocean, a navigable water, and thus are considered to be waters of the US/State and rivers/streams, subject to United States Army Corps of Engineers (USACE), Regional Water Quality Control Board and California Department of Fish and Wildlife (CDFW) jurisdiction.

A formal jurisdiction delineation has not been conducted for the Plan Area. However, a preliminary assessment of the extent of waters of the Plan Area associated with the Santa Ana River and its major tributaries was prepared. Various data including aerial photographs that show erosional in active channels, topography, and site visits to the area were used to develop the preliminary assessment, represented in Figure 3.4-8, Preliminary Assessment of Waters of the US. Approximately 677 acres of potential jurisdictional waters of the US/streambeds were mapped within the Plan Area and associated with the Santa Ana River, Mill Creek, Plunge Creek and City Creek.

3.3.2 ENVIRONMENTAL SETTING

3.3.2.1 Surface Water

The Plan Area is located in the Upper Santa Ana Watershed. The Santa Ana River is the major surface water body within the Santa Ana Watershed. The Santa Ana River drains an approximately 2,800-square mile area from its headwaters in the San Bernardino National Forest, southwest through San Bernardino County, into Riverside and Orange Counties, and then discharges into the Pacific Ocean through the cities of Huntington Beach and Costa Mesa.

The Santa Ana River comes into the Plan Area from the northeast and continues along the southern boundary of the area. From there, the Santa Ana flows generally southwest to its outlet at the Pacific Ocean. Aside from the Santa Ana River, there are three other drainage courses in or immediately adjacent to the Plan Area (refer to Figure 3.3-1, Surface Hydrology):

- Plunge Creek;
- City Creek; and
- Mill Creek.

Plunge Creek enters the Plan Area along its northern edge and flows in a westerly direction to its confluence with City Creek west of the 210 freeway. Historically, Plunge Creek turned to the southwest just west of Orange Street until it joined the Santa Ana River. It was diverted west to City Creek to facilitate mining operations. City Creek borders the northwestern edge of the Plan Area, and Mill Creek joins the Santa Ana River to the southeast. Surface water is usually present only after large rainfall events, particularly during the rainy season.

In the 1960s, dry conditions resulted in the over-commitment of water resources in the Santa Ana River watershed which led to lawsuits between water users in the upper and lower portions of the watershed regarding both surface flows and groundwater. The lawsuits culminated in 1969 in the Orange County and Western Judgments. Under the terms of the judgments, San Bernardino Valley Municipal Water District (SBVMWD) became responsible for providing a portion of the specified Santa Ana River base flow to Orange County and for replenishing the San Bernardino Basin Area (SBBA) under certain conditions. If the conditions of either judgment are not met by the natural water supply, including new conservation efforts, SBVMWD is required to deliver supplemental water to offset the deficiency. The judgments resolved the major water rights issues that had prevented the development of long-term, region-wide water supply plans and established specific objectives for the management of the groundwater basins. (IRWMP 2015). Per the judgment, SBVMWD is responsible for an average annual adjusted base flow of 15,250 acre feet at Riverside Narrows, approximately 8.5 miles west of the Plan Area.

3.3.2.2 Existing Flood Conditions

The Plan Area is located within the Upper Santa Ana River Wash and is within 100-year and 500-year floodplains as delineated by the Federal Emergency Management Agency (FEMA); refer to Figure 3.3-1, *Surface Hydrology*. The 100-year floodplain boundary is generally located within the Plan Area's northern, southern, and western footprint, as floodplain waters would roughly flow from east to west. The 500-year flood plain boundary is generally located within the Plan Area's central footprint as floodplain waters would flow from east to west.

The Seven Oaks Dam is located approximately one mile northeast of the Plan Area's northeast boundary. The dam was constructed to provide flood protection for Orange, Riverside and San Bernardino counties. The reservoir behind the dam has a capacity of 145,600 acre-feet and retains storm water runoff from an area of approximately 177 square miles. During flood events Seven Oaks Dam will store runoff as long as the reservoir of Prado Dam is rising then release the captured water at a rate that does not exceed downstream channel capacity. Seven Oaks Dam is designed to completely contain a "Reservoir Design Flood" of 85,000 cubic feet per second (cfs), corresponding to a 350-year

flood event, reducing it to a peak outflow of 7,000cfs. In addition, controlled releases from the dam allow about 10,000-acre feet of additional groundwater recharge in the upper Santa Ana River basin each year. Captured floodwater from the Seven Oaks Dam benefits local water districts, as river water costs only a fraction of water imported through the State Water Project.

Table 3.3-1, below, details 100-year flows in the Plan Area for three segments of river: Seven Oaks Dam to Mill Creek, Mill Creek to Orange Street-Boulder Avenue, and Orange Street-Boulder Avenue to Alabama Street.

Table 3.3-1: Plan Area 100-Year Flows

River Segment	100-Year Flows (cubic feet per second)
Seven Oaks Dam to Mill Creek	5,500
Mill Creek to Orange Street-Boulder Avenue	25,000
Orange Street-Boulder Avenue to Alabama Street	28,000

Source: Technical Memorandum, Hydrology/Flooding for Upper Santa Ana River Wash Land Management Plan and Habitat Conservation Plan EIR/EIS, prepared by Brown and Caldwell, June 2005.

Levees and other flood control structures have been erected to manage the flows during flooding events in the Plan Area. These features include the following:

- Levee on the south bank of the Santa Ana River;
- Mill Creek levee;
- Plunge Creek levees; and
- City Creek levees.

The San Bernardino County Flood Control District (SBCFCD) maintains the levee along the Santa Ana River from its confluence with Mill Creek to the Alabama Street crossing. A levee on the south side of the Mill Creek extends upstream from its confluence with the Santa Ana River. It is an earth-fill embankment dating from 1960 and contains two stone masonry flood walls. Maintained levees bound the sides of Plunge Creek just upstream of Greenspot Road.

There are small levees and/or drainage structures at various road crossings including at the Orange Street-Boulder Ave crossing over Plunge Creek, and at the upstream and downstream ends of the Alabama Street crossing over City Creek. The channel found at the confluence of City Creek and Plunge Creek requires erosion-prevention maintenance during large storm events.

Beyond the above-mentioned levees, current mining site and water percolation basins have additional levees, berms, and dikes around them to further protect against flooding or to redirect flows.

3.3.2.3 Surface Water Quality

The Santa Ana Region Basin Plan identifies beneficial uses for surface water bodies in which water uses could benefit people and/or wildlife such as drinking, swimming, agricultural, and the support of fresh

and saline aquatic habitats. Table 3.3-2 summarizes the Basin Plan's beneficial uses for surface water bodies within, or downstream of, the Plan Area and Table 3.3-3 defines the abbreviated beneficial uses described in Table 3.3-2. The Clean Water Act Section 303(d) requires that states assess the quality of their waters every two years and publish a list of those waters not meeting the water quality standards established for them. Once a waterbody is placed on the 303(d) list of water quality-limited segments, it remains on the list until a Total Maximum Daily Load (TMDL) is adopted and the water quality standards are attained or sufficient data demonstrate that water quality standards have been met and delisting should take place. Reach 4 of the Santa Ana River, located downstream of the Plan Area, is listed as impaired for pathogens as well as Mill Creek Reach 1.

Table 3.3-2: Beneficial Uses and Constituents for Water Bodies within or Downstream of the Plan Area

Water Body Name	303(d) List Constituents	TMDL Constituents	Beneficial uses
Santa Ana Reach 5	--	--	MUN, AGR, GWR, REC1, REC2, WARM, WILD, RARE
Santa Ana Reach 4	Pathogens	--	GWR, REC1, REC2, WARM, WILD, SPWN
Mill Creek Reach 1	Pathogens	--	MUN*, AGR*, GWR*, REC1*, REC2*, WARM, COLD*, WILD*, RARE*
City Creek	--	--	MUN, AGR, GWR, REC1, REC2, COLD, WILD, RARE, SPWN
Plunge Creek	--	--	MUN, AGR, GWR, REC1, REC2, COLD, WILD, RARE

**Beneficial use is intermittent; Source: Basin Plan, Table 3-1*

Table 3.3-3: Abbreviation Definitions for Beneficial Uses

Abbreviation	Definition and Use
MUN	Municipal and Domestic Supply waters are used for community, military, municipal, or individual water supply systems. These uses may include, but are not limited to, drinking water supply.
IND	Industrial Service Supply waters are used for industrial activities that do not depend primarily on water quality. These uses may include, but are not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well pressurization.
PROC	Industrial Process Supply waters are used for industrial activities that depend primarily on water quality. These uses may include, but are not limited to, process water supply and all uses of water related to product manufacture or food preparation.
AGR	Agricultural Supply waters are used for farming, horticulture, or ranching including. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
GWR	Groundwater Recharge waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.
REC1	Water Contact Recreation waters are used for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
REC2	Non-Contact Water Recreation waters are 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, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
WARM	Warm Freshwater Habitat waters support warm water ecosystems that may include, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish and wildlife, including invertebrates.
COLD	Cold Freshwater Habitat waters support cold water ecosystems that may include, but are not limited to, preservations and enhancement of aquatic habitats, vegetation, fish and wildlife, including invertebrates.
WILD	Wildlife Habitat waters that support terrestrial ecosystems including, but not limited to, preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
RARE	Rare, Threatened or Endangered Species waters that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under State or Federal law as rare, threatened or endangered.
SPWN	Spawning, Reproduction and/or Early Development waters that support high quality aquatic habitats suitable for reproduction and early development of fish and wildlife.

Source: Basin Plan, Chapter 3

Once beneficial uses are identified in the Basin Plan, objectives for the quality of the water bodies are established to protect the beneficial uses. Table 3.3-4 summarizes the Basin Plan's numeric water quality objectives for the bodies within, or downstream of, the Plan Area.

Table 3.3-4: Water Quality Objectives for Water Bodies within or Downstream of the Plan Area

Watershed/Stream Reach	Total Dissolved Solids (mg/L)	Hardness (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Total Inorganic Nitrogen (mg/L)	Sulfate (mg/L)	Chemical Oxygen Demand (mg/L)
Santa Ana Reach 5	300	190	30	20	5	60	25
Santa Ana Reach 4	550	-	-	-	10	-	30
Mill Creek Reach 1	200	100	30	10	1	20	5
City Creek	200	115	30	10	1	20	5
Plunge Creek	200	100	30	10		20	5

Source: Basin Plan, Table 4-1

Groundwater

The 1969 Western-San Bernardino Judgment defines an area known as the San Bernardino Basin Area (SBBA). This area is defined as the “area above Bunker Hill Dike [San Jacinto fault], but excluding certain mountainous regions and the Yucaipa, San Timoteo, Oak Glen and Beaumont Basins.” The SBBA traditionally refers to two groundwater subbasins – Bunker Hill and Lytle Creek. The Plan Area is located in the Bunker Hill Subbasin. The Bunker Hill Subbasin (8-002.06) is the largest subbasin in the upper Santa Ana River Watershed. The basin is bordered on the northwest by the San Gabriel Mountains and the Cucamonga fault zone; on the northeast by the San Bernardino Mountains and the San Andreas Fault zone; on the east by the Banning fault and Crafton Hills; and on the south by a low, east-facing escarpment of the San Jacinto fault and the San Timoteo Badlands (IRWMP 2015).

The entire SBBA has a surface area of approximately 141 square miles (90,000 acres) and lies between the San Andreas and San Jacinto faults. The numerous faults surrounding the SBBA impede the movement of groundwater and produce springs and high water table in several areas. The SBBA is uniquely constrained by shallow groundwater levels when the basin is too full and poses a liquefaction hazard. Groundwater in the Bunker Hill Subbasin generally flows in a southwesterly direction from the San Bernardino Mountains to the Riverside Narrows. The San Jacinto fault generally runs perpendicular to the groundwater flow and acts as a partial barrier resulting in water level differences across the fault. For the basin as a whole, wide fluctuations in the average depth to groundwater occur from year to year, with annual changes as great as almost 40 feet. However, for the most part, annual changes register less than ± 20 feet, with only six years exceeding this range (IRWMP 2015).

The Conservation District has five groundwater wells in the Plan Area to monitor groundwater levels. Based on data collected by the Conservation District from these five monitoring wells in the Plan Area from 2006 until present, groundwater depths range from the shallowest depth recorded at 14 feet below ground level to the deepest depth recorded at 336 feet below ground level in the Plan Area. However most of the recorded groundwater levels fall within the range of 100-300 feet below ground level.

Historically, the Bunker Hill Groundwater Basin has been recharged from infiltration of runoff from the San Gabriel and San Bernardino Mountains. The Santa Ana River, Mill Creek, and Lytle Creek contribute more than 60 percent of the total percolating recharge to the groundwater basin. Lesser contributions come from Lytle Creek, Cajon Creek, San Timoteo Creek, and most of the creeks flowing southward out of the San Bernardino Mountains. The subbasin is also replenished by deep percolation of water from precipitation and resulting runoff, percolation from delivered water, and water spread in streambeds and spreading grounds. The total groundwater storage capacity of the Bunker Hill Groundwater Basin is estimated at 5,976,000 acre-feet (an acre-foot of water is equivalent to 325,851 gallons) (IRWMP 2015).

Groundwater Wells

The City of Redlands and EVWD operate municipal wells within the Plan Area. The City of Redlands operates three wells along Orange Street producing a combined average of 4,500 AF per year. EVWD

operates the Plant 125 well in the middle of the Plan Area near the Groundwater Recharge Operations. This well produces an average of 1,100 AF per Year (District 2019).

Existing Cemex operations utilize groundwater from two wells within the Plan Area. One well is located at the Orange Street aggregate plant site and the other is at the Alabama Street ready mix plant site. The Orange Street well is currently used for aggregate processing and dust control and also supplies water to all faucets and toilets within these areas. Based on Cemex estimates, these uses amount to approximately 2,030 acre-feet of water from this well. The Alabama Street well is currently used for batching concrete and dust control and also supplies water to faucets and toilets at the Alabama Street ready mix plant. Approximately 190 acre-feet of water is used on a yearly basis from this well. Total existing water use from Cemex operations is approximately 2,220 acre-feet per year (District 2008).

Water for current Robertson's operations are supplied from two existing wells within the Planning area. The well supplying the East Basin processing plant is located just north of the plant adjacent to Plunge Creek and currently produces approximately 350 acre-feet per year for aggregate processing. The well supplying water to the batch plant uses approximately 15 acre-feet per year. Total existing water use from Robertson's is approximately 365 acre-feet per year (District 2008).

Table 3.3-5: Existing Cemex and Robertson's Operations Water Use

Mining Operator	Well	Water Use (AFY)
Cemex	Orange Street Aggregate Plant Site	2,030
	Alabama Street Ready Mix Plant Site	190
	Cemex Total	2,220
Robertson's	East Basin Processing Plant	350
	Batch Plant	15
	Robertson's Total	365

Source: District 2008

3.3.2.4 Groundwater Quality and Management

Groundwater quality varies among the Region's groundwater basins, particularly in the subbasins of the Upper Santa Ana River Watershed due to geology, faulting patterns, recharge points, and anthropogenic sources of contamination. Groundwater in the SBBA is generally a calcium-bicarbonate type, containing equal amounts (on an equivalent basis) of sodium and calcium in water near the land surface and an increasing predominance of sodium in water from deeper parts of the valley-fill aquifer. A Total Dissolved Solids (TDS) range of 150 to 550 milligrams per liter (mg/L), with an average of 324 mg/L, is found in public supply wells (IRWMP 2015).

Five major groundwater contaminant plumes affect the SBBA. Plumes in the basin include (1) the Crafton-Redlands plume, with trichloroethylene (TCE) and lower levels of perchlorethylene (PCE), debromochloropropane (DBCP) and perchlorate; (2) the Norton Air Force Base TCE and PCE plume, stretching 2.5 miles from its source and contaminating 100,000 AF of groundwater; (3 and 4) the Muscoy and Newmark plumes near the Shandon Hills, which are Superfund sites with TCE and PCE; and (5) the Santa Fe plume with PCE, TCE, and 1,2 dichloroethylene (1,2-DCE) contamination (IRWMP 2015).

The groundwater rights to pump from the Bunker Hill Groundwater Basin were determined through adjudication in the 1969 case, *Western Municipal Water District of Riverside County et al., v. East San Bernardino County Water District et al.*, Riverside Superior Court, Case No. 78426. The water adjudication of the Bunker Hill Groundwater Basin set the annual groundwater pumping safe-yield to 232,100 acre-feet of water per year (AFY). Per the water adjudication, waters users are permitted to pump as much ground water as needed. Groundwater pumped in excess of the safe-yield must be recharged back into the groundwater basin by the Conservation District. Typically, the Conservation District utilizes imported water from State Water Project to recharge the basin. The water judgment does not require that the Bunker Hill Groundwater Basin have the same-year recharge, therefore, allowing the parties of the judgment, to pump more during dry years and recharge during wet years.

The Conservation District operates the San Ana River Spreading Grounds in the Plan Area, consisting of 16 percolation basins that use low flows from the Santa Ana River, see Figure 2.0-1 Covered Activity CD.01. The Bunker Hill Groundwater Subbasin is recharged both naturally (rainfall and stream flow) and artificially (imported water from State Water Project). This recharge occurs primarily in the rainy season when both the Santa Ana River and Mill Creek are flowing. Water users immediately adjacent to the Plan Area include the City of Redlands, the East Valley Water District (EVWD), and the City of San Bernardino.

Similar to the Basin Plan's water quality objectives of water bodies, the Basin Plan also establishes objectives for groundwater zones. The Plan Area is located in the Groundwater Management Zone B of the Bunker Hill Basin, as shown in Figure 3.3-2, Groundwater Basin. Per the Santa Ana Region Basin Plan (1995 as amended), the Bunker Hill Groundwater Basin is divided into the following six management zones: Lytle, Bunker Hill-A, Bunker Hill-B, San Timoteo, Yucaipa, and Beaumont. Table 3.3-6 summarizes the Bunker Hill B Groundwater Basin's water quality objectives.

Table 3.3-6: Water Quality Objectives for Groundwater Basin Relative to the Plan Area

Groundwater Management Zone	Total Dissolved Solids (mg/L)	Hardness (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Nitrate as Nitrogen (mg/L)	Sulfate (mg/L)
Bunker Hill – B	330	-	-	-	7.3	-

Source: Basin Plan, Table 4-1

3.4 BIOLOGICAL RESOURCES

This section describes the affected environment for biological resources¹. The existing biological conditions are presented for the Plan Area, which includes all lands involved in the land exchange in addition to a portion of BLM Parcel 108-081 that is proposed to be designated as an Area of Critical Environmental Concern (ACEC), as well as all lands covered by the Plan Area. The Plan Area is located on an alluvial plain and encompasses approximately 4,892.2 acres, extending approximately six miles westward from Greenspot Road in the City of Highland to Alabama Street in the City of Redlands. The Plan Area contains both public and private lands supporting a variety of uses, including mining, water conservation, water wells and infrastructure, trails, transportation, agriculture, and preserved areas for listed species.

3.4.1 REGULATORY SETTING

Federal, state, and local regulations pertaining to biological resources can be found in Appendix B.

3.4.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

Eight primary vegetation and land covers have been identified onsite. In addition, seral stages of Riversidian Alluvial Fan Sage Scrub (RAFSS) have been identified along with an indication of non-native grass abundance, which is of particular importance to SBKR habitat quality. Table 3.4-1 lists the acres of each vegetation or land cover type in the Plan Area as outlined in the HCP. For a detailed description of each vegetation or land cover type, refer to the Biological Resources Section C.3 of Appendix C. Figure 3.4-2, *Vegetation Communities*, shows the distribution of vegetation types in the Plan Area.

¹ For the purposes of this analysis, “biological resources” include terrestrial and aquatic plants, wildlife, and habitats that occur, or have the potential to occur, within the Proposed Action defined Plan Area.

Table 3.4-1: Vegetation and Land Cover Types in the Plan Area

Vegetation community / land cover types	Acres
Riversidean Alluvial Fan Sage Scrub - Pioneer	470.9
Riversidean Alluvial Fan Sage Scrub - Intermediate	1,129.7
Riversidean Alluvial Fan Sage Scrub - Intermediate/Mature	1,057.8
Riversidean Alluvial Fan Sage Scrub - Mature	428.6
Riversidean Alluvial Fan Sage Scrub - Mature/Non-Native Grassland	109.2
Riversidean Upland Sage Scrub (RSS)	9.4
Chamise Chaparral	108.2
Willow Thickets	11.3
Mule fat Scrub	1.4
Aquatic Vegetation	0.2
Non-Native Grassland (NNG)	156.3
Perennial Pepper Weed	21.1
Tamarisk Thickets	30.0
Recharge Basin	68.9
Active Sedimentation Basin	2.9
Developed/ Disturbed	1,286.4
Total	4,892.2

3.4.3 GENERAL WILDLIFE

The Plan Area supports diverse wildlife species associated with chaparral, grassland, and alluvial fan sage scrub habitats. Common species include California ground squirrel (*Spermophilus beecheyi*), woodrat species (*Neotoma* sp.), desert cottontail (*Sylvilagus audubonii*), California side-blotched lizard (*Uta stansburiana elegans*), checkered white butterfly (*Pontia protodice*), and California horned lark (*Eremophila alpestris actia*), Painted lady (*Vanessa cardui*), western fence lizard (*Sceloporus occidentalis*), California side-blotched lizard (*Uta stansburiana elegans*), California quail (*Callipepla californica*), common raven (*Corvus corax*), California scrubjay (*Aphelocoma californica*), wrentit (*Chamaea fasciata*), mule deer (*Odocoileus hemionus*), and raccoon (*Procyon lotor*).

3.4.4 CALIFORNIA SPECIAL STATUS PLANT SPECIES

Twenty-six special status plant species have the potential to occur within the Plan Area and vicinity based on the species habitat requirements and documented distribution. Table 3.4-2, *Special Status Plant Species Potentially Occurring within the Plan Area*, summarizes the special status plant species and their potential to occur within the Plan Area. Two state and federally listed plant species, Santa Ana

River woolly star (*Eriastrum densifolium* ssp. *sanctorum*) and slender-horned spineflower (*Dodecahema leptoceras*), occur in the Plan Area.

Twenty of the twenty-six special status plant species that may occur within the Plan Area were determined to have an absent or low potential for occurrence because their distribution was restricted by substantive habitat requirements that are absent or negligible within the Plan Area. The remaining six plants, Parry's spineflower (*Chorizanthe parryi* var. *parryi*), Plummer's mariposa-lily (*Calochortus plummerae*), Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*), Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*, spineflower), and California spineflower (*Mucronea californica*) were determined to be present or have a moderate or high potential for occurrence due to the presence of suitable habitat within the Plan Area.

Table 3.4-2: Special Status Plant Species Potentially Occurring within the Wash Plan HCP Area

Scientific Name Common Name	Habitat and Distribution	Flowering Season	Status Designation	Potential to Occur
<i>Arenaria paludicola</i> Marsh sandwort	Stoloniferous herb. Occurs in freshwater or brackish marshes or swamps. From 3 to 170 m in elevation.	May – Aug	Fed: FE State: SE CRPR: 1B.1	ABSENT
<i>Berberis nevinii</i> Nevin's barberry	Evergreen shrub. Occurs in chaparral, cismontane woodland, coastal and riparian scrub. From 274 to 825 m in elevation. The site is outside the expected range of the species. Nearest location of natural population is in canyons <4 miles to the southwest of the Plan Area. Species not known from Plan Area.	Mar – Jun	Fed: FE Fed: SE CRPR: 1B.1	LOW
<i>Calochortus plummerae</i> Plummer's mariposa-lily	Bulbiferous herb. Occurs in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forests, and valley and foothill grasslands. From 100 to 1,700 m in elevation. Species is known from the Plan Area.	May – Jul	Fed: None State: None CRPR: 4.2	PRESENT
<i>Caulanthus simulans</i> Payson's jewelflower	Annual herb. Occurs in chaparral and coastal scrub. From 90 to 2,200 m in elevation.	Mar – May	Fed: None State: None CRPR: 4.2	ABSENT
<i>Carex comosa</i> Bristly sedge	Bogs and fens, freshwater marshes and swamps, and lake margins below 425 m. Known from Lake, San Bernardino, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma Counties, and Idaho, Oregon, and Washington. The last known occurrence of this species in San Bernardino County was in 1882 and is believed extirpated. No marshes or similar habitats in the Plan Area.	May – Sep	Fed: None State: None CRPR: 2B.1	ABSENT
<i>Centromadia pungens</i> ssp. <i>laevis</i> Smooth tarplant	Annual herb. Grows within valley and foothill grassland, chenopod scrub, meadows, playas, and riparian woodland. Microhabitats include alkali meadow, alkali scrub, and also in disturbed places. From 0-480 m in elevation. No alkaline soils in the Plan Area.	Apr – Sep	Fed: None State: None CRPR: 1B.1	ABSENT
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	Annual herb. Occurs within coastal scrub and chaparral on dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Found on dry sandy soils. From 40-1705 m in elevation. Species is known in the Plan Area. Species prefers open/sandy gravelly soils clear of non-native species with occasional flooding.	Apr – Jun	Fed: None State: None CRPR: 1B.1	PRESENT
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> Salt marsh bird's-beak	Hemi parasitic annual herb. Occurs in coastal dunes, marshes, and swamps. Up to 30 m in elevation.	May – Oct	Fed: FE State: SE CRPR: 1B.2	ABSENT

SECTION 3.4

Scientific Name Common Name	Habitat and Distribution	Flowering Season	Status Designation	Potential to Occur
<i>Dodecahema leptoceras</i> slender-horned spineflower	Annual herb. Occurs within chaparral and coastal scrub (alluvial fan sage scrub). Found on flood-deposited terraces and washes; associates include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. From 200-760 m in elevation. Species is known from the Plan Area.	Apr – Jun	Fed: FE State: SE CRPR: 1B.1	PRESENT
<i>Dudleya multicaulis</i> Many-stemmed dudleya	Perennial herb. Occurs in coastal scrub, chaparral, and valley and foothill grassland, usually on clay soils or grassy slopes. Up to 2,590 feet in elevation.	Apr – Jul	Fed: None State: None CRPR: 1B.2	LOW
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> Santa Ana River woolly star	Perennial herb. Occurs in chaparral and sandy or gravelly coastal scrub. From 299 to 2,001 feet in elevation. Species is known from the Plan Area.	May – Sep	Fed : FE State : SE CRPR: 1B.1	PRESENT
<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	Rhizomatous herb. Occurs in coastal salt and freshwater marshes and swamps. From 33 to 5,495 feet in elevation. The Plan Area does not contain suitable habitat.	Aug – Oct	Fed: None State: None CRPR: 1A	ABSENT
<i>Horkelia cuneata</i> ssp. <i>puberula</i> Mesa horkelia	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters elevation. Known from San Luis Obispo, Santa Barbara, Los Angeles, and Orange Counties. Believed extirpated from Ventura, San Bernardino, Riverside, and San Diego Counties. Known only from the site vicinity. Believed extirpated from the region.	Feb – Jul (Sep) (uncommon)	Fed: None CA: None CRPR: 1B.1	ABSENT
<i>Imperata brevifolia</i> California satintail	Rhizomatous herb. Occurs in chaparral, coastal scrub, Mojave desert scrub, meadows and seeps (often alkali), and riparian scrub. Up to 500 m in elevation. Marginal habitat in Plan Area. Found just west of the project area.	Sep – May	Fed: None State: None CRPR: 2.B1	LOW
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	Annual herb. Occurs in chaparral and coastal scrub. From 1 to 885 m in elevation. Known from the Plan Area.	Jan – Jul	Fed: None State: None CRPR: 4.3	PRESENT
<i>Lycium parishii</i> Parish's desert-thorn	Deciduous shrub of coastal scrub and Sonoran desert scrub at 305 to 1,000 m elevation. In California, known from Imperial and San Diego Counties. Known only historically from San Bernardino County (benches and/or foothills north of San Bernardino). Nearest occurrence was from 1885, approximately 10 miles from the Plan Area. Believed extirpated from the region.	Mar – Apr	Fed: None State: None CRPR: 2B.3.3	ABSENT

SECTION 3.4

Scientific Name Common Name	Habitat and Distribution	Flowering Season	Status Designation	Potential to Occur
<i>Malacothamnus parishii</i> Parish's bush-mallow	Deciduous shrub. Occurs in chaparral and coastal scrub. From 305 to 455 m in elevation. Known only historically from site vicinity. Presumed extinct.	Jun – Jul	Fed: None State: None CRPR: 1A	LOW
<i>Monardella macrantha</i> ssp. <i>hallii</i> Hall's monardella	Rhizomatous herb. Occurs in broad-leaved upland forests, chaparral, cismontane woodland, lower montane coniferous forests, and valley and foothill grasslands. From 730 to 2,195 m in elevation.	Jun – Aug	Fed: None State: None CRPR: 1B.3	ABSENT
<i>Monardella pringlei</i> Pringle's monardella	Sandy hills in coastal sage scrub at 300 to 400 m elevation. Known only from two occurrences west of Colton. Nearest record approximately 8 miles from Plan Area. Last seen in 1941. Habitat in Plan Area marginal or absent. Presumed extinct.	May – Jun	Fed: None State: None CRPR: 1A	ABSENT
<i>Mucronea californica</i> California spineflower	Annual herb. Known from the plan area.	Mar - Jul	Fed: None State: None CRPR: 4.2	PRESENT
<i>Phlox dolichantha</i> Big Bear Valley phlox	Perennial herb. Occurs in pebble plain and upper montane coniferous forests. From 1,830 to 2,970 meters.	May – Jul	Fed: None State: None CRPR: 1B.2	ABSENT
<i>Ribes divaricatum</i> var. <i>parishii</i> Parish's gooseberry	Deciduous shrub. Occurs in riparian woodland. From 54 to 300 m in elevation.	Feb – Apr	Fed: None State: None CRPR: 1A	ABSENT
<i>Nasturtium gambelii</i> Gambel's watercress	Freshwater or brackish marshes and swamps; 5 to 330 m elevation. Known from Los Angeles, Orange, San Diego, and San Luis Obispo Counties and Baja California. No marshes or swamp in the Plan Area.	Apr – Oct	Fed: FE State: ST CRPR: 1B.1	ABSENT
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i> Parish's checkerbloom	Perennial herb. Occurs in chaparral, cismontane woodland, and lower montane coniferous forests. From 100 to 2,499 m in elevation.	Jun – Aug	Fed: None State: SR CRPR: 1B.2	LOW
<i>Sidalcea neomexicana</i> Salt spring checkbloom	Alkaline springs and marshes below 1,530 meters elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and Ventura Counties. No alkaline springs or marshes in the Plan Area.	Mar – Jun	Fed: None State: None CRPR: 2B.2	ABSENT

SECTION 3.4

Scientific Name Common Name	Habitat and Distribution	Flowering Season	Status Designation	Potential to Occur
<i>Sphenopholis obtusata</i> Prairie wedge grass	Cismontane woodland, meadows and seeps/mesic, in elevations ranging from 300 to 2,000 m, in Amador, Fresno, Inyo, Mono, Riverside, San Bernardino, and Tulare Counties. No woodlands, meadows, or seeps in Plan Area.	Apr – Jul	Fed: None State: None CRPR: 2B.2	ABSENT
<i>Symphyotrichum defoliatum</i> San Bernardino aster	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grasses (vernally mesic) near ditches, streams, springs. No records of recent occurrences in the vicinity of the Plan Area. Habitat in Plan Area is marginal or absent.	Jul-Nov	CRPR: 1B	LOW
<p><u>Federal designations: (FESA, USFWS):</u> FE: Federally listed endangered</p> <p><u>California Rare Plant Ranking (CRPR) Designations:</u> List 1A: Plants presumed extinct in California and either rare or extinct elsewhere. List 1B: Plants rare, threatened, or endangered in California and elsewhere. List 1B plant species are designated BLM Sensitive. List 2A: Plants presumed extirpated in California, but common elsewhere List 2B: Plants rare, threatened, or endangered in California, but more common elsewhere List 3: Plants about which we need more information; a review list. List 4: Plants of limited distribution; a watch list.</p> <p><u>State designations: (CESA, CDFW)</u> SE: State listed endangered ST: State listed threatened SR: State listed rare SC: State candidate for listing</p> <p><u>Threat Ranks:</u> .1: Seriously endangered in California (over 80 percent of occurrences threatened / high degree and immediacy of threat). .2: Moderately threatened in California (20-80 percent occurrences threatened/ moderate degree and immediacy of threat). .3: Not very threatened in California (<20 percent of occurrences threatened/ low degree and immediacy of threat or no current threats known).</p> <p>Sources: 1. Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [Web application]. 2017. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/ (Accessed: Feb 09, 2017) 2. California Natural Diversity Database (CNDDDB). 2017. State & Federally Listed Endangered & Threatened Plants of California. February 2017.</p>				

3.4.5 SPECIAL STATUS WILDLIFE SPECIES

Forty-two special status wildlife species may occur within the Plan Area. Table 3.4-3, *Special Status Wildlife Species Potentially Occurring within the Wash Plan HCP Area*, summarizes special status wildlife species and their potential to occur within the Plan Area and vicinity based on the species habitat requirements and documented distribution. Two federally listed wildlife species, coastal California gnatcatcher and SBKR, occur within the Plan Area.

Twenty-one of the forty-one special status wildlife species that may occur within the Plan Area were determined to be absent or have a low potential for occurrence because their distribution was restricted by substantive habitat requirements that are absent or negligible within the Plan Area. The remaining twenty wildlife species, including American badger, Bell's sparrow, coastal California gnatcatcher, California horned lark, coast (San Diego) horned lizard, coastal western whiptail, golden eagle, loggerhead shrike, Los Angeles pocket mouse, orange-throated whiptail, northern red-diamond rattlesnake, northwestern San Diego pocket mouse, SBKR, San Diego black-tailed jackrabbit, San Diego desert woodrat, short-eared owl, silvery legless lizard, western mastiff bat, western spadefoot, and white-tailed kite, were determined to be present or have a moderate or high potential for occurrence due to the presence of suitable habitat for these species within the Plan Area.

Ten special status species were directly observed during the 2008 surveys: 1) California horned lark; 2) coastal California gnatcatcher; 3) coastal western whiptail; 4) cactus wren 5) San Diego black-tailed jackrabbit; 6) SBKR; 7) northwestern San Diego pocket mouse; 8) American badger; 9) San Diego desert woodrat; and 10) short-eared owl.

Table 3.4-3: Special Status Wildlife Species Potentially Occurring within the Wash Plan HCP Area

Scientific Name Common Name	Habitat Description	Status Designation	Probability of Occurrence
<i>Invertebrates</i>			
<i>Carolella busckana</i> Busck's gallmoth	Habitat requirements unknown. Only known occurrence from Plan Area vicinity was in Loma Linda and is believed to have been extirpated.	Fed: None State: None	LOW
<i>Rhaphiomidas terminatus abdominalis</i> Delhi sands flower-loving fly	Restricted to Delhi series sands in western Riverside and San Bernardino Counties. No Delhi sands soils in Plan Area.	Fed: FE State: SSC	ABSENT
<i>Fish</i>			
<i>Catostomus santaanae</i> Santa Ana sucker	Clear, cool rocky pools and runs of creeks and small to medium rivers. Generally, it is associated with coarse substrates of boulder, rubble, and gravel, but sometimes it occurs on sand/mud bottoms. It prefers permanent streams with pools and riparian vegetation that provide cover and refuge from floods. The Santa Ana sucker's historical range includes the Los Angeles, San Gabriel, and Santa Ana River drainage systems located in southern California. An introduced population also occurs in the Santa Clara River drainage system in southern California. Critical habitat present but no individual animals because there is no perennial water in Plan Area. The active channel of the Santa Ana River is a source of coarse sediment for downstream reaches.	Fed: FT State: SSC	ABSENT
<i>Gila orcuttii</i> Arroyo chub	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams. No individual animals because there is no perennial water in the Plan Area.	Fed: None State: SSC	ABSENT
<i>Rhinichthys osculus</i> ssp. Santa Ana speckled dace	Found in the headwaters of the Santa Ana and San Gabriel River drainages. Speckled dace occupies many isolated western drainages and have diversified into numerous subspecies, with those in swift water taking on streamlined forms, while those in slower water are relatively chubby and small finned. No individual animals because there is no perennial water in the Plan Area.	Fed: None State: SSC	ABSENT

SECTION 3.4

Scientific Name Common Name	Habitat Description	Status Designation	Probability of Occurrence
<i>Amphibians and reptiles</i>			
<i>Spea (=Scaphiopus) hammondi</i> Western spadefoot	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills and mountains. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and in Baja California. Observed in Plan Area.	Fed: None State: SSC BLM: S	PRESENT
<i>Anniella pulchra pulchra</i> Silvery legless lizard	Most common in coastal dune, valley-foothill, chaparral, and coastal sage scrub. Associated with friable soils with some moisture content and some vegetative cover. Has a broad thermal tolerance. Species was observed in Plan Area.	Fed: None State: SSC	PRESENT
<i>Aspidoscelis tigris stejnegeri</i> Coastal western whiptail	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California. Relatively widespread and common.	Fed: None State: SSC	PRESENT
<i>Crotalus ruber ruber</i> Northern red-diamond rattlesnake	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to Baja California. Relatively widespread and common.	Fed: None State: SSC	HIGH
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	Occurs in open relatively rocky areas often in moist microhabitats near intermittent streams. Found along the southern California coast from the Santa Barbara area south along the coast to San Diego County, and inland into the San Bernardino Mountains. Suitable mesic chaparral and oak and walnut woodland communities not present in the Plan Area.	Fed: None CA: None	ABSENT
<i>Phrynosoma coronatum (blainvillii population)</i> Coast (San Diego) horned lizard	Occurs in wide variety of habitats including coastal sage scrub, chaparral, grassland, coniferous forest, riparian, oak woodland, and the margins of the higher elevation desert where it is restricted to the juniper-desert chaparral. Is known from the Plan Area.	Fed: None State: SSC BLM: S	PRESENT
<i>Thamnophis hammondi</i> Two-striped garter snake	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth. Occurs from Coastal California from the vicinity of Salinas to northwest Baja California. From sea level to about 7,000 feet in elevation. No perennial water in the Plan Area.	Fed: None State: SSC BLM: S	LOW

SECTION 3.4

Scientific Name Common Name	Habitat Description	Status Designation	Probability of Occurrence
<i>Birds</i>			
<i>Accipiter cooperii</i> Cooper's hawk	Primarily forests and woodlands throughout North America. Increasingly common in urban habitats. Nests in tall trees, especially pines. Occasionally nests in isolated trees in more open areas. Marginally suitable habitat is present for nesting. This species has been observed foraging in the Plan Area.	Fed: None State: WL	LOW (nesting). Marginally suitable habitat is present for nesting. PRESENT (foraging).
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	Resident in southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass & forb patches. Species is known from the Plan Area.	Fed: None State: None	PRESENT
<i>Amphispiza belli belli</i> Bell's sparrow	(Nesting) Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California. Prefers semi-open habitats with evenly spaced shrubs 1-2 m high. Species is known from the Plan Area.	Fed: None State: None	PRESENT
<i>Aquila chrysaetos</i> Golden eagle	(Nesting and Wintering) Generally open country of the Temperate Zone worldwide. Nesting primarily in rugged mountainous country. Uncommon resident in southern California. Nesting habitat is not present within the Plan Area. This species has been observed flying over the Plan Area and probably uses it for foraging.	Fed: None State: FP BLM: S	LOW (nesting) PRESENT (foraging)
<i>Asio flammeus</i> Short-eared owl	(Nesting) Occurs in flat, open lands including grasslands. The short-eared owl occurs on all continents except Antarctica and Australia; thus, it has one of the largest distributions of any bird. Nests are concealed by low vegetation, usually situated in the shelter of a grass mound, under a grass tuft, or among herbaceous ground cover. A short-eared owl was seen in the Plan Area during biological surveys but the Plan Area is outside the breeding range.	Fed: None State: None	PRESENT
<i>Athene cunicularia</i> Burrowing owl	(Burrow sites and some wintering sites) Open annual grasslands or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Dependent upon burrowing mammals (especially California ground squirrel) for burrows. The burrowing owl is known from the site.	Fed: None State: None BLM: S	PRESENT
<i>Campylorhynchus brunneicapillus</i> Cactus wren	Found in California east to Texas, extending south through Baja California and mainland Mexico. The cactus wren is a non-migratory resident and occurs along the alluvial plains of the Santa Ana River, Plunge Creek, and Mill Creek.	Fed: None State: SSC	PRESENT
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	(Nesting) Inhabits riparian forest along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. The riparian areas within the Plan Area are insufficient in size and configuration to support this species.	Fed: None State: SSC	ABSENT

SECTION 3.4

Scientific Name Common Name	Habitat Description	Status Designation	Probability of Occurrence
<i>Dendroica petechia brewsteri</i> Yellow warbler	(Nesting) Prefers wetlands and mature riparian woodlands dominated by cottonwoods, alders, and willows. Feeds on caterpillars, cankerworms, moth larvae, bark beetles, borers, weevils, small moths, aphids, grasshoppers, and spiders, and occasionally feeds on a few species of berries. The riparian areas within the Plan Area are likely to be insufficient in size and configuration to support this species.	Fed: None State: SSC	LOW
<i>Elanus leucurus</i> White-tailed kite	(Nesting) Typically nests in riparian trees such as oaks, willows, and cottonwoods at low elevations. Forages in open country. Found in South America and in southern areas and along the western coast of North America. Not known from the Plan Area but some suitable habitat is present in Plan Area.	Fed: None State: FP	MODERATE
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	(Nesting) Occurs in riparian woodlands along streams and rivers with mature, dense stands of willows (<i>Salix</i> spp.), cottonwoods (<i>Populus</i> spp.), or smaller spring fed or boggy areas with willows or alders (<i>Alnus</i> spp.) It breeds in relatively dense riparian habitats from near sea level to over 2,600 meters. Insufficient riparian habitat occurs within Plan Area to support nesting birds. However, transient individuals may use the riparian areas in the Plan Area.	Fed: FE State: SE	LOW
<i>Eremophila alpestris actia</i> California horned lark	Desert scrub, short grass plains, grasslands interrupted by bare ground, grassy hillsides, mesas and ridges, plowed agricultural land, sagebrush flats, alpine meadows, and fell-fields, alkali flats. This species has been observed in the Plan Area.	Fed: None State: None	PRESENT
<i>Falco mexicanus</i> Prairie falcon	(Nesting) Open country in much of North America. Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Rare in southwestern California. Nesting habitat is not present within the Plan Area. This species has been observed flying over and may occasionally forage in the Plan Area.	Fed: None State: SE	LOW
<i>Icteria virens</i> Yellow-breasted chat	(Nesting) summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forage, and nest w/in 10 ft of ground. The Plan Area is outside of the breeding range.	Fed: None State: SSC	ABSENT
<i>Lanius ludovicianus</i> Loggerhead shrike	(Nesting) Occurs in broken woodlands, savannah, pinyon-juniper, Joshua tree and riparian woodlands, desert oasis scrub and washes. Prefers open country for hunting, with perches for scanning and fairly dense shrubs and brush for nesting. This species is known from the Plan Area.	Fed: None State: SSC	PRESENT
<i>Polioptila californica californica</i> Coastal California gnatcatcher	Occurs in coastal sage scrub vegetation on mesas, arid hillsides, and in washes and nests almost exclusively in California sagebrush. This species is known from the Plan Area.	Fed: FT State: SSC	PRESENT

SECTION 3.4

Scientific Name Common Name	Habitat Description	Status Designation	Probability of Occurrence
<i>Vireo bellii pusillus</i> Least Bell's vireo	(Nesting) Resides in low riparian areas close to water or dry riverbeds. Their nests are usually constructed in bushes or within the branches of willows, mule fat, and mesquite. They are usually found below an elevation of 2,000 feet. The riparian habitat in the Plan Area is insufficient in size and structure to support nesting.	Fed: FE State: SE	LOW
Mammals			
<i>Antrozous pallidus</i> Pallid bat	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures.	Fed: None State: SSC BLM: S	LOW
<i>Chaetodipus fallax fallax</i> Northwestern San Diego pocket mouse	Inhabits coastal scrub, chaparral, grasslands, sagebrush, etc. Found in western San Diego County in sandy, herbaceous areas, usually in association with rocks or coarse gravel. This species is known from the Plan Area.	Fed: None State: SSC	PRESENT
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	Typically, is found in RAFSS and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub. Soil texture is a primary factor in this subspecies occurrence. Sandy loam substrates allow for the necessary digging of simple, shallow burrows. This species is known from the Plan Area.	Fed: FE State: SSC	PRESENT
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	Primarily inhabits annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass & filaree. Will burrow into firm soil. The Plan Area is not within the range of this species.	Fed: FE State: ST	ABSENT
<i>Eumops perotis californicus</i> Western mastiff bat	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels. Roosting habitat may be present. Observed foraging over Plan Area.	Fed: None State: SSC BLM: S	MODERATE
<i>Lasiurus xanthinus</i> Western yellow bat	Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees. No palm habitat occurs in the Plan Area.	Fed: None State: None	ABSENT
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	Variety of habitats including herbaceous and desert scrub areas, early stages of relatively open habitats. Restricted to the cismontane areas of southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges. This species is known from the Plan Area.	Fed: None State: SSC	PRESENT
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	Desert woodrats are found in a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth. This species is known from the Plan Area.	Fed: None State: SSC	PRESENT

SECTION 3.4

Scientific Name Common Name	Habitat Description	Status Designation	Probability of Occurrence
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	Occurs in a variety of arid areas in southern California: pine-juniper woodlands, desert oasis, desert wash, desert riparian, and rocky areas with high cliffs.	Fed: None State: SSC	LOW
<i>Onychomys torridus ramona</i> Southern grasshopper mouse	Arid habitats, especially scrub habitats with friable soils. Coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats. Arid portions of southwestern California and northwestern Baja California. The Plan Area has suitable habitat.	Fed: None State: SSC	MODERATE
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	Lower elevation grasslands & coastal sage communities in the Los Angeles basin. Open ground with fine sandy soils. May not dig extensive burrows, hiding under weeds & dead leaves instead. This species is known from the Plan Area.	Fed: None State: SSC	PRESENT
<i>Taxidea taxus</i> American badger	Most abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open uncultivated ground. Preys on burrowing rodents. There are no recent records from the Plan Area vicinity.	Fed: None State: SSC	HIGH
<p>Status Codes</p> <p><u>Federal</u></p> <p>FE = Federally listed Endangered FT = Federally listed Threatened BLM S = BLM Sensitive</p> <p><u>State</u></p> <p>ST = State listed Threatened SE = State listed Endangered FP = Fully protected SSC = CA State Species of Concern WL-California Department of Fish and Wildlife Watch List -- = Not Listed</p> <p>1. California Natural Diversity Database (CNDDB). 2017. State & Federally Listed Endangered & Threatened Animals of California. February 2017.</p>			

3.4.5.1 HCP Covered Species

The species proposed to be covered under the HCP are federally listed endangered Santa Ana River woolly-star, endangered slender-horned spineflower, endangered SBKR, threatened Coastal California gnatcatcher, and the non-listed cactus wren (refer to HCP Table 3.4-4). The incidental take authorization under Section 10 of the FESA will apply only to the wildlife species. Federal authorization for incidental take of other wildlife species may be sought through the amendment process and in accordance with FESA Sections 10(a) and 7. The species covered by the incidental take authorization under the CESA are woolly-star and spineflower. State authorization for incidental take of other species may be sought through the amendment process and in accordance with the applicable provisions of the California Fish and Game Code.

A summary of the key elements of each Covered Species' life history that is important for habitat conservation planning, monitoring, and adaptive management is outlined in the *Public Review Draft Upper Santa Ana River Wash Plan Habitat Conservation Plan* (November 2016). The summary includes current distribution, habitat affinities, taxonomy/genetics, pollination/seed dispersal, threats, life history, phenology and special management considerations. These relevant details are included in HCP Tables 3-4 through 3-8, for each of the five Covered Species, which also summarizes what is known about their occurrence in the Plan Area. Refer to Figure 3.4-3, *Slender-horned Spineflower Occurrences [HCP Figure 3-5]*, Figure 3.4-4, *Santa Ana Woolly Star Occurrences [HCP Figure 3-6]*, Figure 3.4-5, *Potentially Suitable Cactus Wren Habitat and Occurrences [HCP Figure 3-7]*, Figure 3.4-6, *California Gnatcatcher Habitat Assessment and Occurrences [HCP Figure 3-8]*, and Figure 3.4-7, *SBKR Habitat Assessments and Occurrences [HCP Figure 3-9]*, for the distribution of these species in the Wash Plan HCP Area.

3.4.6 WILDLIFE CORRIDORS

Wildlife corridors connect areas of similar habitat types and prevent habitat fragmentation. Habitat fragmentation diminishes an area's capacity to sustain healthy native wildlife populations. Wildlife corridors serve as conduits for animal movement that provides genetic exchange between populations, as well as provide a source of animals to repopulate or augment existing populations that may have suffered large losses of individuals from environmental changes and natural disasters. In general, research suggests that larger habitat patches and connectivity significantly improve habitat conditions for mammal species.

Previous large storm events in 1938 and 1969 from the Santa Ana River and Mill Creek caused flows and debris to be trapped on the railroad trestle crossing the river. The debris acted like a dam and caused flows to build up behind it and flow over the banks. These break out areas provided a linkage between the Santa Ana River and Plunge Creek. Since then Plunge Creek has been re-routed away from the Santa Ana River to City Creek.

The San Bernardino County Land Use Services maintains the *Open Space Valley-Mountain Map*² identifies the Santa Ana River as a major wildlife corridor across in the region which is mapped across the entire Plan Area and also follows along City Creek, Mill Creek, Plunge Creek, and along Santa Ana River in to the San Bernardino Mountains to the north and east. Implementation of the Wash Plan HCP will help preserve, enhance, and manage the habitats along the Santa Ana River corridor that supports wildlife movement through the Plan Area.

² <http://cms.sbcounty.gov/lus/Planning/ZoningOverlayMaps.aspx>

3.5 LAND USE

The purpose of this section is to identify and describe current land use conditions in the Plan Area, as well as the immediate vicinity.

3.5.1 REGULATORY SETTING

Information regarding, Federal, State, and Local regulations in regards to land use can be found in Appendix B.

3.5.2 ENVIRONMENTAL SETTING – EXISTING USES

3.5.2.1 Mining

There are two mining operators in the Plan Area, Cemex and Robertson's, both of which are currently extracting and processing aggregate, primarily to make cement. Current operations of both companies are located in the northwestern and central portion of the Plan Area.

3.5.2.2 Flood Control

The San Bernardino County Flood Control District (SBCFCD) conducts flood control operations and maintenance activities in the Plan Area, primarily along four bodies of water: Plunge Creek, City Creek, Mill Creek, and the Santa Ana River.

3.5.2.3 Habitat Conservation

To protect significant populations of the woolly-star, habitat along the Santa Ana River and portions of the alluvial fan terraces were set aside and established as the Woolly-star Preservation Area (WSPA). The WSPA is a 544.5-acre area in a conservation easement west of the Greenspot Bridge that crosses the Santa Ana River. The WSPA was established as mitigation in the 1990s by the USACE to address impacts related to the construction and operation of Seven Oaks Dam.

3.5.2.4 Water Conservation

The Conservation District conducts water conservation activities, operation and maintenance of existing recharge basins and access roads in the Plan Area, primarily on the eastern portion. These activities are carried out in recharge/percolation basins, which pond to a depth of 3 to 10 feet, to recharge the Bunker Hill Groundwater Basin.

Other Activities

There is one active citrus grove in the Plan Area, in the northeastern corner. This citrus grove is on land owned by the East Valley Water District (EVWD).

Adjacent Uses

The Plan Area is bounded by the following land uses:

- Urban uses and vacant land to the north;
- Urban and agricultural land uses, in addition to vacant land and Redlands Municipal Airport, to the south;
- San Bernardino International Airport, Redlands Wastewater Treatment Facility, and the California Street Landfill to the west; and
- Agricultural uses and the San Bernardino Mountains to the east.

3.5.2.5 Airports

The San Bernardino International Airport (SBIA) is located just west of the Plan Area and the Redlands Municipal Airport is located south of the Plan Area. Currently, the SBIA does not have an Airport Land Use Compatibility Plan (ALUCP).

The Redlands Municipal Airport Influence Area is comprised of varying Compatibility Zones. Zones 1, 2, 3 and 4 overlap the southern portion of the Plan Area with the remaining majority of the Plan Area within Zone 5. Zone 1 restricts uses in the area to aeronautical functions and includes the airport runway and immediately adjacent areas and residential and other uses that would have people are not allowed. Zone 2 is described as the area for the approach/departure of aviation. Zone 3 includes the inner turning zone. Zone 4 includes the outer approach and departure zone. Zone 6 is the traffic pattern zone/ airport influence area, includes zones where aircraft at an altitude of 1,000 feet or less are commonly overflown. Zone 1 has the highest risk and Zone 6 has the lowest risk of impacts from aviation.

3.5.2.6 Public Lands

There are existing land use authorizations located on BLM-managed lands in the Plan Area.

- CACA CACA025557 - Robertson's Ready Mix. The BLM issued a right of way grant 07/16/1992 for road access across lands within section 10, T 1 S., R. 3 W., SBB&M to access leased mining claims located on San Bernardino County lands. The right of way grant will expires 7/16/2022 unless renewed.

- CALA024759 - San Bernardino County Valley Municipal Water District. The BLM issued a 16 ft wide right of way on 01/22/1915 within sections 10 and 12, T 1 S., R. 3 W., SBB&M to access their land. The expiration date is unknown.
- CACA050427 - San Bernardino County. The BLM issued a 4,600 ft x 35 ft ROW on 6/16/2011 within section 10, T 1 S., R. 3 W., SBB&M to access private lands. The ROW expires 12/31/2040.
- CACA036490 - Robertson's Ready Mix. The BLM issued a ROW on 12/05/1998 within section 10, T 1 S., R. 3 W., SBB&M to access leased mining claims located on San Bernardino County lands. The ROW expires 12/31/2041.

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3.6 SOCIOECONOMICS, POPULATION AND HOUSING, AND ENVIRONMENTAL JUSTICE

This section provides a discussion of the regional socioeconomic setting and the demographic and economic conditions of the affected environment as well as the current population and housing conditions in and around the Plan Area. This section also identifies the presence of minority and/or low-income populations in compliance with the requirements of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

3.6.1 REGULATORY SETTING

Information regarding Federal, State, and Local regulations in regards to socioeconomics, population and housing, and environmental justice can be found in Appendix B.

3.6.2 REGIONAL SETTING

Aggregate mining operations have been conducted in portions of the Plan Area for more than 80 years. The Plan Area is located in a region that has experienced considerable population growth during the past two decades, with growth expected to continue through the next decade.

The socioeconomically affected environment includes population centers located to the north and south of the Plan Area. Affected communities would include the City of Redlands and City of Highland, located in San Bernardino County. For policy and planning purposes, the Southern California Association of Governments (SCAG) has established the San Bernardino County Transportation Authority (SBCTA) (formerly known as San Bernardino Association of Governments [SANBAG]) sub-region that comprises the local governments in the County, including the cities of Redlands and Highland.

3.6.3 ENVIRONMENTAL SETTING

3.6.3.1 Demographic Characteristics

Population Growth – The population in the surrounding region of the Plan Area has increased moderately from 2000 to 2010. As shown in Table 3.6-1, Population and Population Change, the City of Redlands had a population growth of approximately 7.6 percent from 2000 to 2010, and is projected to have a population of approximately 75,500 by 2020, for a total increase of a little over 18 percent. The City of Highland had a population growth of approximately 18.9 percent from 2000 to 2010, and is projected to have a population of approximately 58,600 by 2020, which would be an increase of over 31 percent. San Bernardino County had a population growth of approximately 19.1 percent from 2000 to

2010, and is projected to have a population of approximately 2,268,000 by 2020, which would be an increase of 32.7 percent.

Table 3.6-1: Population and Population Change

Jurisdiction ¹	2000	2010	2020 (projected)	Percent Increase from 2000 - 2010
CT 76.04, BG 3	N/A	1,961	N/A	N/A
CT 79.04, BG 3	N/A	3,613	N/A	N/A
CT 80.01, BG 3	2,865	3,629	N/A	26.7%
CT 84.01, BG 1	1,146	1,854	N/A	61.8%
City of Redlands	63,875	68,747	75,500	7.6%
City of Highland	44,668	53,104	58,600	18.9%
County of San Bernardino	1,709,434	2,035,210	2,268,000	19.1%

Sources: Southern California Association of Governments, RTP 2012 Adopted Growth Forecast: City Projections, <http://www.scag.ca.gov/DataAndTools/Pages/GrowthForecasting.aspx>.

U.S. Census Bureau, Census 2000, and 2010 Summary File 1.

Notes: 1 = The Census Bureau changed the numbering system for Census Tracts and Block Groups from 2000 to 2010. For example, the area designated as Census Tract 76.02, Block Group 6 in the 2000 Census was renamed as Census Tract 76.04, Block Group 3 in the 2010 Census. It should also be noted that the area of the Block Groups have changed. The 2010 Census Tract 76.04, Block Group 3 covers a slightly different geographic area compared to the 2000 block groups.

Race and Ethnicity – Tables 3.6-2 and 3.6-3 show the ethnic composition within San Bernardino County and the Project study area cities, and for the Plan Area census tracts. CEQA guidelines state that minority populations should be identified where either (a) the minority population of the affected area exceeds 50 percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population.

As shown in Table 3.6-2, below, neither of the two cities nor the County contains a minority population greater than 50 percent. The City and County data is generally included as a basis of comparison against the smaller and more detailed geographical census tract areas, discussed below.

As shown in Table 3.6-3, below, two of the four Plan Area census tracts do contain a minority population of greater than 50 percent: Census Tracts 76.04 and 80.01. The other two census tracts, Census Tracts 76.04 and 84.01, contain a less than 50 percent minority population. These totals can be derived from subtracting the totals in the Black, American Indian, Asian, Hawaiian/Other Pacific Islander, and Other/Two or More Races' categories, from the total in the White category.

Table 3.6-2: Racial and Ethnic Composition for the County and Cities

Area	White	Black	American Indian	Asian	Hawaiian/ Other Pacific Islander	Other/ Two or More Races	Hispanic ¹
San Bernardino County	56.7%	8.9%	1.1%	6.3%	0.3%	26.6%	49.2%
Redlands	69.0%	5.2%	0.9%	7.6%	0.3%	16.9%	30.3%
Highland	52.4%	11.1%	1.0%	7.4%	0.3%	27.7%	48.1%

Source: U.S. Census Bureau, 2010 Census, DP-01 <http://factfinder2.census.gov/>

Note: 1 = The U.S. Census Bureau defines Hispanic and Latino as an ethnicity, not a race. Consequently, a person of Hispanic or Latino descent could identify racially as White, Black/African American, Native American, Asian or other. Therefore, percentages do not add up to 100 percent because the White, Black, American Indian, Hawaiian, and Other categories included persons identified with only one race; the Hispanic category overlaps with other categories.

Table 3.6-3: Racial and Ethnic Composition for the Plan Area Census Tracts

Area ¹	White	Black	American Indian	Asian	Hawaiian/ Other Pacific Islander	Other/ Two or More Races	Hispanic ²
CT 76.04	45.7%	3.9%	0.0%	6.9%	0.0%	43.5%	57.1%
CT 79.04	60.8%	6.8%	0.1%	8.9%	0.0%	23.4%	30.9%
CT 80.01	46.7%	8.1%	1.2%	15.0%	0.0%	29.0%	49.7%
CT 84.01	70.5%	3.2%	0.2%	7.6%	0.5%	18.0%	33.9%

Source: U.S. Census Bureau, 2010 Census, DP-01 <http://factfinder2.census.gov/>

Note: 1 = Racial and ethnic data are not available at the census tract block group level. Therefore, racial and ethnic data were used for the entire census tract.

2 = The U.S. Census Bureau defines Hispanic and Latino as an ethnicity, not a race. Consequently, a person of Hispanic or Latino descent could identify racially as White, Black/African American, Native American, Asian or other. Therefore, percentages do not add up to 100 percent because the White, Black, American Indian, Hawaiian, and Other categories included persons identified with only one race; the Hispanic category overlaps with other categories.

Age – Overall, the demographic data indicate that residents in Redlands and Highland only make up a small percentage of the total county population. In general, these residents tend to be in early adulthood. The median age of residents in the vicinity of the Plan Area was 29.9 years in the City of Highland; 36.2 years in the City of Redlands; 45.6 years in Census Tract 76.04 Block Group 3; 36.8 years in Census Tract 79.04 Block Group 3; 30.4 years in Census Tract 80.01 Block Group 3; and 29.8 years in Census Tract 84.01 Block Group 1, as reported by the 2010 U.S. Census and represented in Table 3.6-4, *Demographic Profile*. For the County of San Bernardino, the median age was 31.9 years.

Median Household Income – The median household incomes within the Plan Area vary widely, from a low of \$46,458 in Census Tract 76.04 Block Group 3 to a high of \$98,882 in Census Tract 79.04 Block Group 3. The City of Redlands had a significantly higher median household income at \$85,308 than both the City of Highland (\$59,095) and the County of San Bernardino (\$59,294), but was consistent with the median household incomes of Census Tract 76.04 Block Group 3 (\$98,882) and Census Tract 84.01 Block Group 1 (\$91,429).

Poverty Levels – According to Census data, the County of San Bernardino currently had a poverty level of 15.0 percent. The other jurisdictions within the Plan Area had similar or lower poverty levels than the County, ranging from a low of 6.0 percent in Census Tract 76.04 Block Group 3, to a high of 17.8 percent in the City of Highland. However, none of the jurisdictions had a poverty level that represents a disproportionate percentage of families living below the poverty level. According to the U.S. Department of Health and Human Services (DHHS) poverty guidelines, the poverty threshold for a family of four in 2017 was \$24,600. None of the geographical areas included in the Plan Area showed a median household income that was comparable to the DHHS poverty threshold.

Educational Attainment – The percentage of residents that are high school graduates or higher (attained a high school diploma and/or Associate’s Degree) varies widely throughout the Plan Area, ranging from a low of 53.0 percent in Census Tract 79.04 Block Group 3, to a high of 90.1 percent in the City of Redlands. Overall, County of San Bernardino residents fell approximately in the middle of that range at 78.2 percent. The variance between the percentage of residents with a Bachelor’s Degree or higher was less broad. The percentage of college graduates ranges from a low of 4.5 percent in Census Tract 76.04 Block Group 3, to a high of 38.2 percent in the City of Redlands, compared with the overall County percentage of 18.7 percent, again falling in mid-range of the Plan Area college graduate totals.

Unemployment – Unemployment totals were fairly consistent within the geographic areas included in the Plan Area, with a range of 7.5 percent in Census Tract 80.01 Block Group 3, to 24.5 percent in Census Tract 76.04 Block Group 3. The County’s unemployment rate of 8.8 percent was slightly higher than that of the State of California overall at 7.3 percent.

Table 3.6-4: Demographic Profile

Characteristic	CT 76.04 BG 3	CT 79.04 BG 3	CT 80.01 BG.3	CT 84.01 BG 1	City of Redlands	City of Highland	County of San Bernardino
Total Population in 2013	1,257	3,888	3,863	2,206	69,277	53,575	2,056,915
Median Age	45.6	36.8	30.4	29.8	36.2	29.9	31.9
Gender							
Male	498	2,014	1,884	1,081	33,433	26,315	1,023,385
Female	759	1,874	1,979	1,125	35,844	27,260	1,033,530
Median Household Income	\$46,458	\$98,882	\$59,923	\$91,429	\$85,308	\$59,095	\$59,294
Percent Below Poverty Level	6.0%	10.4%	14.4%	7.3%	8.5%	17.8%	15.0%
Labor Forces							
Unemployed	24.5%	10.5%	7.5%	12.0%	5.3%	8.0%	8.8%
Education							
High School Graduate or higher	58.1%	53.0%	53.9%	59.1%	90.1%	73.5%	78.2%
College Graduate (Bachelor’s Degree or higher)	4.5%	34.4%	29.3%	27.6%	38.2%	19.8%	18.7%

Source: U.S. Census Bureau Census 2013 American Community Survey 5-Year Estimates 2009-2013.

3.6.3.2 Economic Characteristics

Relevant Economy

San Bernardino and Riverside counties are known as the Inland Empire, a rapidly growing part of southern California. San Bernardino County is the largest county in the U.S., consisting of over 20,000 square miles. The Plan Area is only a small part of San Bernardino County, but the aggregate mining industry in the County supplies construction materials for an extensive development market in southern California.

In this sense, San Bernardino County represents both the demand side (development) and the supply side (aggregate mining) of the construction materials industry. The California Department of Conservation projects that San Bernardino County is one of the areas with the greatest future need for aggregate. The San Bernardino Region is expected to demand 1,074 million tons of aggregate over the next 50 years, while currently having only 262 million tons permitted for mining.

Because of the significant excess demand for aggregate in the County and in nearby areas, there is little likelihood that the mining of aggregate in the Plan Area would result in unsold surpluses that could lead to price collapses and worker layoffs. The mining industry in the Plan Area is likely to experience a strong market over an extended period of time, even with fluctuations in the demand of development.

Relevant Employment and Income

In January 2010, San Bernardino County ranked 26th out of the 58 California counties for unemployment, with a 14.5 percent rate, while the state of California overall had an unemployment rate of 12.3 percent. The County's unemployment rates in January 2011 (14.2 percent), 2012 (12.7 percent), and 2013 (11.4 percent) remained slightly higher than the statewide unemployment rates of 12.1 percent, 11.0 percent, and 9.5, respectively, during the same time period. However, these data also indicate that the County has been recovering from the recent economic downturn of the late 2000's, by which it had been significantly affected. Most recently in 2014, the County has experienced a return to a single-digit unemployment rate of 9.5 percent (the lowest rate since 2008) while California's statewide unemployment rate for 2014 was 8.1 percent.

Based on the 2002 Economic Census, *Construction Sand and Gravel Mining: 2002 Report*, issued December 2004 by the US Census Bureau (the most recent report available¹) page 15, California had a total of 153 sand and gravel mining establishments, of which 13 had 20 employees or more. The total number of employees for these establishments in California in 2002 was 2,752.

The annual per capita personal income in San Bernardino County has also seen slight growth in recent years. In 2012, the per capita personal income in San Bernardino County rose to \$32,048 from \$29,998 in 2011, as compared to California's statewide per capita personal income growth in 2012 to \$47,505 from \$43,647 in 2011. In 2013, this growth continued although at a slower pace. The per capita personal

¹<https://www2.census.gov/library/publications/economic-census/2002/mining-reports/industry-series/ec0221i212321.pdf>

income in San Bernardino County increased to \$32,747 in 2013, and California's statewide per capita personal income increased to \$48,434. These increases indicate a steady strengthening of the economy at both the local and statewide level.

3.7 TRANSPORTATION SYSTEMS AND TRAFFIC

This section describes the existing transportation systems and traffic conditions in and around the Plan Area.

3.7.1 REGULATORY SETTING

Information regarding Federal, State, and Local regulations in regards to transportation systems and traffic can be found in Appendix B.

3.7.2 ENVIRONMENTAL SETTING

Existing transportation facilities in the Plan Area include highways and roadways. There currently are no trails open to the public located within the Plan Area outside of existing public road right-of-ways.

3.7.2.1 Existing Roadways and Highways

The transportation network within the Plan Area is composed of a mix of a state highway and local roadways. The circulation system plays a major role in the movement of existing and future aggregate mining products within the Plan Area. According to the May 2019 *Wash Plan HCP*, the total acreage of City/County roads located within the Plan Area is 149.8 acres, representing 3.1 percent of the total Plan Area of 4,892.2 acres. The roadways and highway within the vicinity of the Plan Area are listed and described below.

City of Highland

- **Orange Street** between the southern City boundary and where it becomes Boulder Avenue is designated as a Secondary Highway, Class II Bike Lane (on street), as well as a Truck Route according to the City of Highland General Plan;
- **Boulder Avenue** is designated as a Modified Primary Arterial. The Modified Primary Arterial is designated as a four-lane divided roadway, Class II Bike Lane, and truck route;
- **Greenspot Road** is classified as a Primary Arterial and truck route from SR-210 east to Boulder Avenue and as a Major Highway with a dedicated Class II bike lane on both sides from Boulder Avenue to the bridge over the Santa Ana River;
- **Alabama Street** is designated as a Primary Arterial, Class II Bike Lane, and truck route from the City's southern boundary at the bridge over the Santa Ana River north to Third Street;
- **Palm Avenue** is designated as a Major Highway, Class II Bike Lane, and truck route north of the Plan Area and Third Street north to between Base Line. This is a two-lane roadway with a 52-foot roadway, curb-to-curb, within a 66-foot right-of-way; and

- **3rd Street** from Victoria Avenue west to west of Alabama Avenue is designated as a Major Highway and truck route.

City of Redlands

- **Orange Street** is classified as a Minor Arterial;
- **Greenspot Road** is classified as a Minor Arterial; and
- **Alabama Street** is classified as a Major Arterial.

State of California Department of Transportation (Caltrans)

- **State Route 210 (SR-210) (formerly State Route 30)** is maintained and operated by Caltrans. The right-of-way along SR-210 is not included within the Plan Area and has been excluded as “Not A Part” of the HCP; however, it is still required to include this roadway in the level of service standards analysis discussed below as it is part of the roadway network used by existing and to be used by expanded aggregate mining.

Maintenance Access Roads and Mining Haul Roads

The Plan Area has a network of unpaved internal access roads, and maintenance service roads used for operation and maintenance (O&M) activities associated with habitat preservation and water management, located within areas of the Conservation District’s ownership. These roads serve the onsite needs of utility providers, water service companies, flood control districts, and the Conservation District, and are maintained mostly by the Conservation District. O&M activities are identified as “Covered Activities” and would include actions that occur repeatedly in one area or over a wide area, such as bank stabilization, storm-damage repair, and maintenance of roads and facilities.

In addition, Cemex and Robertson’s have private haul roads that are used internally to transport aggregates by mining trucks within the Plan Area. These haul roads are generally located in the western portion of the Plan Area, and are maintained exclusively by Cemex and Robertson’s.

Planned Transportation Facilities

Roadways

Covered Activities/Projects include the widening and other improvements (curb, gutter, sidewalk, landscaped parkway, roadway drainage, and street lights) of three existing roadways and general road maintenance on paved roads throughout the Plan Area. The Covered Activities/Projects are located within City of Highland and City of Redlands boundaries and include the following projects:

- Alabama Street Improvements Project (High.01 & Redl.14);
- Orange Street Improvements Project (High.02 & Redl.15); and
- Greenspot Road Improvement Project (High.03 & Redl.19).

3.8 VISUAL RESOURCES

3.8.1 REGULATORY SETTING

Information regarding, Federal, State, and Local regulations in regards to visual resources can be found in Appendix B.

3.8.2 ENVIRONMENTAL SETTING

The Plan Area is located at the base of the San Bernardino Mountains in an area created by periodic flooding of the Santa Ana River and its tributaries City Creek, Mill Creek, and Plunge Creek. Historically, these waterways were not channelized and large flows flooded these tributary creeks and the Santa Ana River. During heavy rainfall, usually occurring in the winter months, water flowed from local mountains via the creeks and river, and combined to create a fast-moving, turbulent river with a high sediment load. When the rainfall subsided, the river and creeks returned to their smaller courses and left large areas between the waterways consisting of rocks, debris, and sediment, creating the wide Santa Ana wash area.

There are currently no Caltrans designated scenic highways within the vicinity of the Plan Area. The limitations on land use imposed by potential flooding have contributed to the open, undeveloped character of the area. Vegetation consists mostly of native scrub types, like California buckwheat and California sagebrush, and is relatively sparse with dense stands of shrubs in some areas. The wash appears as an open, sandy area interspersed with boulders and rocks. Although vegetation is typically less than three feet in height, some shrubs can reach 10 feet, including California juniper and laurel sumac.

The San Bernardino Mountains are a prominent feature in the region. During periods of clear weather, these mountains are visible. Looking south from the City of Highland, foothills can be seen in the distance 6 miles away. The Plan Area, like the mountains, is a dominant feature, primarily due to its lack of development and the patterns of vegetation. However, the landscape contains several man-made modifications, including highways, roads, transmission lines, and flood control facilities and spreading basins. Figure 3.4-2 *Vegetation Communities*, shows the Plan Area's pattern of vegetation and developed areas. Quarries and mining operations are visible, and together with the prominent State Route 210 (SR-210) freeway (above-grade alignment) contribute to complex patterns of form, texture, and color that make up the aesthetic environment.

Adjacent land uses include the Redlands Municipal Airport, agriculture, private residential, and industrial to the south and the Redlands Wastewater Treatment Facility to the southwest. The San Bernardino International Airport (former Norton Air Force Base), commercial, industrial and residential uses are located to the west and northwest. Primarily residential but also commercial uses are located to the

north. Agricultural, rural residential and undeveloped areas are located to the west. Three north-south paved roads cross the Plan Area: Orange Street-Boulder Avenue and SR-210. Greenspot Road forms a portion of the northern and eastern boundary, and Alabama Street is the western boundary.

3.8.3 METHODOLOGY

Sensitive viewing areas were identified and inventoried within a five-mile radius of the Plan Area. The identification of sensitive viewing areas within the viewshed was conducted through review of existing land use data, agency contacts, and field surveys/reviews. The following is a representative list of the sensitive viewing areas that were considered during the inventory:

- Residential areas (e.g., residences closest to the Plan Area);
- Travel routes: major roads or highways used primarily by origin/destination travelers and designated scenic roads (e.g., local residents, workers, and commuter travelers along Greenspot Road, Orange Street-Boulder Avenue and SR-210); and
- Parks, recreation areas, wildlife areas, visitor centers, areas used for camping, picnicking, bicycling, boating, or other recreational activities.

During field surveys conducted within the immediate project vicinity, it was noted that the residential areas present in the vicinity of the Plan Area have few or no views of the Plan Area. The nearest residential developments lie approximately 0.5 miles to the north, 0.77 miles to the southwest, and 0.6 miles to the south of the Plan Area boundary. These residential communities have only limited views of the Plan Area, as fences, buildings, or other man-made structures obstruct them. Also, the Plan Area is essentially surrounded by industrial and commercial uses, which block most residential views to the Plan Area.

3.8.3.1 Visual Resource Management (VRM) Methodology

The VRM survey was based on BLM methodology and was intended to identify and quantify scenic values, and to analyze the impacts of proposed landscape modifications. This methodology is used to establish the scenic quality of an area and then to evaluate the degree of contrast between the existing landscape and with implementation of the Proposed Action/Projects.

In rating these elements, a score is based on evaluation criteria, using a graduated range (0-5). The inventory and evaluation of the above elements assist with the characterization of scenic attractiveness within the VSOI. In general, landscapes are characterized by three levels, Class A through Class C:

- Class A: Areas have outstanding diversity or interest; characteristic features of landform, water, and vegetation are distinctive or unique in relation to the surrounding region. These areas contain considerable variety in form, line, color, and texture.

- Class B: Areas have above-average diversity or interest, providing some variety in form, line, color, and texture. The natural features are not considered rare in the surrounding region but provide adequate visual diversity to be considered of value.
- Class C: Areas have minimal diversity or interest; representative natural features have limited variation in form, line, color, or texture in the context of the surrounding region. Discordant cultural modifications (e.g., substations, transmission lines, and other cultural modifications) can be highly noticeable, which can reduce the inherent value of the natural setting.

The viewpoints for the Plan Area are Class C and Class B landscapes (SBVWCD 2008).

The VRM system is designed to separate the existing landscape and the Plan Area into their respective features and elements and to compare each part to the other to identify parts that are incompatible (BLM 1986). The resulting VRM landscape classifications are:

- VRM Class I: The objective of this class is to preserve the existing character of the landscape. Changes to the landscape character should not be evident.
- VRM Class II: The objective of this class is to retain the existing character of the landscape. Changes to the landscape character may attract slight attention but should be subordinate to the visual setting.
- VRM Class III: The objective of this class is to partially retain the existing character of the landscape. Changes to the landscape character may begin to attract attention but should not dominate the visual setting.
- VRM Class IV: The objective of this class is to allow for activities that modify the existing character of the landscape. Changes to the landscape character may attract attention and dominate the visual setting. However, these activities should minimize changes to the landscape where possible.

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3.9 CULTURAL RESOURCES

This section describes the current affected environment for cultural resources in the Plan Area.

3.9.1 REGULATORY SETTING

Information regarding, Federal, State, and Local regulations in regards to cultural resources can be found in Appendix B.

3.9.2 ENVIRONMENTAL SETTING

A Cultural Resources Assessment (CRA) was prepared for the Plan Area. The CRA was prepared pursuant to Section 106 of the National Historic Preservation Act (NHPA), CEQA, the Public Resources Code (PRC) Chapter 2/6, Section 21083.2, and the California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. The information contained in this section is based on information contained in the CRA. The CRA included a records search at the South Central Coastal Information Center at California State University, Fullerton. This archival research included review of status of all recorded historic and prehistoric cultural resources, and survey and excavation reports completed within one mile of the Plan Area boundary. The research also included review of known cultural resources reports completed in the vicinity of the Plan Area. In addition, the California State Historic Property Data File (HPD), which includes the National Register of Historic Places, California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and various local historic registers were examined. The records search revealed that 83 cultural resource studies have taken place, resulting in 70 cultural resources recorded within one mile of the Plan Area. Of the previous studies, 11 have previously assessed portions of the Area of Potential Effect (APE), and eight cultural resources, all historic-period, have been previously recorded within its boundaries. The pedestrian cultural resources survey was intended to locate and document previously recorded or new cultural resources, including archaeological sites, features, isolates, and historic-period buildings, that exceed 45 years in age within the APE boundary (the APE boundary coincides with the Plan Area boundary).

3.9.2.1 Local Sequence

The Plan Area is adjacent to the historic Rancho San Bernardino, which dominated the region's early history. A mission rancho originally associated with the nearby Spanish Asistencia, Rancho San Bernardino became the property of the Lugo family and Diego Sepulveda in 1842 as part of the secularization process, securing Mexico's local hegemony after official independence from Spain. When the United States annexed California after the Mexican-American War, the Lugo family and Diego Sepulveda received the official U.S. land patent for the property, via a claim filed under the authority of Congress. Brigham Young's Mormon scouts subsequently bought Rancho San Bernardino from the Lugos and Sepulveda and erected a sawmill and irrigation system, splitting the land into a system of ranches

and farms. The resulting economy soon necessitated a stage stop, and by 1855 the freight-hauling enterprise of Banning & Alexander was running a brisk service between San Bernardino and Los Angeles.

Although large tracts owned by the U.S. Government became available for homesteading during the 1860s, various pressures forced local Mormon pioneers to recede to Salt Lake City during this period. In the wake of the Mormon exodus, other settlers began to take advantage of new homestead opportunities. Agriculture (particularly citrus orchards) was central to the region's success, and by the early 20th century the City of San Bernardino's downtown took shape as the hub of economic activity. Spanish Colonial-style civic and commercial buildings predominated San Bernardino construction projects between the 1920s to the 1940s. While similar popular architectural styles were reflected in some residential neighborhoods, the gradual development of forms more typical of the California working class population became common. These included 1920s Craftsman and Spanish Colonial Revival style bungalows, and the simple Minimal Traditional Style during the 1930s.

Subsequent to World War II, southern California experienced an unprecedented land boom resulting from the local discharge of former military personnel. The railroad, U.S. Air Force (both civilian and military), and Kaiser Steel initially remained strong, and a revitalized construction industry formed due to new commercial, residential, and infrastructure developments. Although San Bernardino initially prospered during the postwar years, the eventual closures of Norton Air Force Base and Kaiser Steel in addition to the relocation of many railroad jobs punctuated a general economic downturn for San Bernardino's working class that has persisted since the 1980s.

3.9.2.2 Pre-historic Resources

No pre-historic resources were identified through the records search or pedestrian survey within the Plan Area.

3.9.2.3 Historic Resources

Five of the nine previously recorded resources located within the APE were inspected. Three of the nine previously recorded resources located within the APE have been destroyed. All resources within, or previously within, the APE are described below. No other cultural resources (including prehistoric or historic-period archaeological resources or historic-period buildings) were discovered during the field survey.

CA-SBR-6006-H Civilian Conservation Corps Cone Camp (Cone Camp). Cone Camp was recorded in June 1987 (by R. Paul Hampson, Roderick S. Brown, and Margaret A. Doyle of Greenwood and Associates) to include 38 features. Between 1931 and 1938 the Civilian Conservation Corps (CCC) used the camp as a worker base. Between 1942 and 1964 its buildings were leased to house local orchard workers under the federal Bracero Program. At its peak, the camp housed more than 1,000 workers. The buildings were used for storage until 1977, when the wood frames were burned for fire department training exercises. The site was revisited in 2004 and overall the site integrity remained good, and artificial impacts were noted at the time as minimal. Some natural deterioration was evident.

P-36-5526. This resource was previously recorded as a historic period orchard and associated features. Features included poured concrete footings with exposed iron anchor bolts, a house foundation, several cobble/boulder pads, one poured concrete slab, a cement and cobble aqueduct, and numerous debris scatters. Artifacts included sun colored amethyst bottle glass, amber hand-tooled bottle finishes, tobacco tins, hole in cap cans, brick fragments, whiteware, and blue and porcelain ceramic fragments. BCR Consulting personnel revisited the resource and checked its location and description using a hand-held Global Positioning System (GPS). It was found in place, basically intact as recorded.

This historic-period orchard complex was determined eligible for National Register listing in 1988. The field study performed during the current effort has confirmed that it remains in place as originally recorded. Field results indicate that it retains good integrity of location, setting, feeling, and association, and a measure of integrity of design and materials, with little evidence of integrity of workmanship. Results indicate that this resource's eligibility stems from a potential to yield information important to the prehistory or history of the area/region (National Register Criterion D/California Register Criterion 4). As a result, this resource is recommended a historic property under Section 106 of the NHPA, and a historical resource under CEQA. However, it does not appear to be a unique archaeological resource under CEQA.

P-36-6062. This resource was previously recorded as a historic-period domestic debris deposit composed of five loci on either side of a dirt road. Debris included steel beverage cans, aluminum cans, milk tins, glass fragments (brown, clear, cobalt, olive, and sun-colored amethyst), stoneware fragments, metal rivets and one rubber shoe. BCR Consulting personnel revisited the resource and checked its location and description using a hand-held GPS. It was found in place as recorded.

BCR Consulting has completed substantial research regarding the APE and there is no evidence to suggest that this historic-period refuse scatter is associated with events that have made a significant contribution to the broad patterns of American history (National Register Criterion A/California Register Criterion 1). That research has also failed to show that the resource is specifically associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to it (National Register Criterion B/California Register Criterion 2). Such debris scatters are not indicative of the distinctive characteristics of a type, period, region, or method of construction, and do not represent the work of master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (National Register Criterion C/California Register Criterion 3). The resource does appear to contain a high diversity of artifacts from many dumping episodes, and as such it does have potential to yield information important to the history of the region (National Register Criterion D/California Register Criterion 4). Finally, the resource does not meet criteria necessary to define it as a unique archaeological resource under CEQA. Because of the resource's ability to meet criterion D/4, BCR recommends that it is potentially eligible for the National Register or the California Register, and as such is recommended a potential historic property under Section 106 of the NHPA, and a potential historical resource under CEQA.

P-36-6068. This resource was previously recorded as a small scatter of debris including three hole-in-cap cans, one solder-seam can fragment, a riveted steel pipe, and an aluminum pull-tab beverage can along a dirt road among a cluster of eucalyptus trees. BCR Consulting personnel revisited the resource and checked its location and description using a hand-held GPS. The riveted pipe and eucalyptus trees were present, however no cans were identified and some peppertrees were also growing among the eucalyptus.

BCR Consulting has completed substantial research regarding the APE and there is no evidence to suggest that this historic-period refuse scatter is associated with events that have made a significant contribution to the broad patterns of American history (National Register Criterion A/California Register Criterion 1). That research has also failed to show that the resource is specifically associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to it (National Register Criterion B/California Register Criterion 2). Such debris scatters are not indicative of the distinctive characteristics of a type, period, region, or method of construction, and do not represent the work of master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (National Register Criterion C/California Register Criterion 3). The scatter is small and does not appear to have the potential for buried resources, and as such it is not likely to yield information important to the history or prehistory of the region (National Register Criterion D/California Register Criterion 4). Finally, the resource does not meet criteria necessary to define it as a unique archaeological resource under CEQA. Because of the resource's failure to meet any of the above criteria, BCR Consulting recommends that it is not eligible for the National Register or the California Register, and as such is not recommended a historic property under Section 106 of the NHPA, or a historical resource under CEQA.

P-36-6072. This resource was previously recorded as structural foundations accompanied by three loci of domestic and architectural debris. Artifacts include cement blocks, steel cans, crimped beverage cans, clear bottle glass, wire nails, and a wooden box. BCR Consulting personnel revisited the resource and checked its location and description using a hand-held GPS. It was found in place. The structural foundations are seven poured-concrete bridge footings stamped "1944". The footings are the remnants of the Santa Fe Railroad that traversed the area from before 1938 until the 1980s. The railroad tracks and ties are no longer present, although a dirt road remains within the original alignment.

BCR Consulting has completed substantial research regarding the APE and there is no evidence to suggest that this historic-period debris and 1944 railroad bridge footing is associated with events that have made a significant contribution to the broad patterns of American history (National Register Criterion A/California Register Criterion 1). That research has also failed to show that the resource is specifically associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to it (National Register Criterion B/California Register Criterion 2). The debris and bridge footings are common types and are not indicative of the distinctive characteristics of a type, period, region, or method of construction, and do not represent the work of master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (National Register Criterion C/California Register Criterion 3).

The scatter is small and does not appear to have the potential for buried resources, and the local history of the Santa Fe Railroad is readily available and as such the resource is not likely to yield information important to the history or prehistory of the region (National Register Criterion D/California Register Criterion 4). The resource does not meet criteria necessary to define it as a unique archaeological resource under CEQA. Finally, the bridge was part of a larger railroad alignment that was dismantled by 1995 and as such it fails to convey integrity of setting, design, materials, workmanship, feeling, and association. It does retain locational integrity. Because of the resource's failure to meet any of the above criteria and because of its lack of integrity, BCR Consulting recommends that it is not eligible for the National Register or the California Register, and as such is not recommended a historic property under Section 106 of the NHPA, or a historical resource under CEQA.

P-36-6074. This resource was previously recorded as a single episode of historic-period can, ceramic, and glass refuse. The site was reported destroyed in 2005. The 2015 survey efforts by BCR Consulting archaeologists have confirmed this.

P-36-6078. This resource was previously recorded as stone foundation and associated light refuse scatter. The site was reported destroyed in 2005. The 2015 survey efforts by BCR Consulting archaeologists have confirmed this.

P-36-6087. This resource was previously recorded as a series of historic-period domestic debris deposits composed of artifacts dated to ca. 1863-1900, and one apparent pet grave. BCR Consulting personnel revisited the resource and checked its location and description using a hand-held Global Positioning System (GPS). It was found in place as mostly as recorded, however BCR Consulting personnel note three loci and could only find two. It is likely that the northernmost locus (Locus A) has been destroyed.

BCR Consulting has completed substantial research regarding the APE and there is no evidence to suggest that this historic-period refuse scatter is associated with events that have made a significant contribution to the broad patterns of American history (National Register Criterion A/California Register Criterion 1). That research has also failed to show that the resource is specifically associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to it (National Register Criterion B/California Register Criterion 2). Such debris scatters are not indicative of the distinctive characteristics of a type, period, region, or method of construction, and do not represent the work of a master, possess high artistic values, or represent a significant or distinguishable entity whose components may lack individual distinction (National Register Criterion C/California Register Criterion 3). The scatter is small and does not appear to have the potential for buried resources, and as such it is not likely to yield information important to the history or prehistory of the region (National Register Criterion D/California Register Criterion 4). Finally, the resource does not meet criteria necessary to define it as a unique archaeological resource under CEQA. Because of the resource's failure to meet any of the above criteria, BCR Consulting recommends that it is not eligible for the National Register or the California Register, and as such is not recommended a historic property under Section 106 of the NHPA, or a historical resource under CEQA.

P-36-6088. This resource was originally recorded in 1987 as a late 19th century historic-period ranch or farmstead that contained the remains of a cement block house, a cement and cobble foundation, various rock alignments, and debris concentrations. Updated field surveys in 2005, and the current effort reveal that the site has been destroyed.

Of the above resources, **P-36-5526** (a historic-period orchard complex) was determined eligible for National Register listing (ergo eligible for California Register listing) in 1991. The 2015 CRA has confirmed this and has confirmed that the resource appears to retain integrity. As a result, this resource is recommended a historic property under Section 106 of the NHPA and a “historical resource” under CEQA. Additionally, **P-36-6062** (a multiple-episode deposit of historic-period debris) is recommended potentially eligible for National Register and California Register listing eligibility due to its potential significance.

3.9.2.4 Paleontological Resources

Paleontological resources include fossils or assemblages of fossils that are unique, unusual, rare, or add to the existing body of knowledge either stratigraphically, taxonomically, or regionally. Such resources may include the remains of large to very small terrestrial and/or aquatic species that can assist in the interpretation of tectonic events, geomorphic evolution, paleoclimatology, and relationships of terrestrial and aquatic species.

The sediments in the Planning Area contain very coarse sediments deposited during latest Pleistocene and Holocene times. The sediments are topographically stratified with the oldest at the highest, near source elevation, and the youngest, most deeply inset, at the lowest topographic elevation. The sediments are too coarse to preserve significant paleontological specimens or are too young to preserve specimens of the Pleistocene period that could shed light on significant paleontological events.

Section 106 of the NHPA does not apply to paleontological resources unless they are found in a culturally-related context. In addition to the Antiquities Act (16 USC 431-433), the preservation and salvage of fossils and other paleontological resources can be protected under the National Registry of Natural Landmarks (16 USC 461-467) and the NEPA, which directs Federal agencies to “preserve important historic, cultural, and natural aspects of our national heritage.”

Potential impacts to paleontological resources must be assessed for any project subject to CEQA review. California law protects paleontological sites on State lands and establishes authority to protect paleontological resources while allowing mitigation through the permit process.

3.10 NOISE

This section describes the affected environment related to noise in the Plan Area as well as the immediate vicinity.

3.10.1 REGULATORY SETTING

Information regarding Federal, State, and Local regulations in regards to noise can be found in Appendix B.

3.10.2 ENVIRONMENTAL SETTING

The Plan Area contains the following land uses: water conservation, flood control, water production, habitat conservation, unmanaged open space, aggregate mining, arterial/highway, agriculture, and vacant land. Surrounding the Plan Area are residential, agriculture, light industrial, and open space land uses as well as the Redlands Airport and the San Bernardino International Airport.

3.10.2.1 Existing Noise Environment

The existing substantial noise sources in the Plan Area include aggregate operations, including Cemex and Robertson's, Redlands Municipal Airport, San Bernardino International Airport (formerly Norton Air Force Base), and State and local transportation facilities. Aggregate mining facilities generate noise and groundborne vibration from sand and gravel operations and haul trucks that transport the raw materials. The Redlands Municipal Airport is located immediately south of the Plan Area, and the San Bernardino International Airport is located immediately west of the Plan Area. Areas surrounding the Redlands Municipal Airport and the San Bernardino International Airport are exposed to aircraft noise. Traffic on Greenspot Road, SR-210, Orange Street, Opal Avenue, and Alabama Street also contribute to the existing noise levels in the Plan Area.

Ambient Noise Monitoring in the Project Vicinity

An ambient noise survey was conducted in 2003 and data from the survey was included in the Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan. Ambient noise measurements were taken for 20 minutes each at six sites in and adjacent to the Plan Area. These measurements were conducted to document the existing noise environment levels. Four of the six measurements represent noise-sensitive locations in the vicinity of the Plan Area. Two of the six noise measurements represent locations where ambient noise is dominated by noise generated by aggregate mining operations. Table 3.10-1 summarizes the noise measurement data from the six noise monitoring locations that are shown in Figure 3.10-2, Noise Monitoring Locations.

Table 3.10-1: Ambient Noise Monitoring Results

Monitor	Location	Start Time and Duration	Noise Sources	L _{eq} (dBA)
M-1	Residence at 7998 Cortez Street, Highland, located at the corner of Cortez Street and Merris Street (about 600 feet from Plan boundary).	9:48 a.m. 20 minutes	Activity with the use of a hammer from nearby aggregate mining facility and birds.	45.4
M-2	Residences along Abbey Way, Highland, located about 50 feet north of aggregate facility.	10:53 a.m. 20 minutes	Stacking conveyor, screen, crusher, and activity with a use of a hammer in the background.	54.5
M-3	Aggregate operations along Orange Street at the Cemex weighing station and the office building in the City of Redlands.	11:21 a.m. 20 minutes	Heavy trucks at 15 mph, stacking conveyor (approximately 100 feet), car radio, and activity with the use of a hammer in the background.	65.6
M-4	Aggregate operations along Alabama at the Hot Asphalt Plant and Cemex, Redlands.	12:06 p.m. 20 minutes	Traffic along Alabama, trucks entering and exiting the facility.	63.8
M-5	Residence at 1956 Cave Street, Redlands, located at the corner of Cave Street and Riverview Street (about 725 feet from Plan boundary).	12:40 p.m. 20 minutes	Heavy truck activity, rock tumbling, some aircraft noise, and faint sounds of a gunshot or engine backfiring.	48.2
M-6	Residence at 828 Riverview Street between Church Street and Duke (about 525 feet from Plan boundary).	1:10 p.m. 20 minutes	Noise from the Cemex facility, truck noises in the background, birds, and tree leaves.	52.0

Source: Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

Existing Traffic Noise

The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the Plan Area. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The modeling parameters for the existing average daily traffic (ADT) volumes, vehicle speed, and roadway geometry were obtained from the *Traffic Study* (LSA 2007). The following lists the parameters used for each roadway.

- **Greenspot Road.** Greenspot Road was modeled as a four-lane divided roadway (two lanes in each direction) with vehicle speeds at 50 miles per hour (mph).
- **Alabama Street.** Alabama Street was modeled as a two to four-lane roadway (varying from one to two lanes in each direction) with vehicle speeds at 45 mph.
- **Boulder Avenue.** Boulder Avenue was modeled a two-lane roadway (one lane in each direction) with vehicle speeds at 40 mph.

The vehicle mix was assumed to be 97.42 percent automobiles, 1.84 percent medium trucks, and 0.74 percent heavy trucks. The resultant noise levels are weighted and summed over 24-hour periods to determine the community noise equivalent level (CNEL) values. Table 3.10-2 provides the existing traffic noise levels along Greenspot Road, Alabama Street, and Boulder Avenue. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in the Conservation District's November 2008 Final EIR, Appendix I – Noise Model Printouts.

Table 3.10-2: Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost Lane
5th Street					
West of Alabama Street	9,060	< 50*	86	180	66.1
Between Alabama Street and Church Avenue	17,780	65	132	281	69.0
Between Church Avenue and State Route 210 westbound ramp	18,600	67	136	289	69.2
Between State Route 210 westbound ramp and State Route 210 eastbound ramp	18,580	67	136	289	69.2
Between State Route 210 eastbound ramp and Boulder Avenue	17,555	64	131	278	69.0
East of Boulder Avenue	13,780	56	112	237	67.9
Alabama Street					
North of 5 th Street	7,970	< 50	68	139	64.4
Between 5 th Street and 3 rd Street	15,475	< 50	102	215	67.3
Between 3 rd Street and Robertson's Access	11,495	< 50	82	176	67.5
Between Robertson's Access and Cemex Access	10,670	< 50	78	167	67.2
South of Cemex Access	10,250	< 50	76	163	67.0
Boulder Avenue					
North of Greenspot Road	6,420	< 50	< 50	98	63.7
South of Greenspot Road	9,420	< 50	59	127	65.4
North of Cemex Access	14,910	< 50	80	172	67.3
South of Cemex Access	14,940	< 50	80	172	67.4

* Traffic noise within 50 feet of the roadway centerline should be evaluated with site-specific information.

Source: *Traffic Study 2007, Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.*

As shown in Table 3.10-2, traffic noise is generally moderate to high along the existing roadway segments in the project vicinity. The 70, 65, and 60 dBA impact zones extend 67, 136, and 289 feet along the Greenspot Road centerline. Also, Table 3.10-2 shows that the 70 dBA impact zone is confined to the right-of-way along Alabama Street and Boulder Avenue. The 65 and 60 dBA impact zones extend 102 and 215 feet along Alabama Street. The 65 and 60 dBA impact zones extend 80 and 172 feet along the Boulder Avenue centerline.

As outlined in Section 4.7, Transportation Systems and Traffic, at the time the *Traffic Study* was prepared in 2007, the now designated SR-210 that runs north-south in the western portion of the Plan Area was designated SR-30. The mainline freeway section between I-210 in Glendora and the I-10 in Redlands was completed in 2007. Caltrans census data was reviewed to determine if there have been any significant changes in volume along SR-210 in the Plan Area since the *Traffic Study* was prepared in 2007. SR-210 is the primary traffic route through the Plan Area and the best available indicator of traffic volume trends in the study area since 2007.

Based on Caltrans' traffic volume data there has been an increase in Annual Average Daily Traffic (AADT) on SR-210 at Fifth Street in Highland from 2007 to 2016 from 90,000 to 97,000, which represents a 7.7%

increase over a 9-year period or a 0.86% increase per year if averaged over the 9-year period. The ambient growth rate used in the *Traffic Study* was 2% annually. Therefore, the cumulative analysis contained in the *Traffic Study* is a conservative estimate (considered worst-case) of the potential traffic impacts from proposed aggregate mining trips, cumulative projects in the area, and ambient growth. Consequently, as the traffic-related noise conditions outlined in Table 3.10-2 were based on Traffic Study data, they are also expected to still illustrate a reasonable scenario when compared to current conditions.

Existing Mining Operations

Two aggregate mining and processing operations comprise a total of 832 acres, or 18.6 percent of the total Plan Area. The existing mining and processing operations are generally located in the western and central western portions of the Plan Area. The Cities of Highland and Redlands have approved land use permits for the existing mining operations.

Cemex is currently conducting excavations in the approved Alabama Street Northwest, Northeast, and Southeast quarries adjacent to SR-210 and is using the portions of the East Quarry North for mining, processing at the Orange Street Plant, and silt ponds and aggregate storage. Aggregate processing occurs at both the Alabama Street and the Orange Street Plants, and concrete batching occurs at the Alabama Street plant. From the years 2003 through 2005, Cemex had an average annual processing rate of 2.5 million tons per year (MTPY). Currently Cemex has an annual processing rate of approximately 2.0-2.5 MTPY.

Robertson's currently operates an aggregate facility at the East Basin Processing Plant and a concrete batch plant at its West Basin facility. Excavations are currently conducted in the former "Webster Pit" area, to be a part of the East Quarry South. From 2003 to 2005, Robertson's has an average annual processing rate of approximately 2 MTPY. Robertson's has land use approval to produce 2 MTPY at its East Basin Processing Plant. Currently, Robertson's has an annual processing rate of approximately 2.0-2.5 MTPY.

Existing Operation & Maintenance Activities

Existing Operation & Maintenance Activities that occur in the Plan Area include aggregate mining operations, operation and maintenance of water conservation facilities (spreading basins, dikes, weir gates, and access roads), general water wells and pipeline maintenance, flood control channels, levees, and outlets, and other structures and access roads, as well as operation of the 6.7-acre citrus grove.

The types of equipment used for these operation and maintenance activities include dozers, excavators, pickup trucks, haul trucks, scrapers, pavers, rollers, cranes, flatbed trucks, drill rigs, pump hoists, dump trucks, water trucks, and vacuum street sweepers. The different operations and maintenance activities, equipment needs for each, and the max noise level based on the type of equipment used are outlined in detail in Table 3.10-3 below.

Table 3.10-3: Construction and O&M Equipment Noise Levels

Activity	Description	Frequency	Equipment Used	Max Noise Level (dBA)
<i>Aggregate mining</i>				
New aggregate mining	Surface excavation		Crusher, excavator, haul truck, dozer	96
Haul road expansion	Extension and construction	Once	Dozer, dump truck, excavator, front end loader, scraper, water trucks	91
Mining operations	buildings, parking lots lighting, settling ponds, pits, and haul roads	Ongoing 24 hours/day	Haul trucks	94
<i>Water conservation</i>				
Spreading operations – water measurements and water diversion, and monitoring	Conservation District staff driving to locations	Daily	Pickup truck	55
Basin maintenance – replace and repair	Facility repair (ex. Weir gates, dikes), access (ex. Fences, gates, locks, signs boulders)	As needed	Concrete truck, dozer, dump truck, excavator, pick up truck, water truck, welder	91
Basin maintenance – removal	Debris, silt, and vegetation removal	Annual (wet years) or 5 years (average)	Dozer, excavator	88
Basin maintenance – bank grading			Dozer	85
Stockpile and processing	Materials from cleanout are stockpiled on site/nearby and later transported		Dozer, excavator	88
Access road construction	Construction and resurfacing		Dozer	85
Access road maintenance	Clearing encroaching vegetation, grading, resurfacing, repairing washouts, filling ruts and potholes		Dozer, excavator, pickup truck	88
Access road maintenance	Encroaching vegetation clearing – clearing sides of roads	annual	Dozer or weed eater	85
Access road maintenance	Vegetation maintenance – clearing of roads	Quarterly	Dozer	85
Basin construction – vegetation clearing	Clearing and grubbing	Between September and February	Dozer	85
Basin construction – soil removal	Grading/ excavation of basins		Dozer, excavator, haul truck	95
Greenspot channel improvements	Channel improvements at road crossing		Dozer, excavator, haul truck	89

Activity	Description	Frequency	Equipment Used	Max Noise Level (dBA)
<i>Wells and water infrastructure</i>				
Well construction	Access road, detention basins, connector pipelines, main pipelines; construction involves clearing and grubbing vegetation, rough grade, drilling, soil removal and transport		Concrete truck, crane, drill rig truck, excavator, haul truck, water truck	96
General well maintenance – inspection, sampling, repairs, weeding, minor grading			Dozer, pickup truck	85
General well maintenance – well motor pulling		5-6 years	Crane, flatbed truck	88
General well maintenance – rehabilitation, redevelopment, and/or replacement	Temporary removal of above ground equipment, brushing and bailing, chemical treatment, redevelopment, and reinstallation of above ground equipment		Air compressor, cable-tool rig, drill rig or pump hoist equipment	86
General well maintenance – testing	Step drawdown testing, constant rate pumping test, spinner surveys, downhole video survey, casing sidewall sampling, biological activity test, packer testing	15 years (pump testing)	Pickup truck	55
General waterPipeline maintenance – leak repair, internal inspection, water release	Includes maintenance of turnouts; replace/repair appurtenances, fittings, manholes, and meters; meter inspections and repairs; maintenance of pump stations, operation yards, utility yards, and corporation yards, may require blow off, vault maintenance		Pickup truck	55
Water pipeline –rehabilitation and/or replacement	Pipeline components may require excavation		Crane, excavator, flatbed truck, haul truck, pickup truck	95
Water pipeline – bank stabilization and erosion control	May require excavation		Loader	85
Water pipeline – replacement/ repair of buried service valves	May require excavation and bank stabilization activities		Excavator, haul truck	95
Water pipeline – telemetry cable/system inspections and repairs	Often sited in the center of roads and may require excavation to access components		Dozer, excavator, pickup truck	88
<i>Transportation</i>				
Street widening and improvements	Road widening and improvements including curb, gutter, sidewalk, landscaped parkway, roadway drainage and streetlights		Concrete trucks, crane, dozer, excavator, haul trucks, pavers, pick up truck, rollers, water trucks	97

SECTION 3.10

Activity	Description	Frequency	Equipment Used	Max Noise Level (dBA)
General road maintenance Shoulder grading Weed control Sign and guardrail replacement Street sweeping Drainage facility management Striping Slurry seal Overlay	At inlets and outlets	As needed As needed As needed As needed Annual 2-3 years 6-7 years 20 years	Loader Pickup truck Pickup truck Vacuum street sweeper Excavator, pickup truck Pickup truck Pavement scarifier, paver Rollers, paver, dump truck, water truck	
<i>Flood control</i>				
Elder/Plunge Creek Restoration Project	Lead remediation, construction, operation and maintenance		Excavator, haul truck, crane, concrete truck, dozer	96
In-stream maintenance – centerflow channel, debris removal, full clean out	Clear sediment and vegetation	Full clean out – 15 years	Dozers, scrapers, haul trucks	95
Access road maintenance	Grading, repair potholes and wash-outs, fencing/gate repairs, small excavations for pothole or shoulder slump		Dozers, roller, pickup truck	88
Access road maintenance	Large excavations for install/repair culverts or drainage ditches, repair slope failures		Dozer, excavator, water truck, concrete truck, haul truck	95
Levee maintenance	Weed control, facility repair (fill material and rock lining), erosion repair, armor levee face, storm damaged facilities, security maintenance (gates, barriers, fencing)		Scrapers, front end loader, dozers, excavator, haul truck, concrete truck, haul truck, pickup truck	55-95
Stockpiling	Debris placement		Haul truck, excavator	95
Maintenance and operations of drainage facilities	Herbicide application channel and road maintenance, repair and sediment removal, rebuild, security maintenance, drain pipes or utility installation		Pick up truck, scraper, dozer, front end loader, excavator, water truck, concrete truck, haul truck	55-95
Drainage channel and outlet/dissipater operation and maintenance			Pick up truck, front end loader	80
Drainage and dissipater construction			Excavator, haul truck, concrete truck, water truck, crane	95

Activity	Description	Frequency	Equipment Used	Max Noise Level (dBA)
<i>Trails</i>				
Patrols and maintenance			Pickup truck	55
Access control	Barricade, gate, fencing		Pickup truck, welder, dozer	85
Access road maintenance	Clearing roads of vegetation, grading, resurfacing, repairing washouts	Quarterly	Dozer, pickup truck	85
	Clearing vegetation on sides of road	Annual		
SART construction and crossing	Trail construction and post/cable barrier construction		Dozer, paver, roller, pickup truck, haul truck, concrete truck, water truck, welder, excavator	95
Highland/Redlands Regional Connector	Construction of bike lane		Dozer, excavator, rollers, pavers, haul trucks, water trucks, concrete trucks, pic up truck, crane	97
<i>Habitat enhancement and monitoring</i>				
Levee removal	Boulder placement, removal of rock and other materials and transport		Dozer, excavator, haul trucks	88-95
SBKR bridge	Grading, pipe placement, welding, backfill		Excavator, dozer, dump truck	89
Plunge Creek Project	Access road construction, excavation, boulder placement		Dozer, excavator, haul truck, crane	85-95
<i>Agriculture</i>				
Access road maintenance			Dozer	85
Irrigation infrastructure maintenance, pesticide and fertilizer application, grove pest (vertebrate) management			Pickup trucks	55

Source: Conservation District, March 2018.

3.11 HAZARDS

This section describes the existing conditions for hazards in the Plan Area.

3.11.1 REGULATORY SETTING

Information regarding Federal, State, and Local regulations in regards to hazards can be found in Appendix B.

3.11.2 ENVIRONMENTAL SETTING

A hazardous material may become hazardous waste consequent to its accidental discharge into the environment and, if handled inappropriately, hazardous materials and hazardous waste could pose potential risks to the health, safety, and welfare of workers in the Plan Area and adjacent occupants. The following discussion details three different types of key existing hazards and hazardous materials associated with the Plan Area:

- Hazardous Materials sites;
- Mining hazards;
- Aviation hazards; and
- Wildland fire hazards.

3.11.2.1 Hazardous Materials Sites

Current studies have shown from 1945 to mid-2009, the Inland Fish and Game (IF&G) Conservation Association (a nonprofit mutual benefit corporation) operated an open-air recreational shooting area or shooting facility on approximately 40 acres of BLM lands in the area west of the intersection of Boulder Avenue and Orange Street. The BLM continuously issued leases under the Recreation and Public Purposes Act (43 CFR Part 2740) to the nonprofit corporation for sport shooting from 1964 to 2012. The authorized facility included a rifle and pistol range, a shotgun range for trap and skeet, and a meeting hall with a kitchen and snack bar facilities. The facility was open to the public and members. Prior to use as a shooting range, the southeastern portion of the property was used for a gravel operation. A historical aerial photograph, dated 1938, shows the quarry, several structures, a conveyor system, and some small ponds. The Santa Ana River Wash contains high quality construction aggregates that have been mined since the 1920s. The mining operations ceased some time prior to 1948.

From 1959 until about 1963, approximately 10 acres of the property were used as a cut-and-fill dump (Plunge Creek Levee Dump). Materials disposed may have included non-hazardous and inert solid wastes, such as residential and commercial waste, construction and demolition waste and debris,

agricultural refuse, and used tires. Solid waste and construction debris were used to construct a flood-control levee along the northern boundary of the site. This levee was approximately 1,000 feet long and 25 feet high. Rubbish and debris were used to form the base of the flood control debris levee, which was covered with approximately 2 feet of cover soil after the levee was completed. There is no information indicating the quantities of material that were dumped. The flood control debris (trash) levee is not included within the Elder/Plunge site limits and will not be disturbed to maintain cover integrity. A concrete v-ditch will be installed north of the trash levee to prevent off-site migration of trash or contaminated soil.

In July 2007, a lawsuit was filed against IF&G Conservation Association by the owner of the adjacent property to the north. The lawsuit involved allegations that lead shot from the shotgun range reached the adjacent private property without authorization from the property owner. In October 2007, BLM directed IF&G to cease shooting activities at the shotgun range to prevent additional lead shot from entering the adjacent private property. On July 30, 2009, IF&G Conservation Association informed the BLM that they were ceasing all shooting at the leased facility to assess legal options. On August 3, 2012, the BLM decided to cancel the Recreation and Public Purposes Act lease.

According to the DTSC Envirostor website (www.envirostor.dtsc.ca.gov/public/) accessed on August 23, 2017) a voluntary cleanup site is located outside of the Plan Area boundary on private property north of and adjacent to the BLM property discussed above. EnviroStor is the DTSC's data management system for tracking cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known contamination or site where there may be reasons to investigate further. This site consists of approximately 22 acres of undeveloped land in a rectangular shape. Although the site does not appear to have been developed, various wood, concrete, asphalt, and miscellaneous debris was observed on site. A Metropolitan Water District (MWD) easement, approximately 90 feet by 1,300 feet, covers the southern portion of the site. The MWD easement includes a 12-foot diameter water pipeline and associated appurtenances, power poles, and a fire road. The site owner is Highland Fifth-Orange Partners, LLC (HFO).

Based on the results of previous investigations, the southern portion of the site is impacted with lead from shotgun lead pellet fallout from the adjacent trap, skeet and rifle range. During previous investigations, lead was detected at a maximum concentration of 70,000 milligrams per kilogram (mg/kg) in unsieved samples to remove lead fragments. Antimony, arsenic, and nickel were also detected in soil. Additionally, empty used oil containers and stained soil were observed in two areas on site.

In March 2013, DTSC approved a Site Assessment Plan to determine the nature and extent of contamination associated with lead pellet fallout and waste oil release, and whether these releases pose an unreasonable risk to public health and safety or the environment. The Site Assessment Plan was implemented from May 30 through June 6, 2013. Field activities included s-ray fluorescence screening for lead shot, and soil sampling for lead shot, clay pigeon debris, and discarded oil containers.

In October 2013, DTSC approved a Site Assessment Report that documents findings of an investigation to characterize the nature and extent of contamination from lead shot, discarded waste oil containers, and possible clay pigeons at the site. The report also presented an evaluation of potential risk to public health and safety or the environment. Various environmental approvals or reviews, including Federal Environmental Management Agency (FEMA), United States Army Corps of Engineers, United States Fish and Wildlife Service, and the California Department of Fish and Wildlife, are required before can proceed with a Response Plan to address lead shot on the surface and elevated lead concentrations in the soil. Due to inactivity at the site, the project status was changed to Inactive – Action Required on July 29, 2016, and the site code was deactivated to prevent accidental charges. On March 3, 2017, DTSC received an email from the consultant for HFO requesting direction on restarting the project since critical path issues have been resolved and HFO is clear to proceed with the lead mitigation.

Mining Hazards

Mining activities within the Plan Area involve the use of materials commonly used in the industry, including concrete admixtures, fuels, oils, and lubricants. The transport, storage, and handling of these substances are routinely conducted at the mining sites, and usage varies depending on production levels and haul distances. Tanks for storage of fuels and oils are permitted and installed in accordance with local and State regulations.

Maintenance is conducted by Cemex on mining equipment and vehicles at its maintenance shop off Alabama Street. The Orange Street and Alabama Street plant sites in the City of Redlands generates hazardous wastes such as waste oils, grease, hydraulic fluid, and solvents. Maintenance is also conducted by Robertson's on trucks and equipment at its workshop located on 3rd Street near Alabama Street. Solvents used for maintenance, waste oil, and hydraulic fluids are typical hazardous wastes generated at this location.

Recycling is practiced for used oils and other waste hydrocarbon products. Although areas of the Plan Area store these waste products, the waste products are periodically removed by a licensed private recycler. Required time limits are placed on the removal of solvents and other hazardous wastes after they are stored in approved containers and appropriately labeled.

Aviation Hazards

The Plan Area is bordered by the San Bernardino International Airport to the west and the Redlands Municipal Airport to the south.

San Bernardino International Airport. The San Bernardino International Airport Traffic Pattern Zone is located west of the Plan Area and includes all portions of the airport's designated traffic pattern and pattern entry routes. The area surrounding the airport that has potential to be affected by airport operations is considered the Airport Influence Area in which the western portion of the Plan Area is included. The Inner Turning Zone is considered an area where aircraft are typically turning and

descending for landing, or turning and climbing for departure, in which a small portion in the northwest corner of the Plan Area is included.

Redlands Municipal Airport. The Redlands Municipal Airport Influence Area is comprised of varying Compatibility Zones in which the Plan Area's southern tip boundary is located. Compatibility Zones A, B1, B2, and C are within the Plan Area's boundary. Zone A restricts uses in the area to aeronautical functions and includes the airport runway and immediately adjacent areas. Zone B1 is described as the area for the approach/departure of aviation and Zone B2 is an extension of Zone B1. Zone C includes zones where aircraft at an altitude of 1,000 feet or less are commonly overflown.

The City of Highland's southern edge boundary includes an area of Special Compatibility Concern. Section 2.2.4 of the *Redlands Municipal Airport Land Use Compatibility Plan* states:

224. *Areas of Special Compatibility Concern. The purpose of this designation is to take note of locations which: (1) are routinely overflown by aircraft approaching and/or departing the Redlands Municipal Airport, but at some distance from the airport; and (2) have existing and planned land uses which are compatible with the airport activity.*

- (a) Notation of areas of special compatibility concern is intended to serve as a reminder that airport impacts should be carefully considered in any decision to change the current land use designation.*
- (b) These areas are not part of the Redlands Municipal Airport influence area and are not subject to the review policies contained in this Compatibility Plan, except with respect to the notification requirements indicated in Paragraph 1.8.4. Also, establishment of a buyer awareness program is encouraged if any of these areas are to be converted to residential uses.*
- (c) The only portion of the Redlands Municipal Airport environs designated in this manner is the southern edge of the City of Highland.*

Wildland Fire Hazards

The majority of the Plan Area consists of undeveloped wildland containing shrubs, grasses or a combination of the two, all of which are susceptible to wildland fire. In addition, portions of the Plan Area are located near natural hillsides with vegetation considered susceptible to wildland fires. The northeastern portion of the Plan Area is located within the City of Highland's Fire Severity Zone II, as depicted in Figure 6.6 of the *City of Highland General Plan* and established by the Uniform Building Code. Zones I and II are expressed as areas at high-risk for fire. Zones I and II contain standards established by the Uniform Building Code for fire safety to be built into structures of various types and in which certain occupancies are prohibited in Zones I and II. The City of Redlands' High Fire Hazard Zone is located within some portions of the Plan Area as well as the San Bernardino County Fire Safety Overlay District's FR-2 Fire Safety Review Area 2.

A number of agencies provide fire protection for to the Plan Area. The California Department of Forestry and Fire Protection provide fire protection and emergency medical services for the City of Highland. The City of Redlands Fire Department provides fire protection services to the City of Redlands. Mutual aid agreements with other agencies are also implemented by the cities. The City of Highland has mutual aid agreements with the Cities of Redlands and Yucaipa, California Department of Forestry and Fire Protection, and the U.S. Forest Service. The City of Highland also participates in the Statewide Master Mutual Aid Agreement, which provides assistance from other fire departments throughout the State.

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3.12 RECREATION

This section describes the regulatory and physical environmental setting for recreation in the Plan Area.

3.12.1 REGULATORY SETTING

Information regarding, Federal, State, and Local regulations in regards to recreation can be found in Appendix B.

3.12.2 RECREATIONAL SETTING

This section describes the existing conditions for recreational resources within the Plan Area. Although there are existing access roads used for mining, water conservation, municipal water utilities, and flood control operations and maintenance, there are currently no existing trails or other recreational facilities developed for the purpose of recreational use by the public within the Plan Area. Section 4.12 of this document will address the proposed trails which are conditional Covered Activities in the Wash Plan HCP. There are currently no parks or developed recreational opportunities within the Plan Area. The City of Redlands has plans for a future park located adjacent to the southern boundary of the Plan Area. Centennial Park is a proposed 18.5-acre park between Orange Street and Riverview Drive near the proposed Santa Ana Trail.

Conservation District Lands

Access to existing access roads/trails within lands currently owned by the Conservation District of approximately 1,907 acres can be obtained by trail users with a Common Use Agreement from the Conservation District for legal access to trails that are used for flood control operations.

Other Lands in the Wash Plan Area

In addition to BLM (approx. 970 acres) and Conservation District lands, there are lands owned by different municipalities including Highland (approx. 40 acres), Redlands (approx. 160), and SBCFC (approx. 1,035). There are also private lands including, lands owned by Robertson's (approx. 339) and others. Currently there are no recreational facilities on these lands. BLM lands are currently gated at access points and are generally accessible to the public only with permission.

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4.0 COMPARISON OF ALTERNATIVES

4.1 AIR QUALITY AND GREENHOUSE GASES

This section discusses the potential for the alternatives to impact air quality and increase greenhouse gas (GHG) emissions. This evaluation conforms to procedures and methodologies from the *CEQA Air Quality Handbook* of the South Coast Air Quality Management District (SCAQMD), published in April 1993. SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook*¹ to replace the *CEQA Air Quality Handbook*. Modeled air quality levels are based upon vehicle data and existing and expanded aggregate mining trip generation included in the *Traffic Study*² prepared for the Proposed Action/Projects. (The Traffic Study is Appendix J of the Conservation District's November 2008 Final EIR). From 2004 through 2008, the Inland Empire experienced a drastic increase in development, thus increasing air quality emissions within the vicinity of the Plan Area. Following that time, a significant decrease in development has occurred. Therefore, the air quality analysis conducted in 2007 is expected to still illustrate a reasonable scenario when compared to current conditions.

Also, due to implementation of existing regulations the fleet of haul trucks and processing equipment that would be in use at the time the Proposed Action/Projects are implemented are anticipated to be cleaner than those used in 2007 when the emissions analysis was conducted. Some statewide regulations proposed to reduce one form of pollutant have the added benefit of reducing other forms of pollution. For example, when the CARB approved the Heavy-Duty Vehicle Greenhouse Gas Reduction Measure in 2008 and the most recent amendments in December 2014 to reduce GHG emissions from heavy-duty trucks, it also reduces NOX emissions. This measure requires a compliance schedule for trucks to be certified under the US EPA SmartWay Program, which reduces fuel consumption by improving fuel efficiency through improvements to tractor and trailer aerodynamics and low-rolling resistance tires. Also, on February 1, 2005, a requirement limiting the idling of diesel-fueled commercial vehicles to five minutes at any location pursuant to Section 2485 of Chapter 10 within Title 13 of CCR was adopted. Similarly, Section 2449 prohibits construction equipment and truck idling times shall be prohibited in excess of five minutes on site.

On August 9, 2011 the US EPA and the National Highway Traffic Safety Administration (NHTSA) issued fuel economy and GHG emissions standards for medium- and heavy-duty trucks, which applies to vehicles from model year 2014-2018.³ The agencies estimate that the combined standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of vehicles built for 2014 to 2018 model years. Building on the success of the Phase I standards, in August

¹ South Coast Air Quality Management District, *Air Quality Analysis Guidance Handbook*, found at <http://www.aqmd.gov/CEQA/hdbk.html>, accessed on January 17, 2007.

² *Traffic Study, Upper Santa Ana River Wash, San Bernardino County, California*, prepared by LSA Associates, Inc., August 2007.

³ United States Environmental Protection Agency, Office of Transportation and Air Quality. *Regulations for Greenhouse Gas Emissions from Commercial Trucks & Buses*. (Available at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-commercial-trucks>, accessed January 15, 2018)

2016, EPA and NHTSA jointly finalized Phase 2 standards for medium- and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution to reduce the impacts of climate change, while bolstering energy security and spurring manufacturing innovation. The final Phase II program promotes a new generation of cleaner, more fuel-efficient trucks by encouraging the development and deployment of new and advanced cost-effective technologies. The product of four years of extensive testing and research, the vehicle and engine performance standards would cover model years 2018-2027 for certain trailers and model years 2021-2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

Therefore, emissions from the fleet of haul trucks and processing equipment when the Proposed Action/Projects, including expanded aggregate mining, are implemented, are anticipated to be less than what was estimated in the 2008 EIR. The estimated emissions identified in the 2008 EIR and this EIS/SEIR represent a conservative, worst-case scenario.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. An alternative would have a significant impact related to air quality and/or GHG emissions if implementation would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Result in a significant health risk to nearby sensitive receptors.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.
- Generate GHG 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.

4.1.1 DIRECT AND INDIRECT EFFECTS

4.1.1.1 Alternative A: No Action Alternative

Air Quality

The No Action Alternative would not directly generate any new impacts to air quality. Under this alternative, mining, and hauling activities on unpaved access roads in the Plan Area would continue to generate potential air emissions. For this analysis, and as outlined in *Section 2.2 Alternative A: No Action Alternative*, aggregate mining operations would continue producing an average of 4.0 to 4.5 million tons per year (MTPY) of aggregate materials. The total average MTPY is the average production numbers of both Cemex and Robertson's operations within the Plan Area. The existing permitted mining would be mined to completion, but no additional mining permitting is presumed. The No Action Alternative would result in a gradual slowing of mining activities in the Plan Area as aggregate resources are depleted under existing permits and leases. The aggregate sources currently available to Robertson's are expected to be depleted in the next 1-2 years. The aggregate sources currently available to Cemex are expected to be depleted in the next 10-15 years (dependent on the market).

Consistency with Local Air Quality Management Plan

The No Action Alternative would be consistent with Local, Regional, State and Federal air quality plans. There would be no violation of local and regional implementation plans because existing mining and water conservation activities would be consistent with the SCAQMD Air Quality Management Plan (AQMP), the *County of San Bernardino General Plan*, SBCTA's Regional Transportation Plans, the *City of Highland General Plan*, and the *City of Redlands General Plan*.

Air Quality Standards

Under the No Action Alternative, ongoing mining activities within the Plan Area would cause emissions of criteria pollutants. Emissions would be generated by on-site mobile sources, on-site stationary sources (aggregate processing equipment), and fugitive dust from ongoing aggregate mining operations and Conservation District operations and maintenance.

On-site exhaust emissions for mining operations, off-site emissions for haul trucks, and fugitive dust sources were estimated and included in the Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan. As outlined in Section 3.1.7, Existing Emission Sources, the existing on-site and off-site emissions for the Plan Area that were included in the 2008 EIR do not exceed SCAQMD Operations thresholds for CO or VOCs but do exceed thresholds for NO_x, PM₁₀ and PM_{2.5}.

Under the No Action Alternative, mining and water conservation activities in the Plan Area would continue to utilize vehicles and heavy-duty mobile equipment with exhaust emissions with NO_x that is an ozone precursor. Loading and dumping of haul trucks and vehicle travel on unpaved roads during

mining and water conservation activities in the Plan Area would continue to have the potential to release fine soil particles to the atmosphere as fugitive dust (PM₁₀ and PM_{2.5}). Disturbed areas that are treated using dust-control measures and undisturbed areas that are left undisturbed for periods longer than one year are typically no longer a major source of potential wind erosion emissions. Fugitive dust emissions from each of these sources are expected to continue with the No Action Alternative.

All ongoing mining and water conservation operations would be required to comply with standard regional rules—SCAQMD Rule 402, Rule 403, and Rule 1157—that assist in reducing air pollutant emissions. Rules 403 and 1157 recommend controlling fugitive dust through the best-available control measures and dust-suppression techniques so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Rule 402 requires implementation of dust-suppression techniques to prevent fugitive dust from creating a nuisance off-site. Table 4.1-1, *Fugitive Dust Emissions from Continuing Mining Activity*, lists an inventory of fugitive dust emissions from anticipated mining activities in the Plan Area after control measures are applied.

Table 4.1-1: Existing Fugitive Dust Emissions from Continuing Mining Activity

Fugitive Dust Sources	PM ₁₀ Estimated Emissions Rate (lbs/day)
All Quarry Operations	750
Ready-Mix Plants	35
Rock Plant	45
Total	830

Source: Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

As the existing on-site and off-site emissions from ongoing aggregate mining operations exceed SCAQMD Operations thresholds for NO_x, PM₁₀ and PM_{2.5} the No Action Alternative would continue to violate air quality standards and contribute to an existing air quality violation, a significant and unavoidable impact.

The nearest sensitive receptor to the Plan Area is an existing residential development located approximately 1,175 feet away in the City of Highland. Figure 4.1-1 *Sensitive Receptor Map*, shows the nearest sensitive receptor to mining operations in the Plan Area. Table 4.1-2, *Existing Criteria Pollutant Concentrations at Nearest Residences*, shows the estimated concentrations of criteria pollutants at the nearest residences which would result from ongoing mining operation emissions. Table 4.1-2 shows that concentrations of CO and NO₂ are below state and federal standards; however, the concentration of PM₁₀ is above state standards and PM_{2.5} is above state and federal standards.

Table 4.1-2: Existing Criteria Pollutant Concentrations at Nearest Residences

Fugitive Dust Sources Exhaust Sources	Maximum Concentration (ug/m ³)			
	CO	NO ₂	PM ₁₀	PM _{2.5}
Total Project	47	126	129	40
State Standard	23,000	338	50	35
Federal Standard	40,000	---	150	35

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

As indicated in Table 4.1-1, *Existing Fugitive Dust Emissions from Continuing Mining Activity*, and Table 4.1-2, *Existing Criteria Pollutant Concentrations at Nearest Residences*, fugitive dust emissions from mining are a major contributor of particulate emissions. A major contributor to the PM_{2.5} emissions is the road dust generated from haul trucks transporting material from the quarries to the processing plants on the internal dirt haul roads and from tailpipes. The haul road dust emissions were estimated based on maximum daily production levels, the average distances and aggregate volumes from each quarry, and the size of off-road haul trucks for each operator. During actual operations both mining operators could mine aggregate materials at maximum daily volumes and from the more distant quarries during the same time span such that federal standard for PM_{2.5} could also be exceeded, despite implementation of the required dust-control measures. Ongoing aggregate mining operations associated with the No Action Alternative results in concentrations of PM₁₀ above state standards and PM_{2.5} above state and federal standards at the nearest sensitive receptors. These impacts are significant and unavoidable.

Health Risk

There are currently no federal project-level requirements for air toxics analysis, and CEQA only requires a consideration of the risks from toxics, with the SCAQMD providing the *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (March 2003) and the *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)* (July 2005) for guidance.

The No Action Alternative would not result in a new or increased adverse health risk in the area. Air quality in the Plan Area would continue to be affected, due to indirect long-term air emissions from mobile sources from the foreseeable activities under the No Action Alternative. The principal toxic air contaminant from mining activities would be diesel PM, a known carcinogen, emitted as part of large, heavy-duty diesel-powered equipment exhaust. Aggregate processing plants also emit small amounts of contaminants, such as copper, nickel, and sulfates as fugitive emissions. While there may be other toxic substances in use on-site, compliance with Federal handling regulations would control these emissions. As there would be no expansion of mining activities under the No Action Alternative, there would be no new or increased adverse health risk in the area from diesel PM emitted.

Objectionable Odors

During ongoing mining operations, the various diesel-powered vehicles and equipment in use on the site would create odors. SCAQMD Rule 402 dictates that air discharged from any source shall not cause injury, nuisance, or annoyance to the health, safety, or comfort of the public. With the exception of short-term related odors, the proposed activities do not include uses that would generate objectionable odors.

Global Climate Change (GHG Emissions)

The primary GHG emissions generated by ongoing aggregate mining operations under the No Action Alternative would be carbon dioxide in the form of mining vehicle and equipment exhaust. Other GHG emissions generated by ongoing aggregate mining include methane and nitrous oxide from vehicle and equipment exhaust. As mining activities would not expand under the No Action Alternative, there would be no new or increased GHG emissions generated by aggregate mining vehicle and equipment exhaust.

Ongoing operation and maintenance activities carried out in the Plan Area as part of aggregate mining and water conservation would be consistent with local, regional, state and federal air quality plans. The No Action Alternative would not result in a new or increased adverse health risk or GHG emissions generated by aggregate mining vehicle and equipment exhaust.

However, existing on-site and off-site emissions from ongoing aggregate mining operations exceed SCAQMD Operations thresholds for NO_x, PM₁₀ and PM_{2.5} and would continue to violate air quality standards and contribute to an existing air quality violation, a significant and unavoidable impact. Ongoing aggregate mining operations result in concentrations of PM₁₀ above state standards and PM_{2.5} above state and federal standards at the nearest sensitive receptors, also a significant and unavoidable impact.

4.1.1.2 Alternative B: Proposed Action/Projects***Air Quality***

The *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than this alternative (Alternative B: Proposed Action/Projects). Therefore, the truck trips generated, as outlined in the *Traffic Study* for expanded mining under Alternative C would be greater than those generated from Alternative B. Modeled air quality levels were based upon vehicle data and project trip generation included in the *Traffic Study*. Consequently, modeled air quality levels from Alternative B are anticipated to be less than or equal to those modeled for Alternative C.

Consistency with Local Air Quality Management Plan**AQ-1 Consistency with the Air Quality Management Plan**

Would the proposed project conflict with or obstruct implementation of the applicable AQMP? ***Determination: Less than Significant Impact.***

The control measures and related emission reduction estimates included in the AQMP are based upon emissions projections for a future development scenario derived from land use, population, and employment estimates defined in consultation with local governments. Accordingly, if a project demonstrates compliance with local land use plans and/or population projections, then the AQMP would have taken into account such uses when it was developed, and the Proposed Projects would not conflict with implementation of the plan.

Aggregate Mining

The Proposed Action/Projects would result in changes to the location of future expansion of aggregate mining within the Plan Area. However, the aggregate mining expansion is not expected to substantially increase employment or population, and thus growth inducement, as a result (also refer to *Section 4.6, Socioeconomics, Population and Housing, and Environmental Justice* for more information on projected employment with the mining expansion). Therefore, the proposed uses of the Plan Area have been included in growth projections for the region, which were subsequently used as input in development of the approved AQMP. The Proposed Action/Projects would be consistent with the AQMP and would not obstruct implementation of its programs. All other Proposed Projects would not have a substantial increase in employment or population, and thus growth inducement. A less than significant impact associated with this activity would occur and no mitigation is required.

Water Conservation

Under the Proposed Action/Projects, fewer acres would be available for potential water conservation activities; however, there would be no reduction in groundwater recharge basin acreage. The reduction in total water conservation acreage available for the purpose of habitat conservation would result from the land exchange between the Conservation District and BLM as depicted in Figures 1.0-5 and 1.0-6. As previously described, the AQMP provides a program for obtaining attainment status based on existing and future air pollution emissions resulting from employment and residential growth projections. Because activities associated with water conservation would not increase employment and population, and additional emissions are not anticipated from this activity, it is consistent with the current AQMP and would not obstruct implementation of the attainment plan. Therefore, a less than significant impact associated with this activity would occur and no mitigation is required.

Wells and Water Infrastructure

Activities associated with wells and water infrastructure would not increase employment and population, and additional emissions are not anticipated from this activity, it is consistent with the current AQMP and would not obstruct implementation of the attainment plan. A less than significant impact associated with this activity would occur and no mitigation is required.

Transportation

The Proposed Action/Projects include ongoing maintenance and improvements to Alabama Street, and Orange Street, and Boulder Avenue. These activities would not conflict with the adopted AQMP because no increase in employment or population would be generated as a result. This activity is not considered growth inducing. Therefore, this activity is consistent with the AQMP and would not obstruct implementation of attainment. A less than significant impact associated with this activity would occur and no mitigation is required.

Flood Control

Flood control operations and activities would not change as a result of the Proposed Action/Projects. As in the discussion for water conservation, activities associated with flood control would not increase employment and population. Additional emissions are not anticipated with this activity, consistent with the current AQMP, and would not obstruct the SIPs for attainment for criteria pollutants in nonattainment status. A less-than-significant impact associated with this activity would occur and no mitigation is required.

Trails

The Proposed Action/Projects include the development and operation of a trail system in the Plan Area. These activities would not conflict with the adopted AQMP because no increase in employment or population would occur. These activities are not considered growth inducing. Therefore, these activities are consistent with the AQMP and would not hinder implementation of attainment. A less-than-significant impact associated with these activities would occur and no mitigation is required.

Habitat Enhancement and Monitoring

The Proposed Action/Projects includes a conservation and mitigation strategy designed to mitigate impacts from the Covered Activities on covered species within the Plan Area. These restoration activities include study and monitoring of covered species, the enhancement, restoration and creation of habitat for covered species, and vegetation management within the Plan Area. These activities would not conflict with the current AQMP and would result in a less than significant impact, no mitigation is required.

Agriculture

An existing 6.7-acre citrus grove operates within the Plan Area. Operation of the grove requires maintenance of access roads, irrigation infrastructure, and a sampling well. Applications of herbicide, insecticide, fungicide and fertilizer are necessary. These activities would occur with or without the Proposed Action/Projects and are consistent with the AQMP. A less-than-significant impact associated with this activity would occur and no mitigation is required.

Air Quality Standards

AQ-2 Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation? ***Determination: Significant and Unavoidable.***

Air quality impacts can be divided into short-term and long-term impacts. Short-term impacts are usually related to construction and grading activities. Long-term impacts are usually associated with build-out conditions and continuing project operations. Both short-term and long-term air quality impacts can be analyzed on a regional and localized level. Regional air quality thresholds examine the

effect of project emissions on the air quality of the Basin, while localized air quality impacts examine the effect of project emissions on any neighborhoods around the Project site. The following information is from the analysis included in the Conservation District's November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

Short-Term Impacts – Regional Significance Threshold (RST) Analysis

Aggregate Mining

Construction activities associated with aggregate mining include the construction of a new paved Access Road, approximately 30 feet wide, along the existing City Creek levee located on the east side of City Creek between 5th Street at the west boundary of the Plan Area. In addition, a new paved road would be constructed, approximately 30 feet wide, connecting Cemex's Orange Street crossing to the proposed 5th Street Access Road described above. The new Access Road would be constructed on an easement granted to Robertson's by the SBCFCD and would be a private roadway. The new levee access road would serve as the ingress and egress route for the trucks serving both Cemex and Robertson's processing plants. Typical grading of a roadway without trenching for utilities is assumed for this construction project.

Grading and other construction activities would result in combustion emissions from heavy-duty construction vehicles, haul trucks, utility engines, and vehicles transporting the construction crew. Exhaust emissions during these construction activities would vary daily as construction activity levels change. Grading and construction activities would cause combustion emissions from utility engines, heavy-duty construction vehicles, haul trucks, and vehicles transporting the construction crew. Peak grading days typically generate a larger amount of air pollutants than during other project construction days. Total emissions that would result from grading activities and from equipment exhaust under the proposed construction scenario do not exceed regional daily SCAQMD thresholds, as outlined in Table 4.1-3 below.

Table 4.1-3: Total Emissions from Access Road Construction Equipment Per Day

	Pollutants ¹ (lbs./day)					
	CO	ROC	NO _x	SO _x	PM ₁₀ ²	PM _{2.5} ²
Total	23	7.4	47	0.011	13	3.6
SCAQMD Regional Significance Threshold	550	75	100	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

¹ Emission factors provided in SCAQMD CEQA Handbook, April 1993.

² Includes twice daily watering

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

No exceedance of established regional daily thresholds for mining access road grading activity would indicate no expected significant impact associated with the other proposed small projects or ongoing maintenance activities on a short-term regional basis. No mitigation is required.

Water Conservation

The Conservation District would continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Plan Area in the same manner as existing conditions. Water Conservation construction projects, such as relocation of Observation Well No. 4, would not be expected to require more equipment than used in mining access road grading activities. Because there is no exceedance of established regional daily thresholds for mining access road grading activity, there would be no expected significant impact associated with small water conservation projects or ongoing maintenance activities on a short-term regional basis. No mitigation is required.

Wells and Water Infrastructure

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the Proposed Action/Projects. Infrastructure construction projects would not be expected to require more equipment than used in mining access road grading activities. Because there is no exceedance of established thresholds for mining access road grading activity, there would be no expected significant impact associated with small well and water infrastructure construction projects or ongoing maintenance activities on a short-term regional basis. No mitigation is required.

Transportation

The designation of ROW for and subsequent improvements to Alabama Street, Orange Street, and Boulder Avenue would not be expected to require more equipment than used in mining access road grading activities. Because there is no exceedance of established thresholds for mining access road grading activity, there would be no expected significant impacts associated with these activities on a short-term regional basis. However, prior to construction of these Covered Activities a subsequent analysis of emissions from construction equipment shall be completed to confirm no SCAQMD regional thresholds (or other current thresholds at the time) would be exceeded. If thresholds would be exceeded, a separate CEQA analysis and determination shall be prepared by the applicable lead agency for that project.

Flood Control

Flood control operations would not change as a result of the Proposed Action/Projects. The SBCFCD would not require additional construction work associated with the Santa Ana River, Mill Creek, Plunge Creek, or City Creek as a result of the Proposed Project. The Plunge and Elder Creek Multipurpose Habitat Enhancement and Flood Control Reasonably Foreseeable Project and maintenance of flood control facilities would not be expected to require more equipment than used in mining access road grading activities. Because there is no exceedance of established thresholds for mining grading activity, there would be no expected significant impact associated with ongoing maintenance activities or the Plunge and Elder Creek Multipurpose Habitat Enhancement and Flood Control Reasonably Foreseeable Project on a short-term regional basis. No mitigation is required.

Trails

The designation of ROW for recreational trails does not require construction. As previously described, all trails would be located on existing roads and access easements to minimize physical disturbances. A less than significant impact would occur on a short-term regional basis, and no mitigation is required.

Habitat Enhancement and Monitoring

The Proposed Action/Projects includes a conservation and mitigation strategy designed to mitigate impacts from the Covered Activities on covered species within the Plan Area. These restoration activities include study and monitoring of covered species, the enhancement, restoration and creation of habitat for covered species, and vegetation management within the Plan Area. These activities would not require heavy duty construction equipment and result in a less than significant impact on a short-term regional basis and no mitigation is required.

Agriculture

An existing 6.7-acre citrus grove operates within the Plan Area. Operation of the grove requires maintenance of access roads, irrigation infrastructure, and a sampling well. Applications of herbicide, insecticide, fungicide and fertilizer are necessary. These activities would occur with or without the Proposed Action/Projects and are consistent with the AQMP. A less-than-significant impact associated with this activity would occur and no mitigation is required.

Long-Term Impacts – RST Analysis**Aggregate Mining**

Mining and hauling activities would result in combustion emissions from heavy-duty construction vehicles, haul trucks, utility engines, and vehicles transporting the mining crews. Exhaust emissions during these activities would vary daily as mining activity levels change. The proposed expansion would have the combined operations of Cemex and Robertson's producing up to 6.0 million tons per year. The mining operations would continue to include excavation, transport, and processing of materials in the Plan Area. Excavation operations would still require the use of excavators, transporting operations the use of haul trucks and water trucks and materials processing the use of crushers, screens, conveyors, and stacking conveyors. The existing operations as well as the total expanded mining operations emissions for PM₁₀ and PM_{2.5} both exceed daily thresholds. All other Proposed Projects, including small construction projects and ongoing operation and maintenance would not be expected to result in long-term regional impacts.

Table 4.1-4: Changes in Regional Emissions Resulting from the Proposed Expansion

Emission Sources	Emission Rate Change (lbs/day)						
	CO	ROG	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂
Offsite Exhaust Sources	6.2	2.1	11	0.012	0.78	0.71	1,200
Onsite Exhaust Sources	19	6.1	48	0.081	16	6.2	7,800
Fugitive Dust Sources	—	—	—	—	36	11	—
SCAQMD Daily Thresholds	550	55	55	150	150	55	No Threshold
Significant Increase?	No	No	Yes	No	No	No	

Table 4.1-4 shows that the net increase in emissions of the criteria pollutants for expanded mining would all be less than the SCAQMD thresholds, with the exception of NO_x. Although the net increase from expanded mining operations does not result in emissions that would exceed thresholds for PM₁₀ and PM_{2.5}, the existing operations and the total expanded mining operations emissions for PM₁₀ and PM_{2.5} both exceed daily thresholds. This impact is significant and mitigation measures are required.

The following mitigation measure would reduce impacts related to the potential increase in NO_x from aggregate mining activities of the Plan Area:

MM AQ-1 The mining operators, Cemex and Robertson's, shall comply with Article 4.8 *In-Use Off-Road Diesel-Fueled Fleets*, Section 2449 *Emission Standards for In-Use Off-Road Diesel-Fueled Fleets* and any other applicable, subsequent rules, regulations, and requirements to the extent that is technologically feasible.

MM AQ-2 The mining operators, Cemex and Robertson's, shall comply with CARB idling restriction requirements for diesel-fueled vehicles to idle for more than 5 minutes.

The emissions of NO_x, PM₁₀, and PM_{2.5} from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS. These emissions control measures for heavy-duty vehicles cannot be quantified to demonstrate the reduction of these emissions. Long-term regional impacts remain significant and unavoidable.

Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 would reduce impacts related to the potential increase in NO_x emissions from expanded aggregate mining activities of the Plan Area. However, while control measures regulate emissions of heavy-duty vehicles, there is no way to quantify the reduction of these emissions. Long-term regional impacts remain significant and unavoidable and a Statement of Overriding Considerations would be required.

Water Conservation

The Conservation District would continue to operate, maintain, and repair its water conservation facilities (access roads, canals, culverts, dikes, basins, and diversion structures) within the Plan Area in the same manner as existing conditions. Because operational activities would continue as currently implemented, a less than significant long-term regional impact associated with this activity would occur and no mitigation is required.

Wells and Water Infrastructure

Operation and maintenance activities of the EVWD and RMUD would not change as a result of the Proposed Action/Projects. Because no construction is proposed for these activities and operational activities would continue as currently implemented, no long-term regional impact would occur with this activity and no mitigation is required.

Transportation

Long-term operation of the proposed transportation improvements under the covered activities would not significantly change as a result of the Proposed Action/Projects. Because operational activities would continue as currently implemented, long-term regional impacts would be less than significant, and no mitigation is required.

Flood Control

Flood control operations and maintenance activities would not change as a result of the Proposed Project. Because these operation and maintenance activities would continue as currently implemented, no long-term regional impact associated with this activity would occur and no mitigation is required.

Trails

As previously described, all trails would be located on existing roads or access easements to minimize physical disturbances. No heavy equipment would be required to maintain trails. A less-than-significant long-term regional impact would occur and no mitigation is required.

Habitat Enhancement and Monitoring

The Proposed Action/Projects includes a conservation and mitigation strategy designed to mitigate impacts from the Covered Activities on covered species within the Plan Area. These activities include study and monitoring of covered species, the enhancement, restoration and creation of habitat for covered species, and vegetation management within the Plan Area. These activities would result in a less than significant long-term regional impact and no mitigation is required.

Agriculture

An existing 6.7-acre citrus grove operates within the Plan Area. Operation of the grove requires maintenance of access roads, irrigation infrastructure, and a sampling well. Applications of herbicide, insecticide, fungicide and fertilizer are necessary. These activities would occur with or without the Proposed Action/Projects and are consistent with the AQMP. A less-than-significant impact associated with this activity would occur and no mitigation is required.

Long-Term Microscale (CO Hotspot) Impacts

As previously outlined in Section 3.1 and shown in Table 3.1-2, CO concentrations from existing off-site mobile emissions are below SCAQMD thresholds. However, vehicular trips associated with the projects contribute to the congestion at intersections and along roadway segments in the Plan Area. Localized air quality effects would occur when emissions from vehicular traffic change in local areas as a result of the Proposed Action/Projects. The primary mobile source pollutant of local concern is CO.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. The SCAQMD AQMP has projections for CO concentrations that are lower than existing levels and are not specifically for the area of the Plan Area. Thus, to be conservative, existing ambient CO concentrations measured at the San Bernardino station were used for all future scenarios.

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated during peak traffic conditions represent a worst-case analysis. Based on the *Traffic Study* (LSA Associates, Inc., August 2007), CO hot spot analyses were conducted for future cumulative conditions from expanded aggregate mining activity trips. The impact on local CO levels was assessed with the Caltrans' CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of CO hot spots. Table 4.1-5 shows the future CO concentrations at principal intersections affected by Proposed Action/Projects traffic for 2030.

Table 4.1-5: 2030 Proposed Project CO Concentrations without/ with Proposed Project

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1-hr/8-hr (ppm)	Without/With Project 1-hour CO Concentration (ppm)	Without/With Project 8-hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr	8-Hr
Palm Avenue and 5 th Street	12 / 7	0.3 / 0.2	4.8 / 5.1	3.6 / 3.8	No	No
	12 / 7	0.2 / 0.1	4.8 / 5.0	3.6 / 3.7	No	No
	10 / 7	0.2 / 0.2	4.7 / 4.9	3.5 / 3.7	No	No
	10 / 7	0.2 / 0.2	4.7 / 4.9	3.5 / 3.7	No	No
Palm Avenue and 3 rd Street	14 / 14	-0.2 / -0.1	4.8 / 4.6	3.6 / 3.5	No	No
	14 / 12	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	12 / 8	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	7 / 8	0.1 / 0.1	4.5 / 4.6	3.4 / 3.5	No	No
Palm Avenue and Robertson's Access	10 / 15	0.1 / 0.0	4.6 / 4.7	3.5 / 3.5	No	No
	10 / 14	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	10 / 14	-0.1 / -0.1	4.6 / 4.5	3.5 / 3.4	No	No
	10 / 8	-0.1 / -0.1	4.6 / 4.5	3.5 / 3.4	No	No
Palm Avenue and Cemex Access	12 / 7	0.3 / 0.2	4.5 / 3.8	3.4 / 2.9	No	No
	12 / 21	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
	7 / 17	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
	7 / 14	-0.7 / -0.5	4.5 / 3.8	3.4 / 2.9	No	No
Church Avenue and 5 th Street	14 / 17	-0.1 / -0.1	4.5 / 4.4	3.4 / 3.3	No	No
	14 / 17	-0.1 / 0.0	4.4 / 4.3	3.3 / 3.3	No	No
	14 / 17	-0.1 / 0.0	4.4 / 4.3	3.3 / 3.3	No	No
	14 / 17	-0.1 / 0.0	4.4 / 4.3	3.3 / 3.3	No	No
Truck Access Road and 5 th Street	17 / 21	0.7 / 0.5	3.8 / 4.5	2.9 / 3.4	No	No
	17 / 17	0.6 / 0.4	3.8 / 4.4	2.9 / 3.3	No	No
	17 / 17	0.6 / 0.4	3.8 / 4.4	2.9 / 3.3	No	No
	15 / 15	0.6 / 0.4	3.8 / 4.4	2.9 / 3.3	No	No
State Route 210 Southbound Ramps and 5 th Street	10 / 13	-0.1 / 0.0	4.7 / 4.6	3.5 / 3.5	No	No
	10 / 10	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	10 / 10	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	10 / 10	0.1 / 0.1	4.4 / 4.5	3.3 / 3.4	No	No
State Route 210 Northbound Ramps and 5 th Street	7 / 7	0.1 / 0.1	4.7 / 4.8	3.5 / 3.6	No	No
	7 / 7	0.1 / 0.0	4.6 / 4.7	3.5 / 3.5	No	No
	7 / 7	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
	7 / 7	0.0 / 0.0	4.6 / 4.6	3.5 / 3.5	No	No
Boulder Avenue and Greenspot Road	7 / 7	-0.2 / -0.2	4.9 / 4.7	3.7 / 3.5	No	No
	7 / 7	-0.2 / -0.2	4.9 / 4.7	3.7 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / 0.0	4.7 / 4.6	3.5 / 3.5	No	No
Orange Street and Cemex Access	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No
	7 / 7	-0.1 / -0.1	4.8 / 4.7	3.6 / 3.5	No	No

Includes ambient 1-hour concentration of 3.8 ppm and ambient 8-hour concentration of 2.9 ppm. Measured at the 24302 4th Street, San Bernardino, California, Air Quality Monitoring Station (San Bernardino County).

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

The analysis for CO hot spots was conducted because of the direct impact of increased vehicular activity associated with expanded aggregate mining activities; however, the remaining activities would be impacted indirectly as a result. Table 4.1-5 shows that, under the forecast year condition (2030) with the

expanded mining activity trips, none of the ten intersections analyzed would exceed either the 1-hour or the 8-hour CO concentration federal and state standards. The expanded mining trips would contribute at most a 0.7 ppm increase to the 1-hour CO concentrations and 0.5 ppm increase to the 8-hour CO concentrations at these intersections. Because no CO hot spots would occur, the proposed expanded mining would not have a significant impact on local air quality for CO, and no mitigation measures would be required. As all the other Covered Activities/Proposed Projects would utilize nominal numbers of equipment/trips, potential impacts on local air quality from those are anticipated to be less than the proposed expanded mining, and therefore, would not be significant either.

Cumulatively Considerable Net Increase in Criteria Pollutants

As previously stated, the portion of the Basin within which the Plan Area is located is designated as nonattainment for PM₁₀ by the state, as well as nonattainment for ozone, and PM_{2.5} under both the state and federal standards. As a result, the SCAQMD is required to develop an AQMP for the Basin to bring the area into attainment for all criteria pollutants.

Ozone is not directly emitted into the atmosphere; rather, it forms via a reaction of VOC and NO_x in the atmosphere. Therefore, in evaluating this threshold it is also important to consider these emissions and their potential to contribute to ozone pollution in the region even if the region is not in non-attainment for these constituent pollutants.

SCAQMD considers the thresholds for project-specific impacts and cumulative impacts to be the same. Therefore, projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable. Based on SCAQMD's regulatory jurisdiction over regional air quality, it is reasonable to rely on its thresholds to determine whether there is a cumulative air quality impact.

None of the SCAQMD mass daily significance thresholds are exceeded during Project construction. The daily significance threshold for NO_x, PM₁₀, and PM_{2.5} would be exceeded during expanded aggregate mining operations. Mitigation measures MM AQ-1 and MM AQ-1 shall be implemented to reduce operational emissions; however, they do not have quantitative reductions associated with them. Therefore, operational emissions of NO_x, PM₁₀, and PM_{2.5} would exceed the SCAQMD thresholds, even after implementation of mitigation measures, and thus would have a cumulatively considerable net increase in these emissions. Impacts are significant and unavoidable.

Health Risk

AQ-4 Health Risks from Project-Related Emission Impacts

Would the proposed project result in a significant health risk to nearby sensitive receptors? ***Determination: Less than Significant Impact.***

There are currently no federal project-level requirements for air toxics analysis, and CEQA only requires a consideration of the risks from toxics, with the SCAQMD providing the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality

Analysis (March 2003) and the Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics “Hot Spots” Information and Assessment Act (AB2588) (July 2005) for guidance.

Determining how hazardous a substance is depends on many factors, including the amount of the substance in the air, how it enters the body, how long the exposure lasts, and what organs in the body are affected. One major way these substances enter the body is through inhalation of either gas or particulate. While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. The Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel exhaust particulates (PM) poses the highest cancer risk of any toxic air contaminant (TAC) it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the contaminants, which, when fully implemented, would result in an 85 percent reduction by 2020 compared to 2000 levels.

Long-term air emissions from stationary and mobile sources related to the Proposed Action/Projects would affect air quality in the Plan Area. The principal toxic air contaminant in any significant quantity associated with either short-term construction operations or the long-term operation of the Proposed Action/Projects is diesel PM emitted as part of large, heavy-duty diesel-powered equipment exhaust. The aggregate processing plants also emit small amounts of TAC such as copper, nickel and sulfates as fugitive emissions. While there may be other toxic substances in use on site, compliance with state and federal handling regulations control emissions to below a level of significance. According to the California Air Resources Board (CARB), when conducting a Health Risk Assessment (HRA), the surrogate for whole diesel exhaust is diesel PM.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to the rulemaking on *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (CARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed individuals have not provided sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects.

The nearest sensitive receptor, as identified in the Conservation District’s November 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan, is an existing residential development located approximately 1,175 feet away in the City of Highland. Figure 4.1-1 shows the nearest sensitive receptor to mining operations. The sensitive receptors identified in the 2008 EIR and Figure 4.1-1 remain up to date and there are no new sensitive receptors in closer proximity to mining operations.

To estimate the potential health risk associated with Project-related emissions, a dispersion model is used to translate an emission rate from a source location to a concentration at a receptor location of interest. Dispersion modeling varies from the simpler, more conservative screening-level analysis to the more complex and refined detailed analysis. The assessment for construction operations was performed using the EPA-approved SCREEN3 plume modeling software.

Aggregate Mining

The mobile equipment used in construction operations only operates in one location a short time, relative to the length of time required for carcinogenic and chronic health impacts to develop, usually six months or less. As shown in Table 4.1-3: *Total Emissions from Access Road Construction Equipment Per Day*, the anticipated level of diesel-powered equipment use would, even on the most intense day, emit no more than 13 lbs/day of diesel exhaust particulate (PM_{2.5}). Using this maximum 13 lbs/day particulate emission rate, SCREEN3 was used to develop concentrations at various distances.

The construction HRA assumed that the mobile equipment operates for 350 days per year and very conservatively spends an entire 6-month period for constructing the aggregate access road in one place. Table 4.1-6 shows potential impacts from air toxics associated with diesel exhaust during proposed construction of the aggregate access road following published OEHHHA techniques for health risk assessments. In reality, the equipment moves down the roadway as the road is being built. Even with this overestimation, the health risk for construction operations is below the cancer threshold of ten in one million and the chronic threshold of 1.0; therefore, both health risks would be less than significant.

Table 4.1-6: Construction-Related Health Risks

Distance (feet)	Inhalation Cancer Risk # in a million	Inhalation Chronic Risk Factor
980	4.0	0.35
1300	2.8	0.25
1600	2.1	0.19
2000	1.6	0.14
2300	1.3	0.11
2600	1.1	0.095
3000	0.9	0.080
3300	0.8	0.068
3600	0.7	0.060
3900	0.6	0.053
Health Risk Thresholds	10	1.0

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

Another computer model, the OEHHHA Hot Spots Analysis and Reporting Program (HARP), calculated long-term operational emissions. The HARP software is the model used by the ARB for calculating and presenting HRA results for the Hot Spots Program. HARP combines the tools of emission inventory database, facility prioritization calculation, air dispersion modeling, and risk assessment analysis. A screening-level single pathway analysis has been conducted, analyzing only the inhalation pathway. The HARP analysis follows the procedure according to the OEHHHA Air Toxic Hot Spots Program Risk

Assessment Guidelines (August 2003), Appendix D, “Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Vehicles.”

Mining operations continue for a limited time compared to the 70-year assessment period, and then cease. New operations begin at a new location. To capture this action, a series of volume sources was distributed over each of the mining areas and the total emissions for each of Cemex and Robertson’s spread over the sources for each area. Additionally, two sources of emissions volumes were used to model the emissions from the two aggregate plants. Receptors were placed in a grid extending in all directions, along the property boundary, at all locations of residences as specified in the State-supplied census block database. SCAQMD meteorological data from the Redlands monitoring station were used to determine the ground-level concentrations.

Acute Project-Related Emission Impacts

Copper, nickel, and sulfates are the only TACs with short-term acute health effects in the fugitive emissions from the aggregate plants. However, according to the rulemaking on Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant (CARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lungs are a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers do not provide sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects. Table 4.1-8 shows that the total acute hazard index from the proposed aggregate access road construction would be 0.004 compared to the threshold of 1.0. Therefore, the potential for short-term acute health problems as a result of exposure to Project-related TAC emissions would be less than significant.

Table 4.1-7: Long-Term Health Risks from the Proposed Project Operations

Risk Level Location	Inhalation Cancer Risk (# in One Million)	Inhalation Chronic Risk (Hazard Index)	Inhalation Acute Risk (Hazard Index)
MEI ¹ at property line	6.1	0.008	0.004
Nearest residence	1.7	0.002	0.001
Thresholds	10	1.0	1.0

MEI = Maximally Exposed Individual

Source: Conservation District’s 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan.

Carcinogenic and Chronic Project-Related Emission Impacts

This DEIS/SEIR assesses the environmental impacts of the Proposed Action/Projects using the existing conditions as the baseline, but the health risks to nearby residents are impacted by the total emissions of the existing operations combined with the amount from the proposed expansion. A conservative set of assumptions used here hold that an individual lives in the same house for 70 years and stays there 24 hours a day for 350 out of 365 days for all 70 years. The carcinogenic risk for the MEI is 6.1 in a million at the property line in an area where without existing or foreseeable planned residences. The peak risk for any real or expected resident is 1.7 in a million, below the significance threshold of 10 in a million.

Therefore, the potential for long-term carcinogenic and chronic health problems as a result of exposure to Project-related TAC emissions would be less than significant cumulatively.

The mining operations would use petroleum products, concrete admixtures, oils, fuels, greases, and other toxic substances in the course of operations. Any proposed use or disposal of toxic chemicals by the mining operations would have to comply with state and federal handling regulations. Adherence to these regulations would ensure that emissions of toxic substances remain below the level of significance. Therefore, a less-than-significant impact is expected and no mitigation is required.

All Proposed Projects

As all the other Covered Activities/Proposed Projects would utilize nominal numbers of diesel equipment and trips, the potential for short-term acute health problems or long-term carcinogenic and chronic health problems as a result of exposure to Project-related TAC emissions would be less than significant as well.

Operation and maintenance activities as well as other small construction projects would use petroleum products, concrete admixtures, oils, fuels, greases, and other toxic substances. Any proposed use or disposal of toxic chemicals for construction or operations and maintenance activities would have to comply with state and federal handling regulations. Adherence to these regulations would ensure that emissions of toxic substances remain below a level of significance. Therefore, a less-than-significant impact is expected, and no mitigation is required.

AQ-5 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Would the proposed project expose a substantial number of people to substantial pollutant concentrations? ***Determination: Significant and Unavoidable***

Aggregate Mining

The proposed aggregate mining activities would result in potentially significant impacts related to exposure of substantial pollutant concentrations to sensitive receptors.

The East Quarry South is the closest excavation site at approximately 1,690 feet from the nearest existing residence in the City of Redlands. The East Quarry North is the closest excavation site at approximately 1,320 feet from the nearest proposed residence in the City of Highland. The nearest existing residence to the aggregate processing site is located approximately 2,820 feet away. In addition, the nearest sensitive receptors, both from existing and proposed residential developments, are also identified and are located approximately 1,175 and 1,700 feet away in the Cities of Highland and Redlands, respectively. Figure 4.1-1 shows the nearest sensitive receptors to mining operations. Table 4.1-1 lists an inventory of the existing fugitive dust emissions from aggregate mining. Robertson's proposed mining and operations east of Plunge Creek Quarry and north of Silt Pond Quarry would be the closest excavation site to residences adjacent to the Plan Area.

Both the existing and proposed level of aggregate mining operations would result in daily NO_x emissions in excess of the SCAQMD emissions threshold. Since the SCAQMD emissions thresholds for NO_x would still be exceeded, dispersion modeling was conducted to determine whether pollutant concentrations at nearby sensitive receptors would be significant (see Figure 4.1-1).

Using the EPA air dispersion model ISCST3 and the same air dispersion modeling setup as the operational HRA described in Section 4.3.4.5, the existing emission rates were modeled to determine the concentrations of the criteria pollutants at the nearest residences due to emissions from aggregate mining. Table 4.1-8 shows that the concentrations of CO, NO₂, and SO₂ at the nearest residences are below State (and the more lenient Federal) standards; however, the concentrations of PM₁₀ and PM_{2.5} are above the State standards, and in the case of PM_{2.5} also above the Federal AAQS.

Table 4.1-8: Existing Criteria Pollutant Concentrations at Nearest Residences

Emissions Sources Exhaust Sources	Maximum Concentrations (µg/m ³)			
	CO	NO ₂	PM ₁₀	PM _{2.5}
Total Project	47	126	129	40
State Standard	23,000	338	50	35
Federal Standard	40,000	—	150	35

ppm = Parts per million, µg/m³ = Micrograms per cubic meter

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Table 4.1-9 shows the predicted concentrations at the nearest residence using emission rates from expanded mining activities. Even though the emissions rates of PM₁₀ and PM_{2.5} increase, the changes are small enough that the concentrations from expanded mining activities stay the same at the nearest residences. The concentrations of CO, NO₂, and SO₂ would stay below State and Federal standards; however, the concentrations of PM₁₀ and PM_{2.5} would stay above State standards, and in the case of PM_{2.5} also above the Federal AAQS. This is a significant impact on local air quality and mitigation measures would be required.

Table 4.1-9: Proposed Criteria Pollutant Concentrations at Nearest Residences

Fugitive Dust Sources Exhaust Sources	Maximum Concentrations (µg/m ³)			
	CO	NO ₂	PM ₁₀	PM _{2.5}
Total Project	52	140	129	40
State Standard	23,000	338	50	35
Federal Standard	40,000	—	150	35

ppm = Parts per million, µg/m³ = Micrograms per cubic meter

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

A major contributor to the PM₁₀ and PM_{2.5} emissions is the road dust generated from haul trucks transporting material from the quarries to the processing plants on the internal dirt haul roads. Haul road dust emissions were based on maximum daily production levels, the average distances and aggregate volumes from each quarry, and the size off-road haul trucks for each operator. During actual operations over the length, both operators could mine aggregate material at maximum daily volumes and from the more distant quarries during the same time span resulting in greater PM₁₀ emissions such

that federal standards for PM₁₀ could also be exceeded, despite implementation of the required dust control measures.

Standard Regulations. Construction and operations for the Proposed Action/Projects would continue to be required to comply with standard regional rules that assist in reducing fugitive dust air pollutant emissions. See Appendix I for detailed standard regulations.

The following mitigation measures would further reduce the level of fugitive dust/ particulate matter emissions from aggregate mining operations.

MM AQ-3 The two operators, Cemex and Robertson's, shall schedule transportation of material such that both operators are not transporting material on the same day from the south half of the southeast quarter of Section 11, which is the area farthest from both processing plants.

Mitigation Measure AQ-3 shall be implemented by the mining operators to reduce emissions of particulate matter as much as possible.

With implementation of standard regulations associated with SCAQMD Rules 402, 403, and 1157 and the continuation of stationary emission requirements and dust control measures that are required by the SCAQMD, the impacts of on-site mining operations related to PM₁₀ and PM_{2.5} levels would be minimized, but still significant. Mitigation Measure AQ-3 would reduce PM₁₀ and PM_{2.5} emissions; however, there is no way to quantify any reduction accomplished by this measure. Thus, even with compliance with SCAQMD rules and requirements and implementation of mitigation measure MM AQ-3, the impact is significant and unavoidable, and a Statement of Overriding Considerations would be required.

Water Conservation

Operation and maintenance activities of the Conservation District would continue as currently implemented. On-site mobile emissions would not occur from this activity because the identified sources (vehicles and heavy-duty equipment exhaust) are not included under this activity. Similarly, on-site stationary source emissions would not occur because the identified sources (processing facilities, asphalt plants, electricity generators) are not included in this activity. Fugitive dust emissions that would result from vehicular travel on unpaved roadways would contribute particulate matter emissions; however, the Conservation District enforces speed limits of 15 mph for its service vehicles on all roads within the Plan Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter. A less than significant impact is anticipated and no further mitigation is required.

Wells and Water Infrastructure

Similar to the previous discussion, operation and maintenance activities of the EVWD and RMUD would continue as currently implemented. On-site mobile emissions would not occur from this activity because the identified sources are not included under this activity. Similarly, on-site stationary source emissions would not occur because the identified sources are not included in this activity. Fugitive dust emissions that would result from vehicular travel on unpaved roadways would contribute particulate matter emissions; however, the EVWD and RMUD enforce speed limits of 15 mph for their service vehicles on all roads within the Wash Plan Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter. A less than significant impact is anticipated and no mitigation is required.

Transportation

The improvements to Alabama Street, Orange Street, and Boulder Avenue would use less equipment than used in mining operations. The predicted concentrations of pollutant concentrations of CO, NO₂, and SO₂ stay below state and the more lenient federal standards for mining operations and therefore would also be expected to below state and federal standards for construction activities for road improvements. Although expanded mining operations would result the concentrations of PM₁₀ and PM_{2.5} that stay above state and federal standards, the amount of equipment used and the trips for roadway improvement construction would be substantially less than used for expanded mining and would not be expected to be above state and federal standards. However, prior to construction of these Covered Activities a subsequent analysis of emissions from construction equipment shall be completed to confirm no state and federal standards would be exceeded. If state or federal standards would be exceeded, a separate CEQA analysis and determination shall be prepared by the applicable lead agency for that project.

Flood Control

Similar to the previous discussion, operation and maintenance activities of the SBCFCD would continue as currently implemented. On-site mobile emissions would not occur from this activity because the identified sources are not included under this activity. Similarly, on-site stationary source emissions would not occur because the identified sources are not included in this activity. Fugitive dust emissions that would result from vehicular travel on unpaved roadways would contribute particulate matter emissions; however, the SBCFCD enforces speed limits of 15 mph for its service vehicles on all roads within the Plan Area. In addition, water spraying efforts are conducted as often as needed during the day depending on conditions (e.g., during high winds) along with the application of dust-suppressants (e.g., chloride-based salts). Proper and regular maintenance of roads is also implemented to reduce the emission of coarse particulate matter. A less than significant impact is anticipated and no mitigation is required.

Trails/Habitat Enhancement and Monitoring/ Agriculture

On-site mobile source emissions, on-site stationary source emissions, and substantial fugitive dust emissions would not occur under these activities. Therefore, there would be no impact related to exposure of substantial emissions to sensitive receptors under these activities and no mitigation is required.

Objectionable Odors

AQ-6 Objectionable Odors

Would the proposed project create objectionable odors affecting a substantial number of people? ***Determination: Less than Significant Impact.***

During construction, the various diesel-powered vehicles and equipment in use on the site would create odors. SCAQMD Rule 402 dictates that air discharged from any source shall not cause injury, nuisance, or annoyance to the health, safety, or comfort of the public. With the exception of short-term construction-related odors (e.g., asphalt odors), the proposed activities do not include uses that would generate objectionable odors. While the installation of asphalt may generate odors, these odors are temporary and not likely to be noticeable beyond the Plan Area boundaries. SCAQMD Rule 1108 identifies standards regarding the application of asphalt. Solid waste generated by the proposed activities would be collected by a contracted waste hauler, ensuring that any odors resulting from on-site activities would be adequately managed. Long-term objectionable odors are not expected to occur at the Plan Area.

Aggregate Mining

As previously identified, short-term construction odors that would occur under this activity include odors generated by the various diesel-powered vehicles and equipment used on the site. Adherence to SCAQMD Rule 402 would reduce the discharge of odors so as to not cause injury or annoyance to health, safety, and comfort of the public. In addition, the installation of asphalt associated with the new access road would create odors; however, these odors are temporary and not likely to be noticeable beyond the Plan Area boundaries. A less than significant impact is associated with this activity and no mitigation is required.

Water Conservation

No construction is proposed under this activity; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Operation and maintenance activities of the Conservation District would continue as currently implemented. No odors are currently generated by the daily operations and maintenance activities of the District. Therefore, no long-term objectionable odors are anticipated and a less than significant impact would occur. No mitigation is required.

Wells and Water Infrastructure

No odors associated with architectural coatings or installation of asphalt would occur. Operation and maintenance activities of the SBCFCD would continue as currently implemented. No significant odors are currently generated by the daily operations and maintenance activities of the SBCFCD. Therefore, no long-term objectionable odors are anticipated and a less than significant impact would occur. No mitigation is required.

Transportation

With the exception of short-term construction-related odors (e.g., asphalt odors), the transportation-related activities do not include uses that would generate objectionable odors. While the installation of asphalt may generate odors, these odors are temporary and not likely to be noticeable beyond the Plan Area boundaries. Similarly, no long-term objectionable odors are anticipated to occur. A less than significant impact would occur and no mitigation is required.

Flood Control

No construction is proposed under this activity; therefore, no odors associated with architectural coatings or installation of asphalt would occur. Operation and maintenance activities of the SBCFCD would continue as currently implemented. No significant odors are currently generated by the daily operations and maintenance activities of the SBCFCD. Therefore, no long-term objectionable odors are anticipated and a less than significant impact would occur. No mitigation is required.

Trails/Habitat Enhancement and Monitoring/Agriculture

No construction is proposed under these activities; therefore, no odors associated with construction activities (e.g., architectural coatings or installation of asphalt) would occur. Similarly, no long-term objectionable odors are anticipated to occur as there is generally no physical activity taking place, only limited grading associated with habitat enhancement. A less than significant impact would occur and no mitigation is required.

Global Climate Change (GHG Emissions)

AQ-7 Global Climate Change (Green House Gas Emissions)

Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ***Determination: Significant and Unavoidable Impact.***

The primary GHG generated by the Proposed Action/Projects would be carbon dioxide. At buildout in 2030, total unmitigated carbon dioxide equivalents for carbon dioxide, methane, and nitrous oxide would be 21,000 MT CO₂ Eq.

There are currently no direct Federal rules or legislation pertaining to GHG emissions under the CAA.

Project Carbon Dioxide Emissions

The Proposed Action/Projects would generate emissions of carbon dioxide primarily in the form of vehicle exhaust and equipment exhaust. Carbon dioxide emissions from vehicles were calculated using the Project Average Daily Trip (ADT) of 2,412 and assuming an average round trip length of 50 miles combined with EMFAC2007 emission factors. The carbon dioxide emissions are shown in Table 4.1-10. As shown in Table 4.1-10, the Proposed Action/Projects would emit 0.020 teragrams of carbon dioxide equivalents (Tg CO₂ Eq.) or 20,000 Metric Tons CO₂ Eq. (MT CO₂ Eq.) in year 2030. Emissions are converted to carbon dioxide equivalent, which converts the other GHGs into the equivalent mass of carbon dioxide.

Table 4.1-10: Carbon Dioxide Emissions

Emission Source	Carbon Dioxide Emissions						
	2004-08	2009	2010	2011	2012	2013	2030
Vehicles (tons/year)	19,245	19,272	19,272	19,272	19,528	19,528	19,994
Total (MT CO ₂ Eq.)	19,000	19,000	19,000	19,000	20,000	20,000	20,000

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Project Methane Emissions

The Proposed Action/Projects would generate some methane gas from vehicle emissions and equipment emissions. Methane emissions from vehicles were estimated using EPA emission factors for on-highway vehicles (EPA 2004) and the same assumptions used to estimate CO₂ emissions above. The emissions are shown in Table 4.1-11. As shown in Table 4.1-11, the Proposed Action/Projects would emit 0.00008 Tg CO₂ Eq. (80 MT CO₂ Eq.) in 2030.

Table 4.1-11: Methane Emissions

Emission Source	Methane Emissions						
	2004-08	2009	2010	2011	2012	2013	2030
Vehicles (tons/year)	3.64	3.64	3.64	3.64	3.64	3.64	3.64
Total (MT CO ₂ Eq.)	80	80	80	80	80	80	80

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Nitrous Oxide (N₂O)

The Proposed Action/Projects would generate small amounts of nitrous oxide from vehicle emissions. Nitrous oxide from vehicles was estimated using EPA emission factors for on-highway vehicles (EPA 2004) and the same assumptions that were used to estimate CO₂ and CH₄. The emissions are presented in Table 4.1-12. As shown in Table 4.1-12, the Proposed Project would emit 0.0004 Tg CO₂ Eq. (400 MT CO₂ Eq) in year 2030.

Table 4.1-12: Nitrous Oxide Emissions

Emission Source	Nitrous Oxide Emissions						
	2004-08	2009	2010	2011	2012	2013	2030
Vehicles (tons/year)	1.37	1.37	1.37	1.37	1.37	1.37	1.37
Total (Tg CO ₂ Eq.)	400	400	400	400	400	400	400

Source: Conservation District's 2008 Final EIR (SCH No. 2004051023) for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan

Water Vapor

The Proposed Action/Projects does not contribute to this GHG because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks and not emissions from activities associated with the Proposed Action/Projects.

Chlorofluorocarbons

A global ban on chlorofluorocarbons has been in effect since 1996 under the 1987 Montreal Protocol; therefore, the Proposed Action/Projects would not generate emissions of these greenhouse gases and are not considered further in this analysis.

Hydrofluorocarbons

The Proposed Action/Projects may emit a small amount of HFC emissions from leakage and service of refrigeration and air conditioning equipment and from disposal at the end of the life of the equipment. However, the amount of air conditioning and refrigeration equipment is limited for mining operations as it is used in buildings with employees and not used for aggregate production. Therefore, the Proposed Action/Projects are not expected to emit this GHG and is not considered further.

Perfluorocarbons and Sulfur Hexafluoride (SF₆)

Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications. Perfluorocarbons are generally associated with refrigeration units and fire extinguishers. Sulfur hexafluoride is generally associated with electrical components. The Proposed Action/Projects does not include additional facilities requiring additional refrigeration units, fire extinguishers, or electrical components. Therefore, it is not anticipated that the Proposed Action/Projects would emit any of these greenhouse gases.

Total GHG Contribution

The primary GHG generated by the Proposed Action/Projects would be carbon dioxide in the form of vehicle exhaust and equipment exhaust. At buildout in 2030, total unmitigated carbon dioxide equivalents for carbon dioxide, methane, and nitrous oxide (vehicle and equipment exhaust from expanded mining operations) would be 21,000 MT CO₂ Eq.

On April 13, 2009, the California Office of Planning and Research (OPR) submitted to the Secretary for Natural Resources its recommended amendments to the State CEQA Guidelines for GHG gas emissions,

as required by Senate Bill 97. Those recommended amendments were developed to provide guidance to public agencies regarding the analysis and mitigation of GHG emissions and the effects of GHG emissions in draft CEQA documents. On July 3, 2009, the Natural Resources Agency published its Notice of Proposed Action and proposed to adopt and amend regulations implementing Division 13 of the Public Resources Code, CEQA, for the analysis and mitigation of GHG emissions.⁴ The California Natural Resources Agency noted in its Public Notice for these changes that impacts of GHG should focus on the cumulative impact on climate change. The Public Notice states:

“While the Proposed Amendments do not foreclose the possibility that a single project may result in GHG emissions with a direct impact on the environment, the evidence before [CRNA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of GHG emissions should center on whether a project’s incremental contribution of greenhouse gases is cumulatively considerable.”⁵

Therefore, the significance of GHG emissions is most appropriately considered on a cumulative level.

The total unmitigated carbon dioxide equivalents for carbon dioxide, methane, and nitrous oxide for the Proposed Action/Projects (vehicle/mobile sources and equipment exhaust from expanded mining operations) would be 21,000 MT CO₂eq. on an annual basis. Due to implementation of existing regulations emissions from the fleet of haul trucks and processing equipment for expanded aggregate mining are anticipated to be less than what was estimated in the 2008 EIR. However, the Proposed Action/Projects would generate a substantial amount of GHG emissions annually, that may have a significant impact on the environment. Adverse impacts from the Proposed Action/Projects related to greenhouse gas emissions are significant and unavoidable.

Mobile source emissions are regulated at the federal level by US EPA and NHTSA. The BLM and USFWS as lead federal lead agencies, and the Conservation District, as the CEQA lead agency for the Proposed Action/Projects, do not have jurisdiction over mobile source emissions and cannot require or implement different standards than the US EPA or NHTSA. Therefore, there is no feasible mitigation to reduce GHG emissions from the fleet of haul trucks and processing equipment for aggregate mining operations.

AQ-8 Global Climate Change (Greenhouse Gas Emissions)

Would the proposed project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Determination: Less than Significant Impact.

The Proposed Action/Projects would help meet resource conservation goals in the region for natural habitat and open space and water conservation. The Proposed Action/Projects would not conflict with strategies, goals and policies outlined in these plans to promote energy efficiency, waste reduction,

⁴ http://resources.ca.gov/ceqa/guidelines/proposed_guidelines_amendments_and_related_materials.html, accessed on January 17, 2018.

⁵ http://resources.ca.gov/ceqa/docs/Notice_of_Proposed_Action.pdf, accessed on January 17, 2018.

resource conservation, and recycling, and reduce VMTs. The Proposed Action/Projects would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and potential impacts are less than significant.

RESIDUAL IMPACTS AFTER MITIGATION

Implementation of Mitigation Measures MM AQ-1 and MM AQ-2 would reduce impacts related to the potential increase in NO_x emissions from expanded aggregate mining activities of the Plan Area. However, although control measures regulate emissions of heavy-duty vehicles, there is no way to quantify the reduction of these emissions. Long-term regional impacts remain significant and unavoidable and a CEQA Statement of Overriding Considerations would be required.

Mitigation Measure AQ-3 would reduce PM₁₀ and PM_{2.5} emissions; however, there is no way to quantify any reduction accomplished by this measure. Thus, even with compliance with SCAQMD rules and requirements and implementation of mitigation measure MM AQ-3, the impact is significant and unavoidable, and a CEQA Statement of Overriding Considerations would be required.

Adverse impacts from the Proposed Action/Projects related to GHG emissions are considered significant and unavoidable, and a CEQA Statement of Overriding Considerations would be required.

Determination: The Proposed Action/Projects would be consistent with the AQMP and would not obstruct implementation of its programs. Total short-term construction emissions that would result from grading activities and from equipment exhaust for the mining haul road and other proposed small projects do not exceed regional daily SCAQMD thresholds. The emissions of NO_x, PM₁₀, and PM_{2.5} from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS and thus, long-term regional impacts remain significant and unavoidable. SCAQMD considers the thresholds for project-specific impacts and cumulative impacts to be the same. Therefore, projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable. Therefore, as operational emissions of NO_x, PM₁₀, and PM_{2.5} would exceed the SCAQMD thresholds, even after implementation of mitigation measures, would have a cumulatively considerable net increase in these emissions. Impacts are significant and unavoidable under NEPA.

The proposed expanded mining would not cause CO hot spots or have a significant impact on local air quality for CO. As all the other Covered Activities/Proposed Projects would utilize nominal numbers of equipment/trips, they would not cause CO hot spots.

Health risk assessments were prepared for both aggregate mining haul road construction and aggregate mining operations diesel emissions. All results were below thresholds and potential acute hazard, short-term acute health problems, long-term carcinogenic, and chronic health problems as a result of exposure to Project-related TAC emissions would be less than significant. The Proposed Action/Projects would not create objectionable odors that would affect a substantial number of people.

The Proposed Action/Projects would generate a substantial amount of GHG emissions annually, that may have a significant impact on the environment. Adverse impacts from the Proposed Action/ Projects related to GHG emissions are significant and unavoidable. However, the Proposed Action/Projects would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and potential impacts are less than significant.

4.1.1.3 Alternative C: 2008 Land Management Plan Alternative

As outlined above for Alternative B, the *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than Alternative B (Proposed Action/Projects Alternative). Although the traffic impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Modeled air quality levels were based upon vehicle data and project trip generation included in the *Traffic Study*. Consequently, modeled air quality impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Therefore, potential impacts from implementation of Alternative C would be consistent with the analysis and conclusions outlined above for Alternative B.

Determination: The 2008 Land Management Plan would be consistent with the AQMP and would not obstruct implementation of its programs. Total short-term construction emissions that would result from grading activities and from equipment exhaust for the mining haul road and other proposed small projects do not exceed regional daily SCAQMD thresholds. The emissions of NO_x, PM₁₀, and PM_{2.5} from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS and thus, long-term regional impacts remain significant and unavoidable. SCAQMD considers the thresholds for project-specific impacts and cumulative impacts to be the same. Therefore, projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable. Therefore, as operational emissions of NO_x, PM₁₀, and PM_{2.5} would exceed the SCAQMD thresholds, even after implementation of mitigation measures, would have a cumulatively considerable net increase in these emissions. Impacts are significant and unavoidable.

The proposed expanded mining would not cause CO hot spots or have a significant impact on local air quality for CO. As all the other 2008 Land Management Plan projects would utilize nominal numbers of equipment/trips, they would not cause CO hot spots.

Health risk assessments were prepared for both aggregate mining haul road construction and aggregate mining operations diesel emissions. All results were below thresholds and potential acute hazard, short-term acute health problems, long-term carcinogenic, and chronic health problems as a result of exposure to Project-related TAC emissions would be less than significant. The 2008 Land Management Plan would not create objectionable odors that would affect a substantial number of people.

The 2008 Land Management Plan would generate a substantial amount of GHG emissions annually, that may have a significant impact on the environment. Adverse impacts from the 2008 Land Management Plan related to GHG emissions are significant and unavoidable. However, the 2008 Land Management

Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases and potential impacts are less than significant.

Table 4.1-13: South Coast AQMD District – San Bernardino County

Summary Category Name	2008	2018
Stationary Sources		
<i>Fuel Combustion</i>		
Electric Utilities	0.466	0.345
Cogeneration	0.001	0.001
Oil And Gas Production (Combustion)	0.000	0.000
Petroleum Refining (Combustion)	0.000	0.000
Manufacturing And Industrial	0.147	0.115
Food And Agricultural Processing	0.011	0.009
Service And Commercial	0.105	0.123
Other (Fuel Combustion)	0.007	0.005
*Total Fuel Combustion	0.737	0.598
<i>Waste Disposal</i>		
Sewage Treatment	0.001	0.000
Landfills	0.008	0.020
Incinerators	0.003	0.005
Other (Waste Disposal)	0.018	0.000
*Total Waste Disposal	0.030	0.025
<i>Cleaning and Surface Coatings</i>		
Laundering	0.000	0.000
Degreasing	0.000	0.000
Coatings and Related Process Solvents	0.158	0.172
Printing	0.000	0.000
Adhesives and Sealants	0.000	0.000
Other (Cleaning and Surface Coatings)	0.000	0.004
*Total Cleaning and Surface Coatings	0.158	0.175
<i>Petroleum Production And Marketing</i>		
Oil and Gas Production	0.000	0.003
Petroleum Refining	0.000	0.000
Petroleum Marketing	0.000	0.000
Other (Petroleum Production and Marketing)	0.000	0.000
*Total Petroleum Production and Marketing	0.000	0.003
<i>Industrial Processes</i>		
Chemical	0.054	0.060
Food and Agriculture	0.010	0.015
Mineral Processes	0.758	0.638
Metal Processes	0.090	0.085
Wood and Paper	0.209	0.234
Other (Industrial Processes)	0.165	0.075
* Total Industrial Processes	1.287	1.108
** Total Stationary Sources	2.212	1.909
Area Wide Sources		
<i>Solvent Evaporation</i>		
Consumer Products	0.000	0.000
Architectural Coatings And Related Process Solvents	0.000	0.000
Pesticides/Fertilizers	0.000	0.000
Asphalt Paving / Roofing	0.002	0.003
*Total Solvent Evaporation	0.002	0.003
<i>Miscellaneous Processes</i>		
Residential Fuel Combustion	1.231	1.030

Summary Category Name	2008	2018
Farming Operations	0.093	0.090
Construction And Demolition	0.137	0.212
Paved Road Dust	1.866	1.876
Unpaved Road Dust	0.071	0.071
Fugitive Windblown Dust	0.113	0.080
Fires	0.053	0.053
Managed Burning and Disposal	0.316	0.316
Cooking	0.846	1.070
Other (Miscellaneous Processes)	0.000	0.000
*Total Miscellaneous Processes	4.725	4.797
**Total Area-wide Sources	4.726	4.800
Mobile Sources		
<i>On-Road Motor Vehicles</i>		
Light Duty Passenger (LDA)	0.491	0.506
Light Duty Trucks - 1 (LDT1)	0.077	0.042
Light Duty Trucks - 2 (LDT2)	0.164	0.168
Medium Duty Trucks (MDV)	0.183	0.130
Light Heavy Duty Gas Trucks - 1 (LHDGT1)	0.038	0.018
Light Heavy Duty Gas Trucks - 2 (LHDGT2)	0.006	0.004
Medium Heavy Duty Gas Trucks (MHDGT)	0.007	0.005
Heavy Heavy Duty Gas Trucks (HHDGT)	0.001	0.001
Light Heavy Duty Diesel Trucks - 1 (LHDDT1)	0.042	0.028
Light Heavy Duty Diesel Trucks - 2 (LHDDT2)	0.015	0.011
Medium Heavy Duty Diesel Trucks (MHDDT)	0.303	0.145
Heavy Heavy Duty Diesel Trucks (HHDDT)	1.053	0.123
Motorcycles (MCY)	0.002	0.002
Heavy Duty Diesel Urban Buses (UBD)	0.021	0.016
Heavy Duty Gas Urban Buses (UBG)	0.002	0.002
School Buses - Gas (SBG)	0.002	0.002
School Buses - Diesel (SBD)	0.025	0.011
Other Buses - Gas (OBG)	0.002	0.002
Other Buses - Motor Coach - Diesel (OBC)	0.004	0.001
All Other Buses - Diesel (OBD)	0.005	0.001
Motor Homes (MH)	0.007	0.004
*Total On-Road Motor Vehicles	2.450	1.220
<i>Other Mobile Sources</i>		
Aircraft	0.056	0.075
Trains	0.172	0.079
Recreational Boats	0.304	0.195
Off-Road Recreational Vehicles	0.003	0.002
Off-Road Equipment	0.455	0.333
Farm Equipment	0.033	0.023
Fuel Storage and Handling	0.000	0.000
*Total Other Mobile Sources	1.023	0.706
**Total Mobile Sources	3.473	1.927
Natural (Non-Anthropogenic) Sources		
<i>Natural Sources</i>		
Biogenic Sources	0.000	0.000
Geogenic Sources	0.000	0.000
Wildfires	2.845	2.845
* Total Natural Sources	2.845	2.845
** Total Natural (Non-Anthropogenic) Sources	2.845	2.845
Total South Coast AQMD In San Bernardino County	13.257	11.481

4.2 GEOLOGY AND MINERAL RESOURCES

This section discusses potential impacts related to risk of geologic hazards and the availability of mineral resources from implementation of the alternatives. Geologic hazards, especially in areas of strong seismic activities, are susceptible to impacts from seismically induced settlement and liquefaction, slope instability, surface rupture, and soil instability. Projects that involve constructing structures could potentially result in substantial risks to property or life. The discussion of impacts on mineral resources is focused on the availability of mineral resources within the Plan Area.

This section discusses and provides analysis for potential impacts in relation to geologic hazards and availability of mineral resources in the Plan Area. The analysis is intended to satisfy Federal, State, and local requirements including CEQA, NEPA, the City of Highland General Plan, City of Redlands General Plan, and County of San Bernardino General Plan goals and policies.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. An alternative would result in significant geology and mineral resources impacts if it would cause any of the following to occur:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction; and/or
 - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

4.2.1 DIRECT AND INDIRECT EFFECTS

4.2.1.1 Alternative A: No Action Alternative

Geologic Hazards

In the No Action Alternative, the Proposed Action of the USFWS to authorize incidental take of endangered wildlife and impacts on endangered plants for Covered Activities would not be taken. Current mining and water conservation operations would continue. The No Action Alternative does not include the construction of any water, storm drain, or roadway infrastructure or other structures, including inhabitable structures, and would not result in adverse impacts associated with geologic hazards, including rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure including liquefaction and landslides.

Current aggregate mining would continue to occur in the Plan Area in accordance with existing permits until the permits expire. There are a limited number of structures located within the Plan Area associated with aggregate mining operations and none are habitable (used as residences) and would not pose a high risk of loss, injury, or death.

Slope stability investigations were prepared for existing and proposed slopes for each of the quarries as part of the Mine and Reclamation Plans for Cemex and Robertson's. Based on the analysis, new cut slopes from the existing depths of 40 to 60 feet down to 120 feet and inclined no steeper than 2:1 are expected to be stable against gross failure from long-term conditions including shaking, standing water, and rising groundwater. During excavation, actively mined inner slopes may temporarily be as steep as 90 degrees. Upon excavation to the maximum depth, the final new perimeter slopes will be contoured to a maximum inclination of 2H:1V (2 Horizontal: 1 Vertical). Since no structural end use is contemplated, slope compaction will not be needed to maintain slope stability. The mined slopes should be conducive to reestablishment of natural plant species which will aid in stabilization of the slopes. Per correspondence with Cemex staff, there have not been any slope failures as a result of an earthquake.¹

Aggregate mining operations use standard open pit mining techniques of pushing material with a dozer, removing and loading material with the loader into haul trucks, and then taking the material to a processing plant. Mining and reclamation activities will be conducted on the finished upper slopes concurrently and are estimated to continue intermittently for the life of the permit depending on market demand and aggregate quality.

¹ Per email from Christine Jones at Robertson's on November 22, 2017.

Reclamation of open mining pits would continue to be in compliance with reclamation standards recommended by the SMARA regulations and outlined in the Mine and Reclamation Plans which is designed to address the need for a continuing supply of mineral resources and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. The reclamation plans for the proposed new quarries address the steepness of the final slopes with an inclination of 2H:1V (2 Horizontal: 1 Vertical). Re-vegetation of completed 2H:1V slopes as well as monitoring of re-vegetation activities would be initiated upon completion of final grades along portions of the pit slope. Upon termination of a mine in the mining areas, removal of plant facilities, equipment, stockpiles, and other debris from the site shall occur.

Operations within the mining quarries are consistent with standard mining practices and do not impose significant long-term effects related to soil erosion or loss of topsoil due to the reclamation of the terminated mining areas in which measures such as reestablishment of natural plant species and slope stabilization are conducted as required by the State and local regulations. Current aggregate mining activities by Cemex and Robertson's are required to comply with their respective approved Reclamation Plans, in compliance with their operating permits.

Mine and Reclamation Plans include slope inclination, compaction and revegetation requirements based on the slope stability investigations that were prepared for each of the quarries. Operation and reclamation of aggregate mines in the Plan Area consistent with the Cemex, Robertson's, or other operator's Mine and Reclamations Plans would reduce the potential for landslides in the quarries that could result from strong seismic ground shaking and therefore the potential adverse effects of collapsing slopes to a less than significant level.

Currently Robertson's has two mobile trailers at the processing plant that are occupied by employees during business hours. There are no other buildings in the Plan Area with human occupancy.² Cemex has 3 buildings with human occupancy in the Plan Area.³ These existing buildings would continue to be operated and utilized by Robertson's and Cemex employees as they are currently. The No Action Alternative would not result in a new geologic hazard or increase the chances of a geologic hazard occurring in the Plan Area that could adversely affect the existing buildings occupied by Cemex and Robertson's employees.

The Conservation District's management activities comprise all activities needed to support ongoing recharge of water into the Bunker Hill groundwater basin for consumptive use, monitoring of groundwater basins, and pumping to meet consumer needs. The facilities required to support these efforts include pipeline easements, canals, maintenance roads, tanks and recharge basin, and construction of groundwater wells. The Conservation District maintains all of these facilities to keep them operating at optimum levels. On-going operation and maintenance of existing flood control facilities, wells and water infrastructure, access roads, public roadways, and citrus grove would not result in a new geologic hazard or increase the chances of a geologic hazard occurring in the Plan Area

² Per email from Christine Goeysvaerts at Robertson's on November 27, 2017

³ Per email from Christine Jones at Cemex on November 22, 2017

that could adversely affect these facilities or employees conducting the maintenance. On-going operation and maintenance activities carried out within the Plan Area would not result in an increase in potential adverse impacts associated with geologic hazards.

Determination: The No Action Alternative would not result in adverse impacts associated with geologic hazards.

Mineral Resources

The No Action Alternative would result in a gradual slowing of mining activities in the Plan Area as aggregate resources are depleted under the existing permits and leases. Current aggregate mining activities produce an average of 4 to 4.5 MTPY of aggregate materials however, operations are reaching the end of available aggregate reserves under existing permits and leases. Current aggregate mining operators are assumed to mine to completion under the existing permits, but no additional mining would be allowed. The No Action Alternative does not allow for expanded mining activities; however, aggregate would continue to be available until existing permits and leases expire. Therefore, the No Action Alternative would not result in adverse effects on the availability of local aggregate resources.

Determination: The No Action Alternative would not result in adverse impacts related to the loss of locally available aggregate resources.

4.2.1.2 Alternative B: Proposed Action/Projects

Geologic Hazards

The Proposed Action/Projects would not physically alter or remove the existing geologic hazards that exist within the Plan Area. The Proposed Action/Projects, USFWS issuance of take authorization and Conservation District implementation of the HCP, would not have any effects on geologic hazards and associated risk of loss, injury, or death.

The Proposed Projects include both construction and operation of new aggregate mining pits and construction and maintenance of infrastructure for water conservation, flood control, transportation, water wells that are subject to earthquake-related hazards.

GEO-1: Risk of Loss, Injury, or Death

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? **Less Than Significant Impact.***
- ii) Strong seismic ground shaking? **Less Than Significant Impact.***
- iii) Seismic-related ground failure, including liquefaction? **Less Than Significant Impact.***

*iv) Landslides? Less Than Significant Impact.***Aggregate Mining**

The embankments in the open-pit mining areas, in existing and new mining areas, would be subject to strong seismic shaking from the San Jacinto and San Andreas Faults. The mining operations and reclamation of open mining pits would continue to be in compliance with reclamation standards recommended by the SMARA regulations and outlined in the Mine and Reclamation Plans. The reclamation plans for the proposed new quarries addresses the steepness of the final slopes with an inclination of 2H:1V (2 Horizontal: 1 Vertical). Re-vegetation of completed 2H:1V slopes as well as monitoring of re-vegetation activities would be initiated upon completion of final grades along portions of the pit slope. Upon termination of a mine in the mining areas, removal of plant facilities, equipment, stockpiles, and other debris from the site shall occur. Mining activities would continue to follow requirements outlined in the respective Mine and Reclamation Plans for Cemex and Robertson's. With compliance with Federal, State and local regulations for mining operations, the aggregate mining would not result in substantial direct or indirect adverse impacts associated with geologic hazards, including rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. Additionally, mining activities would not include construction of new habitable structures and would not pose a greater risk of loss, injury, or death to people or structures compared to existing conditions within the Plan Area. Therefore, less than significant impacts would occur.

Water Conservation

On-going maintenance activities carried out by the Conservation District within the Plan Area would not result in adverse impacts associated with geologic hazards. Construction and maintenance of water conservation facilities, including spreading basins, access roads, wells, and pipelines would not result in substantial changes to the soils and geology in the Plan Area to result in effects on geologic hazards. Strong seismic ground shaking may result in damage to these facilities, however, as there are no existing or proposed sizable structures, potential risks of loss, injury or death from earthquake damage is not anticipated.

Construction of all water conservation infrastructure would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With compliance with the CGBSC, potential impacts on infrastructure from strong ground shaking, seismic related ground failure or landslides that would result in loss, injury or death are reduced to less than significant levels.

Groundwater recharge activities have the potential to elevate the groundwater table and subsequently increase the potential for liquefaction. Based on data the Conservation District has been collecting from five monitoring wells in the Plan Area from 2006 until present, groundwater depths range from the shallowest depth recorded at 14 feet below ground level to the deepest depth recorded at 336 feet below ground level. However, most of the recorded groundwater levels fall within the range of 100-300 feet below ground level. Groundwater recharge in the Plan Area is not expected to result in large areas

of shallow groundwater within 50 feet of the surface, which would increase the susceptibility of liquefaction. The Conservation District as part of ongoing operations in the Plan Area will continue to monitor groundwater levels and has the ability to suspend groundwater recharge activities, if groundwater levels become too elevated. Therefore, potential impacts from groundwater recharge activities related to liquefaction are less than significant.

Wells and Water Infrastructure

Construction of all well and water infrastructure would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With compliance with the CGBSC, potential impacts on infrastructure from strong ground shaking, seismic related ground failure or landslides that would result in loss, injury or death are reduced to less than significant levels.

Transportation

All roadway and highway maintenance and improvements would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With compliance with the CGBSC, potential impacts on infrastructure from strong ground shaking, seismic related ground failure or landslides that would result in loss, injury or death are reduced to less than significant levels.

Flood Control

Maintenance of existing flood control structures would not expose people or structures to potential adverse effects, including loss, injury or death associated with rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. The Elder/Plunge Creek Restoration project, which includes lead remediation, would not expose people or structures to potential adverse effects. Potential impacts related to geologic hazards are less than significant levels.

Trails

Construction, operation and maintenance of trails would not expose people or structures to potential adverse effects, including loss, injury or death associated with rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. Potential impacts related to geologic hazards from the expanded use of trails in the Plan Area are less than significant.

Habitat Enhancement and Monitoring

Habitat enhancement, restoration, monitoring, species surveys and report, and vegetation and fire management would not expose people or structures to potential adverse effects, including loss, injury or death associated with rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. Potential impacts related to geologic hazards from habitat enhancement and monitoring activities in the Plan Area are less than significant.

Agriculture

Maintenance of an existing citrus grove, including maintenance of access roads and irrigation infrastructure, and application of herbicides and fertilizers would not expose people or structures to potential adverse effects, including loss, injury or death associated with rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. Potential impacts related to geologic hazards from agriculture activities in the Plan Area are less than significant.

Determination: The Proposed Action/Projects would not result in adverse impacts related to geologic hazards including risk of loss, injury or death.

GEO-2: Soil Erosion or Loss of Topsoil

*Would the project result in substantial soil erosion or the loss of topsoil? **Less Than Significant Impact.***

Aggregate Mining

Aggregate mining activities would result in topography modification resulting in the removal of surface vegetation and creation of slopes that may result in soil erosion in the Plan Area. However, Seven Oaks Dam and other flood control facilities in and around the Plan Area have greatly reduced the potential for significant natural runoff that may result in substantial soil erosion. For mined areas that have created steep slopes susceptible to erosion, re-vegetation would be implemented to prevent significant erosion from surface runoff. Operations from mining consists of using standard open pit mining techniques through the pushing of material with a dozer, removing and loading material with the loader into haul trucks, and then taking the material to a processing plant. Perimeter slopes of the mining pits shall have a final slope to be contoured at a maximum inclination of 2H:1V (2 Horizontal: 1 Vertical). Operations and reclamation of open mining pits would continue to be in compliance with reclamation standards recommended by the SMARA regulations and outlined in the Mine and Reclamation Plans developed for each operation. Re-vegetation of completed 2H:1V slopes as well as monitoring of re-vegetation activities would be initiated upon completion of final grades along portions of the pit slope.

Operations Reclamation of the terminated mining areas would include measures such as reestablishment of natural plant species and slope stabilization as required by the State and local regulations. Standard operations requirements and erosion control measures would ensure impacts are reduced to less than significant.

Water Conservation

The proposed water conservation projects are not located in an area that has been identified in the *City of Highland General Plan*, *City of Redlands General Plan*, or *County of San Bernardino General Plan* hazards section as an area susceptible to significant erosion hazard. The predominant soil types in location of the water conservation projects consists of soils that are excessively drained and are nearly level to moderately sloping and therefore are not highly susceptible to erosion. Groundwater recharge facilities are designed to retain and infiltrate stormwater runoff. Therefore, stormwater runoff across

the Plan Area overall is reduced in volume and velocity which in turn would reduce soil erosion potential. Impacts would be less than significant.

Wells and Water Infrastructure

Construction of the wells and water infrastructure would include access roads, connector pipelines, and main pipelines to convey water. Grading for the access roads would result in loss of vegetation. All construction projects would be required to comply with the NPDES General Construction Permit which applies to statewide construction activities including clearing, grading, or excavation that results in the disturbance of at least one acre of total land area. A requirement of the State General Construction Activity NPDES permit is the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must identify and implement Best Management Practices (BMPs) to reduce impacts to surface water from contaminated storm water discharges during the construction, including sediment as a result of erosion. Compliance with the NPDES General Construction Permit will reduce potential impacts associated with soil erosion and loss of topsoil to less than significant levels.

Transportation

Maintenance of existing roadways is not expected to result in substantial soil erosion or loss of topsoil. All construction projects would be required to comply with the NPDES General Construction Permit. Compliance with the NPDES General Construction Permit will reduce potential impacts associated with soil erosion and loss of topsoil to less than significant levels.

Flood Control

Maintenance of existing flood control facilities and access roads is not expected to result in substantial soil erosion or loss of topsoil. All construction projects, including the Elder/Plunge Creek Restoration project, would be required to comply with the NPDES General Construction Permit. Compliance with the NPDES General Construction Permit will reduce potential impacts associated with soil erosion and loss of topsoil to less than significant levels.

Trails

Maintenance of trails is not expected to result in substantial soil erosion or loss of topsoil. All construction projects would be required to comply with the NPDES General Construction Permit. Compliance with the NPDES General Construction Permit will reduce potential impacts associated with soil erosion and loss of topsoil to less than significant levels.

Agriculture

Agriculture activities would not include disturbance of large areas that may increase the potential for soil erosion. Therefore, impacts would be less than significant.

Habitat Enhancement and Monitoring

The habitat enhancement and monitoring activities proposed may result in temporary soil erosion and loss of topsoil. Potential impacts may occur from prescribed burning and mowing, which would reduce vegetation and the soil stability provided by the root systems. However, these areas would be expected to re-vegetate and the new vegetation would provide a measure for erosion control. Therefore, impacts would be less than significant.

GEO-3: Soil Stability

*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? **Less Than Significant Impact.***

Mining

With the increase of mining activities, there would be new cut slopes. However, aggregate mining activities are required to comply with their respective approved Reclamation Plans, in compliance with their operating permits, which include slope stabilization measures. Also, Redlands, Highland, and County of San Bernardino have not identified the Plan Area as having susceptibility to landslide/slope stability hazards in their respective general plans and EIRs.

The *County of San Bernardino General Plan* shows that most of the Plan Area is located within areas that have a medium to high susceptibility for liquefaction to occur. However, mining activities shall only allow authorized personnel to be within mining areas. Additionally, no habitable structures exist nor are proposed as part of the Proposed Projects, resulting in no additional risk from existing conditions to people or habitable structures. Liquefaction has the potential to occur within the mining activity areas, but would not result in off-site effects. Upon termination of a mining in a pit reclamation, re-vegetation is then carried out to restore slope stabilization. Impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse within the mining areas is considered less than significant.

Water Conservation

As mentioned above, the *City of Redlands General Plan* and the *City of Highland General Plan* have not identified the Plan Area as having susceptibility to landslide/slope stability hazards. The *County of San Bernardino General Plan* shows that most of the Plan Area is located within areas that have a medium to high susceptibility for liquefaction to occur. Water conservation activities would not include new habitable structures and would not allow unauthorized access. As outlined above in Section 4.2.2.2, the Conservation District as part of ongoing operations in the Plan Area will continue to monitor groundwater levels and has the ability to suspend groundwater recharge activities, if groundwater levels become too elevated. Risk of impacts from unstable soils from liquefaction is considered less than significant.

Wells and Water Infrastructure

As mentioned previously, the *City of Redlands General Plan* and the *City of Highland General Plan* have not identified the Plan Area as having susceptibility to landslide/slope stability hazards. The *County of San Bernardino General Plan* shows that most of the Plan Area is located within areas that have a medium to high susceptibility for liquefaction to occur. The Plan Area does not have large variations in topography outside of the mining areas. All new wells and infrastructure projects would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With these measures, impacts would be less than significant.

Transportation

All roadway improvement projects would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With implementation of CGBSC requirements, the risk of impacts from unstable soils from liquefaction is considered less than significant.

Flood Control

All flood control improvements would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. Less than significant impacts would occur.

Trails

As mentioned previously, the topography of the Plan Area does not have extreme variations outside of the mined areas and Redlands and Highland have not identified the Plan Area to be susceptible to landslides or slopes stability hazards. Proposed trails are not located adjacent to mining pits with the exception of those proposed along Orange Street and Alabama Street, which would be located along the elevated roadway. Impacts would be less than significant.

Agriculture

Maintenance of the existing citrus grove would not increase the potential for unstable soils. Therefore, impacts would be less than significant.

Habitat Enhancement and Monitoring

Habitat enhancement activities in the Plan Area include soil disturbances from removal of non-native plants and limited grading. However, these impacts would be temporary and would not have a significant impact on susceptibility to potential landslides or liquefaction. Therefore, impacts would be less than significant.

GEO-4: Expansive Soils

Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? Less Than Significant Impact.

All Proposed Projects

The Plan Area contains ten soil types including: Soboba Stony Loamy Sand (SpC); Psamments and Fluvents (Ps); Hanford Coarse Sandy Loam (HaC); Soboba Gravelly Loamy Sand (SoC); Soboba-Hanford Families Association (AbD); Ramona Sandy Loam (RmC); Hanford Sandy Loam (HbA); Tujunga Gravelly Loamy Sand (TvC); Quarries and Pits soils (GP); and Tujunga Loamy Sand (TuB).

The shrink-swell potential of all ten of these soil types is considered low or moderate. RmC is the only soil that is considered to have a low to moderate shrink-swell potential however, less than 1% of the Plan Area contains this soil type. Furthermore, the cities of Highland and Redlands have not determined the Plan Area to be susceptible to expansive soils, nor do the Projects propose to develop any habitable structures that would cause substantial risk to life or property. Therefore, impacts would be less than significant.

GEO-5: Disposal of Waste Water

Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? No Impact.

All Proposed Projects

The Proposed Projects do not include construction or expansion of any habitable structures that would generate waste water. Septic systems or alternative waste water disposal systems are not a part of the Proposed Projects. Therefore, there would be no impacts related to the disposal of waste water.

Mineral Resources**GEO-6: Loss of Availability to a Valuable Mineral Resource**

Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? Less Than Significant Impact.

The Proposed Action/Projects would allow the USFWS to issue take authorization for Covered Activities/Projects, and for the Conservation District to implement the HCP and complete Covered Activities/Projects. Aggregate mining is a Covered Activity that includes both the continuation of existing mining and expansion of new mining.

Currently, aggregate mining and associated support activities, such as haul roads, are occurring within the Plan Area (existing mining) by Cemex and Robertson's. As part of the Proposed Action/Projects, existing mining areas would be expanded for new aggregate mining (new mining). An expansion of the

existing haul road would also occur. Mining infrastructure such as buildings, parking lots, lighting, settling ponds, pits, and haul roads would be operated 24 hours a day. Ongoing mining operations (existing mining) are within the existing mining pits. (Refer to Figure 2.0-1, *Covered Activities* for the location of each mining covered activity).

Under the Proposed Action/Projects, following the land exchange with BLM, the leases for mining would be reassigned to portions of the lands disposed by BLM which would allow for expanded mining operations to occur in these designated areas. Up to 201.3 acres of new mining is covered by the HCP without the land exchange between BLM and the Conservation District. An additional 200.2 acres of new mining is covered by the HCP, following the land exchange, for a combined total of 401.5 acres of new mining, as outlined in Table 4.2-1 below.

Table 4.2-1. Phasing of Mining Activity Covered by HCP

HCP Implementation Phase	Acreage
Phase 1 (pre-BLM exchange)	201.3 acres
Phase 2 (post-BLM land exchange)	200.2 acres
Total New Aggregate Mining	401.5 acres

Current aggregate mining activities produce an average of 4 to 4.5 MTPY of aggregate materials. Mining activities would increase within the lands disposed by BLM following the exchange with the Conservation District. As a result of the Proposed Action/Projects, mining activities would produce an estimated 6 MTPY of aggregate material. Although implementation of the Proposed Action/Projects would result in an increase in the aggregate produced from the Plan Area it would also result in an increase of approximately 1,660 acres to be set aside for habitat conservation, resulting in an overall reduction of lands available for aggregate mining.

The Proposed Action/Projects would help ensure a continued supply of aggregate materials from the Plan Area for the surrounding communities and local economy, as compared to the No Action Alternative, while preserving valuable habitat for sensitive biological resources.

Water Conservation

Although the Plan Area is classified as an MRZ-2 zone and is an area with regionally significant mineral resource value, it supports endangered plants and wildlife and the City of Highland and City of Redlands have designated the Plan Area as Open Space. The new groundwater recharge basins proposed encompass a total of 150 acres and does not constitute a significant loss of availability of mineral resources. Therefore, impacts would be less than significant.

All Other Proposed Projects

The combined area that would be improved or modified for wells and water infrastructure, roadway widening, flood control facilities, and trails, that would no longer be available for mining is approximately 80 acres and would not constitute a substantial loss of a valuable mineral resource. Therefore, impacts would be less than significant.

Determination: Although the Proposed Action/Projects would result in an increase in aggregate materials produced from the Plan Area, from an average of 4 to 4.5 MTPY to an estimated 6 MTPY, it would also set aside approximately 1,660 acres in the Plan Area for habitat conservation that would no longer be available for aggregate mining. The Proposed Action/Projects overall would not result in significant adverse impacts related to the loss of locally available aggregate resources.

GEO-7: Locally-Important Mineral Resources

*Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? **Less Than Significant Impact.***

All Proposed Projects

As outlined above in GEO-6, the Plan Area is zoned as an area containing significant mineral deposits (MRZ-2), and the State of California Department of Conservation has recognized this area to have a regionally significant mineral resource value. This area is also considered locally important as it is used by local businesses and is used for development projects in the region.

The Proposed Projects would allow for an expansion of aggregate mining on 402 acres. Approximately 1,660 acres within the Plan Area mapped as MRZ-2 would be conserved habitat and 80 acres designated for other Proposed Projects and would no longer be available for aggregate mining. However, implementation of the Proposed Projects would result in an increased availability of a known mineral resource of value in the region, and potential impacts would be less than significant.

MITIGATION MEASURES

No mitigation measures are necessary.

Residual Impacts after Mitigation

No residual impacts related to geology or mineral resources would occur with implementation of the Proposed Projects. Impacts would be less than significant.

4.2.1.3 Alternative C: 2008 Land Management Plan

Geologic Hazards

Implementation of the 2008 Land Management Plan would not physically alter or remove the existing geologic hazards that exist within the Plan Area, and would not have significant effects on geologic hazards and associated risk of loss, injury, or death.

Implementation of the 2008 Land Management Plan includes both construction and operation of new aggregate mining pits and construction and maintenance of infrastructure for water conservation, flood control, transportation, and water wells that are subject to earthquake-related hazards.

The embankments in the open-pit mining areas would be subject to strong seismic shaking from the San Jacinto and San Andreas Faults. The mining operations and reclamation of open mining pits would continue to be required to be in compliance with reclamation standards recommended by the SMARA regulations and outlined in the Mine and Reclamation Plans. Consistent with Alternative B, Proposed Action/Projects, with compliance with Federal, State and local regulations for mining operations, the aggregate mining under the 2008 Land Management Plan would not result in substantial direct or indirect adverse impacts associated with geologic hazards.

On-going maintenance activities carried out by the Conservation District within the Plan Area would not result in adverse impacts associated with geologic hazards. Construction and maintenance of water conservation facilities, including spreading basins, access roads, wells, and pipelines would not result in substantial changes to the soils and geology in the Plan Area to result in effects on geologic hazards. Strong seismic ground shaking may result in damage to these facilities however as there are no sizable structures, potential risks of loss, injury or death from earthquake damage is not anticipated.

The 2008 Land Management Plan Area is located within the Santa Ana River Wash, an area of relatively shallow historical groundwater levels and excessively drained soils, and therefore susceptible to liquefaction. Groundwater recharge has the potential to result in elevating the groundwater table. Based on data the Conservation District has been collecting from five monitoring wells in the plan area from 2006 until present groundwater depths generally fall within the range of 100-300 feet below ground level. Groundwater recharge in the plan area in accordance with the 2008 Land Management Plan would not be expected to result in large areas of shallow groundwater within 50 feet of the surface, which would increase the susceptibility of liquefaction. The Conservation District as part of ongoing operations in the plan area would continue to monitor groundwater levels and has the ability to suspend groundwater recharge activities, if groundwater levels become too elevated. Further, there are not habitable structures, and limited other structures (roadways, bridges, pipelines, wells) that could be adversely affected as a result of liquefaction and result in loss, injury, or death.

Construction of projects pursuant to the 2008 Land Management Plan including, roadways, wells and water pipelines, and storm drains would be susceptible to damage from strong ground shaking. Construction of any infrastructure projects would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With compliance with the CGBSC, potential impacts on infrastructure from strong ground shaking that would result in loss, injury or death is reduced to less than significant levels.

The proposed expanded use of trails, continued operations and maintenance of a citrus grove, and habitat enhancement & monitoring would not substantially adversely affect or be adversely affected by geologic hazards including risk of loss, injury or death of people using trails or conducting operation and maintenance activities in the Plan Area. For more details see the analysis outlined above in **Section 4.2.1.2, GEO-1.**

Determination: The 2008 Land Management Alternative would not result in adverse impacts related to geologic hazards including risk of loss, injury or death.

Mineral Resources

Implementation of the 2008 Land Management Plan would allow for expansion of aggregate mining on approximately 32 more acres than the 2019 HCP (Alternative B: Proposed Action/Projects). Thus, implementation of the 2008 Land Management Plan would result in an increase in aggregate materials produced from the Plan Area as compared to the 2019 HCP.

Implementation of the 2008 Land Management Plan would conserve approximately 312 fewer acres of habitat than would be conserved by implementation of the 2019 HCP. Under the 2019 HCP, these habitat areas conserved will be placed under a conservation easement and would not be available for any future development, including aggregate mining. Thus, the 2008 Land Management Plan would set aside less land for habitat conservation, allow more lands to be available for future aggregate mining.

The 2008 Land Management Plan would help meet the Management Objectives of the SCRMP. However, as compared to the 2019 HCP, the 2008 Land Management Plan would provide a greater supply of aggregate materials from the plan area and preserve less habitat for sensitive biological resources.

Determination: Although the 2008 Land Management Plan would result in an increase in aggregate materials produced, it would also set aside approximately 1,348 acres in the plan area for habitat conservation that would no longer be available for aggregate mining. The 2008 Land Management Plan overall would not result in significant adverse impacts related to the loss of locally available aggregate resources.

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4.3 HYDROLOGY AND WATER QUALITY

This section analyzes the potential impacts of the alternatives on hydrology (surface water flow, groundwater recharge, sediment erosion and deposition) and water quality. It also includes mitigation measures to avoid and minimize potential adverse effects. This section was prepared using objectives and policies from the *City of Redlands General Plan* and the *City of Highland General Plan*, as well as the *County of San Bernardino General Plan*, the Mine and Reclamation Plans for Robertson's and Cemex, the *Upper Santa Ana River Watershed Integrated Regional Water Management Plan 2015*, and the *Water Quality Control Plan for the Santa Ana River Basin*.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. An alternative would result in significant hydrology and water quality impacts if it would cause any of the following to occur:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off- site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of 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 or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

- Cause inundation by seiche, tsunami, or mudflow.

4.3.1 DIRECT AND INDIRECT EFFECTS

4.3.1.1 Alternative A: No Action Alternative

Surface Water and Quality

Mining and water conservation activities would continue to be disjointed and separated throughout the Plan Area. Current mining activities would continue to operate under and would be required to implement BMPs outlined in their respective National Pollutant Discharge Elimination System (NPDES) General Construction Activity and Industrial Stormwater permits, as well as their Mining and Reclamation Plans.

Although mining activities have the potential to affect surface and groundwater quality in the Plan Area by increasing sediment and other pollutants in stormwater runoff, there are multiple regulations that require mining operations to implement BMPs to protect water quality, including the Clean Water Act Section 402 NPDES program and the SMARA.

General Construction Activity NPDES permits are required for mining operations on undisturbed lands that would affect an area of one acre or more. This permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) that must identify and implement BMPs to reduce impacts to surface water from contaminated stormwater discharges during grading, excavation, or other surface disturbance. See Appendix C for requirements of a SWPPP.

In addition, Mining and Reclamation Plans have been approved and are being implemented for both the Cemex and Robertson's existing and proposed expansion of operations. As outlined in the respective Mining and Reclamation Plans, aggregate extraction and processing activities result in roughly five percent of unusable material, such as large boulders, that if not sold or crushed would be stockpiled and later used for reclamation purposes. Most Federal and State projects require that excess gravel be washed to rid it of accumulated silt and clay particles. The resulting wash water is filled with those particles. All wash water and processing water is transferred to silt ponds. Since these ponds have no outlet, the water either evaporates or percolates into the ground, leaving the silt on the bottom surface of the ponds. None of the wash water is discharged to surface waters (streams or waters of the US). This material would also be sold or used for reclamation activities, re-vegetation and haul roads. This process would prevent substantial erosion or siltation off-site and prevent byproducts from becoming sources of polluted runoff.

During the operational phase of mining activities, loaders, dozers, excavators, conveyors, and trucks would be used to mine, process, and haul aggregate. Maintenance and repairs of such equipment would typically involve the transport, storage, and use of petroleum products. The use of these products with ongoing aggregate mining and water conservation activities could affect surface water quality if not handled, stored, and disposed of properly. To address these potential impacts the following measures

are employed: 1) Diesel fuel is typically stored in aboveground tanks with a secondary containment structure; 2) delivery and dispensing of lubricants (oils and grease) is usually done on a concrete pad with a collection area that is periodically cleaned; 3) vehicle maintenance is also performed on a concrete pad to prevent contaminants from reaching soil surface; 4) spills are typically contained by use of absorbent materials and then loaded into waste drums for off-site disposal. The specific handling procedures vary with the type of material handled (e.g., flammable and combustible liquids versus non-flammable petroleum hydrocarbons).

Conditional Use Permits (Robertson's Silt Pond Quarry, City of Redlands Conditional Use Permit No. 949¹) include Conditions of Approval to prepare SWPPPs and Spill Prevention Control and Countermeasures Plan (SPCCP) for all mining activities associated with new excavation areas as outlined below:

- Prior to any mining activity on undisturbed lands related to this Conditional Use Permit, Robertson's shall develop or revise a SWPPP for routine mining activities associated with new excavation areas. The SWPPP shall emphasize structural and nonstructural BMPs to control sediment. Robertson's shall submit the SWPPP to the City of Highland and the City of Redlands for review and approval.
- Prior to any mining activity on undisturbed lands related to this Conditional Use Permit, Robertson's shall develop or revise a SPCCP for all mining area activities and shall outline the methods and locations that would be used for disposal of debris handled or produced on site during excavation. The plan shall also include handling and cleanup procedures of any accidental releases at the mining site. Disposal of maintenance and/or excavation waste is subject to compliance with all applicable waste disposal regulations and requirements. Robertson's shall submit the SPCCP to the City of Redlands and the City of Highland for review and approval.

With implementation of BMPs outlined in the SWPPPs prepared for compliance with the General Construction Activity and Industrial Stormwater permits, as well as Spill Prevention Control Countermeasures Plan and the Mining and Reclamation Plans, the ongoing mining operations would not be expected to substantially degrade water quality and the potential to violate water quality standards of water bodies in or downstream of the Plan Area is significantly reduced.

Ongoing operation and maintenance by the Conservation District could result in adverse impacts to surface water quality, however due to their being limited in nature, frequency, duration, and magnitude, they would not be expected to substantially degrade water quality or violate water quality standards of water bodies in or downstream of the Plan Area. All water that enters the Conservation District facilities goes into the groundwater basin.

¹ Robertson's Silt Pond Quarry, City of Redlands – Conditions of Approval for Conditional Use Permit No. 949, available online at <http://www.ci.redlands.ca.us/community/agenda/reports/1039CUP949CONDITION1.pdf>

Hydrology and Flooding

Ongoing mining operations would occur adjacent to the existing quarries and processing sites and would continue to be located outside of the low flow channels of the Santa Ana River, Plunge Creek and City Creek. Ongoing mining operations would not include any earthmoving activities or structures that would alter the course of these drainages. Existing berms around quarries would be extended along with expansion of quarries to continue to prevent storm water from these drainages in larger events from flowing into them. Therefore, the ongoing mining operations would not alter the course of a stream or river (Santa Ana River, Plunge Creek, City Creek), in a manner which would result in substantial erosion or flooding on or off-site.

Operation and maintenance of water conservation facilities including channels or dikes would not alter the course of the Santa Ana River or Plunge Creek (Conservation District facilities are not located in or adjacent to Mill Creek or City Creek), nor would other current ongoing activities.

Potential impacts from runoff causing erosion and flooding are less than significant and no mitigation is required.

The FEMA Flood Insurance Rate Maps (FIRMs) identify areas subject to flooding during the 100-year storm event. Based on these FIRM maps and as indicated in the previously referenced Figure 3.3-1, *Surface Hydrology*, portions of the Plan Area within and adjacent to the Santa Ana River, Mill Creek, Plunge Creek, and City Creek are within the 100-year floodplain (or flood hazard zone), and portions of the Plan Area that are at higher elevations and between these drainages are within the 500-year floodplain.

Although portions of the Plan Area are located within the 100-year floodplain, the mining and water conservation do not involve the construction of housing and would not place housing or other structures within a mapped 100-year flood hazard area. People and structures would not be exposed to any increased risk associated with flooding or dam failure and no structures would be placed in the 100-year flood hazard area. Other ongoing activities would not place housing in the 100-year flood hazard area or structures that would impede or redirect 100-year flood flows. Therefore, no impacts would occur, and no mitigation is required.

Since there are no lakes or oceans in proximity of the Plan Area, there is not a risk of seiches or tsunamis occurring within the Plan Area. The Seven Oaks Dam provides protection from mudslides from the San Bernardino Mountains. Therefore, impacts would be less than significant, and no mitigation is required.

Groundwater and Quality

Under the No Action Alternative, water conservation and aggregate mining operations would continue. The existing permitted mining would be mined to completion, but no additional mining permitting is presumed.

As identified in the Cemex and Robertson's Mining and Reclamation Plans, mining would be restricted to no less than 20 feet above groundwater, with no operations allowed in standing groundwater. This is to ensure that sediment and other potential contaminants resulting from mining excavation activities are not directly discharged to the groundwater table and the basin. Existing Conservation District monitoring wells will continue to be used to monitor groundwater levels in the Plan Area. The Conservation District will continue to provide this information to Cemex and Robertson's so that they can comply with this requirement of their respective Mining and Reclamation Plans. Therefore, ongoing mining operations are not expected to adversely affect groundwater quality with implementation of this requirement.

The San Bernardino Basin Area (SBBA) is adjudicated, and therefore, has restricted pumping which is monitored by the Western-San Bernardino Watermaster. The ongoing pumping and water use for aggregate mining would be monitored along with other users in the basin for any pumping beyond the safe yield. Due to the Conservation District's large credit, it is not anticipated that replenishment obligations would be required in the near future even if there is pumping beyond the safe yield in the current drought conditions. However, if total extractions are more than the safe yield as a result of ongoing mining activities, the Conservation District would work with Cemex and/or Robertson's to provide the replenishment obligation. Therefore, ongoing mining operation is not anticipated to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Ongoing water conservation activities are expected to have a continued beneficial impact on the groundwater supply. All water that enters the Conservation District facilities goes into the groundwater basin which is active storage and recovery as defined by the USGS.²

Determination: Although continued operation and maintenance activities carried out in the Plan Area as a part of aggregate mining and water conservation could result in adverse effects to surface and groundwater quality, implementation of BMPs and compliance with the General Construction Activity and Industrial Stormwater permits significantly reduced that potential. Alternative A is not anticipated to substantially affect hydrology and water quality within the Plan Area or downstream receiving water bodies.

4.3.1.2 Alternative B: Proposed Action/Projects

Surface Water and Quality

HYD-1: Would the Project Violate any water quality standards or waste discharge requirements? **Determination: Less Than Significant Impact.**

HYD-6: Would the Project otherwise substantially degrade water quality? **Determination: Less Than Significant Impact.**

² USGS California Water Science Center, <https://ca.water.usgs.gov/misc/asr/>

Aggregate Mining

As with Alternative A, expanded mining activities would require a General Construction Activity NPDES and preparation of a SWPPP that must identify and implement BMPs to reduce impacts to surface water from contaminated stormwater discharges during grading, excavation, or other surface disturbance. As identified in the Cemex and Robertson's Mining and Reclamation Plans, mining would be restricted to no less than 20 feet above ground water, with no operations allowed in standing groundwater. Existing monitoring wells would be used to monitor groundwater levels and to determine the depth to groundwater. Monitoring would be coordinated with the Conservation District. Expanded mining would also require coverage under an industrial stormwater permit, with development of a written SWPPP, a written assessment of potential sources of pollutants in stormwater runoff and control measures that would be implemented at the facility to minimize the discharge of these pollutants in runoff from the site. These control measures include site-specific BMPs, maintenance plans, inspections, employee training, monitoring, and reporting. Expanded mining would also require maintenance and repairs of equipment that would typically involve the transport, storage, and use of petroleum products. The use of these products with ongoing aggregate mining and water conservation activities could affect water quality if not handled, stored, and disposed of properly. Prior to mining in undisturbed lands mining operators are required to develop or revise a SPCCP as a condition of the Conditional Use Permits with the Cities of Highland and Redlands. Domestic refuse is collected in approved trash bins and hauled to the nearest approved landfill for disposal. Equipment is maintained at the Alabama Street Shop and Orange Street Plant. Used oils, fuels and solvents are required to be collected in accordance with the Department of Toxic Substance and Control regulations and are disposed of appropriately or picked up by an approved hauler for recycling. The current operations maintain a Business Emergency, Hazard Communication and Training Plan with the County of Environmental Health Services Agency.

With implementation of BMPs outlined in the SWPPPs prepared for compliance with the General Construction Activity and Industrial Stormwater permits, as well as the SPCCPs and Mining and Reclamation Plans, the ongoing mining operations would not be expected to substantially degrade water quality and the potential to violate water quality standards of water bodies in or downstream of the Plan Area significantly reduced.

Water Conservation

Maintenance of existing Conservation District facilities would not substantially disturb large areas within the Plan Area that could increase the exposure of sediments to stormwater runoff. Maintenance activities include direct inspection and repair of facilities as well as periodic in basin removal of fine sediments and debris to maintain a high level of infiltration. Sediment and debris are stockpiled in existing storage areas and are later used to repair facilities or are transported offsite. Ongoing maintenance activities would not violate water quality standards or waste discharge requirements or substantially degrade water quality.

Since the construction of new recharge basins would disturb an area greater than one acre, a General Construction Activity permit is required as well as preparation and implementation of a SWPPP. With

implementation of BMPs outlined in the SWPPP, construction of expanded recharge basins would not be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced. Potential impacts are less than significant, and no mitigation is required.

Wells and Water Infrastructure

The construction of some of the proposed wells and associated connector pipelines would only disturb small areas, less than an acre in size, and would not significantly increase the exposure of sediments to stormwater runoff. The construction footprint for some of these facilities is an acre or more, and therefore, would require a General Construction Activity permit and preparation and implementation of a SWPPP with BMPs for erosion and sediment controls and for waste handling and disposal. With implementation of SWPPPs on construction sites of one acre or larger, construction and maintenance of wells and water infrastructure would not be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced. Potential impacts are less than significant, and no mitigation is required.

Transportation

The proposed expansion and maintenance of existing roads generally would not disturb large areas and would not significantly increase the exposure of sediments to stormwater runoff. Any of the proposed expansions that would disturb an area of one acre or more would require a General Construction Activity permit and preparation and implementation of a SWPPP with BMPs for erosion and sediment controls and for waste handling and disposal. With implementation of SWPPPs on construction sites of one acre or larger, construction and maintenance of roadways would not be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced. Potential impacts are less than significant, and no mitigation is required.

Flood Control

Although the Plunge and Elder Creek Multipurpose Habitat Enhancement and Flood Control Reasonably Foreseeable Project would result in modification to the low-flow channel of Plunge Creek, the end result is to remediate lead from an area that was once used as a shooting range and to restore braided channel structure in Plunge Creek, providing additional San Bernardino kangaroo rat (SBKR) habitat and restoring flows in Plunge and Elder Creeks above Orange Street, which are impeded by sedimentation in the stream channels. Completion of the lead remediation would improve water quality in the Plan Area by removing this contaminate in the soils that are subject to storm water runoff. Ongoing maintenance of channels, access roads and levees would not result in large disturbed areas that would expose sediments to stormwater runoff or expose waste or hazardous substances to stormwater runoff.

New drainage facilities at Church Street, Judson Street, Orange Street, and Wabash Street would convey water runoff from areas south of the active channel of the Santa Ana River down into the active channel.

The outlet structures would be designed to ensure that scour and erosion do not occur in the Santa Ana River. The areas that contribute water runoff that would be conveyed through these new drainage facilities would not be altered as a result of the Proposed Project. The areas that contribute water runoff are regulated under the area-wide Municipal Separate Storm Sewer Systems (MS4) permit (Order No. R8-2010-0036) issued to the San Bernardino County Flood Control District and 16 incorporated cities within San Bernardino County. The MS4 permit requires the County and cities to implement the San Bernardino County Areawide Stormwater Program to ensure that the MS4 discharges do not cause or contribute to impairment of downstream receiving waters. With the continued implementation of the Areawide Stormwater Program by the San Bernardino County Flood Control District and the cities of Redlands and Highland, the construction of new flood control facilities and ongoing maintenance would be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced; potential impacts are less than significant.

Trails

The development and operations of the proposed trail system would utilize existing roads and access easements. Since no substantial grading or alteration of natural areas would be conducted, the development and operation of trails would not expose stormwater runoff to new pollutant sources. The development and operations of the trail system would not be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced; potential impacts are less than significant.

Habitat Enhancement and Monitoring

Habitat enhancement and monitoring activities would not substantially alter natural areas which would expose stormwater runoff to significant amounts of sediment or other new pollutant sources. With implementation of the HCP avoidance and minimization measures, continued grove operation and maintenance activities would not expose storm water runoff to new pollutant sources. Therefore, Covered Activities would not violate water quality standards or waste discharge requirements or substantially degrade water quality, and potential impacts are less than significant.

Agriculture

There is a 6.7-acre citrus grove operated within the Plan Area. The grove would continue to be operated and maintained as it currently is, including application of herbicide, insecticide, fungicide, and fertilizer as needed. The HCP includes Avoidance and Minimization Measures (Table 5-4, page 5-30) to related to the use of chemicals and grove management practices. With implementation of the HCP avoidance and minimization measures, continued grove operation and maintenance activities would not expose storm water runoff to new pollutant sources. Operation of the grove would not be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced; potential impacts are less than significant

Groundwater and Quality

HYD-2: 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)? **Determination: Less Than Significant Impact.**

Aggregate Mining

As outlined in the Mine and Reclamation Plan for Cemex, water consumption for aggregate washing and dust control at the Orange Street Plant is approximately 1,184 acre-feet per year (AFY) or about 4 acre-feet per operating day. Dust control and ready-mix operations at Alabama Street consume approximately 175 AFY or about 0.6 acre-feet per operating day. Water usage depends on actual production and extraction and weather conditions. Water is supplied from existing wells located in the northwestern portion of the Alabama Street Quarry and on the south side of the Orange Street Plant. Water use during mining consists of wetting the excavation areas and haul roads. During reclamation, water would be necessary for dust control on roads and for grading during preparation of the slopes and occasional wetting of re-vegetated slopes if necessary.

As outlined in the Mine and Reclamation Plan for Robertson's, water consumption for the aggregate washing and dust control at the East Basin Plant and the ready-mix production at the Highland facility is approximately 350 AFY or about 1 to 1.25 acre-feet per operating day. Water usage depends on actual production and extraction and weather conditions. Water is supplied from existing wells located in the west and east basins of the Highland and East Basin facilities. Water use during mining consists of wetting the excavation areas and haul roads. During reclamation, water would be necessary for dust control on roads and for grading during preparation of the slopes and occasional wetting of re-vegetated slopes if necessary.

Cemex and Robertson's currently use 2,220 acre-feet and 365 acre-feet per year, respectively. With implementation of the mining component, an additional 264.7 acre-feet per year would be needed for aggregate mining operations. (District 2008)

The additional 264.7 acre-feet per year is anticipated to come from groundwater sources. The additional 264.7 acre-feet per year required is approximately 0.11 percent of the current safe yield of the Bunker Hill subbasin. The additional water needed for expanded mining would be within the Bunker Hill subbasin's safe yield and would not result in the lowering of the existing groundwater levels in the area. Therefore, potential impacts to groundwater are anticipated to be less than significant and no mitigation is required. (District 2008)

The SBBA is adjudicated, and therefore, has restricted pumping which is monitored by the Western-San Bernardino Watermaster. The additional pumping and water use for aggregate mining would be

monitored along with other users in the basin for any pumping beyond the safe yield. Due to the Conservation District's large credit, it is not anticipated that replenishment obligations would be required in the near future even if there is pumping beyond the safe yield in the current drought conditions. However, if total extractions are more than the safe yield as a result of mining activities, the Conservation District would work with Cemex and/or Robertson's to provide the replenishment obligation. Therefore, the Proposed Action are not anticipated to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

The Upper Santa Ana River Watershed (USARW) has a long-standing history of collaboration by water resources management agencies to manage the watershed's unique water supply, water quality, flood, and habitat challenges. In 2005, this collaboration allowed the agencies to successfully form the USARW Integrated Regional Water Management Region (Region) and develop an integrated plan for managing water resources in the Region. The IRWMP is a result of that effort. The 2015 IRWMP serves as an update to the IRWMP developed in 2007, and incorporates new information describing the Region updates goals and objectives, re-evaluates strategies, and develops a process for future implementation of the IRWMP. For more information on the 2015 IRWMP see section C.3.2 of Appendix C.

The additional pumping and water use for aggregate mining would be monitored by the Western-San Bernardino Watermaster along with other users in the basin for any pumping beyond the safe yield. Due to the Conservation District's large credit, it is not anticipated that replenishment obligations would be required in the near future even if there is pumping beyond the safe yield in the current drought conditions. However, if total extractions are more than the safe yield as a result of mining activities, the Conservation District would work with Cemex and/or Robertson's to provide the replenishment obligation. Therefore, aggregate mining is not anticipated to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Water Conservation

The Proposed Projects include maintenance of existing Conservation District water conservation/recharge facilities and construction of recharge basins (spreading grounds) to be operated by the SBVMWD on Conservation District lands. As outlined above, to meet future demands in the IRWMP Region, the Conservation District will need to import an average of about 62,000 AFY of water each year. During wet years over 37,000 AFY of water would be stored. In dry years, 50,000 AFY would be pumped from storage, thereby reducing the Conservation District service area's dry year need from the State Water Project to 12,000 AFY. The Conservation District's ultimate direct delivery need is about 30%, leaving 18% or 19,000 AFY deficit in dry years. As outlined in the IRWMP, a storage program is currently being developed (the proposed Water Conservation Activities evaluated as part of this DEIS/SEIR) that would store enough water upstream of the Conservation District's service area to make up for this deficit during dry years. Therefore, implementation of the Proposed Projects would help

implement the Upper Santa Ana River Watershed IRWMP to ensure reliability of the SBBA. Therefore, water conservation improvements and maintenance would not 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 mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Wells and Water Infrastructure

The SBVMWD plans to construct eight new wells, and the City of Redlands plans to construct one new well. As the SBBA is adjudicated, and therefore, has restricted pumping and is monitored by the Western-San Bernardino Watermaster, the additional pumping associated with new wells would be monitored along with other users in the basin, for any pumping beyond the safe yield. Due to the Conservation District's large credit, it is not anticipated that replenishment obligations would be required in the near future even if there is pumping beyond the safe yield in the current drought conditions. However, if total extractions are more than the safe yield the Conservation District would work with the SBVMWD and City of Redlands to provide the replenishment obligation. Therefore, the proposed wells and water infrastructure Projects are not anticipated to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Transportation

The Proposed Projects include additional land be designated for additional rights-of-way as well as associated roadway improvements. The roadway improvements would result in an increase in impermeable surfaces, however, this increase would not be substantial and would not substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Flood Control

Construction, operation and maintenance of flood control facilities such as storm drain outlets and earthen/rock levees would not substantially increase the amount of impermeable surfaces within the Plan Area and therefore the ability for water infiltration to occur. Therefore, construction, operation and maintenance of flood control facilities would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Trails

Construction, operation and maintenance of existing trails would not substantially increase the amount of impermeable surfaces within the Plan Area, and therefore, the ability of water to infiltrate. All trails

would be located on or along existing streets, service roads, or old railroad beds. Therefore, trail improvements would not substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Habitat Enhancement and Monitoring

Restoration activities include easements and land dedication, control of invasive species (e.g., mowing, hand clearing), species surveys and research, vegetation management, etc. The proposed enhancement and monitoring does not include activities that would increase impermeable surfaces. Therefore, restoration activities would not substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

Agriculture

There is a 6.7-acre citrus grove operated within the Plan Area. Although this activity requires maintenance of access roads and irrigation infrastructure, these activities would not substantially increase the amount of impermeable surfaces that would interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local mean groundwater table level over time. Potential impacts to groundwater levels are less than significant and mitigation is not required.

The potential impacts to groundwater from the proposed Alternative B are anticipated to be less than significant and no mitigation is required.

Drainage Patterns and Drainage Systems

HYD-3: 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, in a manner which would result in substantial erosion or siltation on- or off-site? ***Determination: Less Than Significant Impact.***

Aggregate Mining

The proposed expansion of Cemex and Robertson's mining operations would result in expansion of existing operations into adjacent undisturbed areas of the Plan Area. The existing mining operations and proposed expansions are located within the larger floodplain of the upper Santa Ana River and tributaries including Mill Creek, Plunge Creek and City Creek as shown in Figure 3.3-1, *Surface Hydrology*, but not within the active low flow channels of these drainage features.

Expanded mining operations would modify both disturbed and undisturbed landscapes in the Plan Area. This would alter surface topography and, consequently, has the potential to affect drainage patterns in the affected areas. Modification of drainage patterns could result in additional erosion and siltation

impacts, if BMPs used to prevent or minimize erosion are not implemented. Removal of vegetation could also result in increased water and wind erosion as the soils are exposed and no longer stabilized by vegetation and their roots.

As outlined in the Mining and Reclamation Plan for Cemex, the Cemex quarries are protected on the north and east by flood control facilities associated with Plunge Creek, including berms and basins. The Santa Ana River main channel is located to the south. Flooding in the Plan Area from the Santa Ana River main channel has been significantly reduced by construction of the Seven Oaks Dam.

As outlined in the Mining and Reclamation Plan for Robertson's, the Plunge Creek Quarry is designed to become a part of the East Basin flood control basin, and as such, is susceptible to flooding during mining. The mine plan calls for the construction of a flood control berm on the south side of the quarry to control Plunge Creek flood flows. The berm design would be reviewed and approved by the San Bernardino County Flood Control District. The Silt Pond Quarry is bordered on the north by a berm and the Plunge Creek east basin constructed for flood control; on the east by Orange Street and upstream quarries; to the south by vacant land and the Santa Ana River; and to the west by additional quarries. The completion of the Seven Oaks Dam limits future flooding in the wash. All of these facilities would greatly reduce and likely eliminate any significant natural runoff into the Silt Pond Quarry. The East Quarry South is bordered by the remainder of the East Quarry North on the north, numerous Conservation District berms and basins to the east, and the Santa Ana River channel to the south. The Seven Oaks Dam upstream greatly reduces the likelihood of any significant natural runoff into the East Quarry.

The expanded mining operations would occur adjacent to the existing quarries and processing sites and would continue to be located outside of the low flow channels of the Santa Ana River, Plunge Creek and City Creek. Expansion of mining operations would not include any earthmoving activities or structures that would alter the course of these drainages. Existing berms around quarries would be extended along with expansion of quarries to continue to prevent storm water from these drainages in larger events from flowing into them. Therefore, the expanded mining operations would not alter the course of a stream or river (Santa Ana River, Plunge Creek, City Creek), in a manner which would result in substantial erosion or siltation on- or off-site. Potential impacts are less than significant, and no mitigation is required.

Water Conservation

Maintenance of existing Conservation District facilities would not substantially alter the existing drainage pattern of the area. Most of the Conservation District facilities including the basins, spreading grounds, stockpile and processing areas, and roads are located outside of the low flow channels of the Santa Ana River or Plunge Creek. No new channels or dikes that would redirect flows would be constructed and maintenance of the existing channels and dikes would not alter the course of the Santa Ana River or Plunge Creek (Conservation District facilities are not located in or adjacent to Mill Creek or City Creek). The proposed SBVMWD planned basins are not located within low flow channels of the Santa Ana River or Plunge Creek and would not redirect the course of these drainages. Although

construction of these basins would alter the existing drainage pattern within the immediate area, by retaining flows and allowing them to infiltrate as compared to allowing them to sheet flow across the site, this moderate modification would not result in significant erosion or siltation on- or off-site.

The proposed water conservation construction and maintenance would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. Therefore, impacts would be less than significant, and no mitigation is required.

Wells and Water Infrastructure

The construction of new wells and associated connector pipelines would not occur in the low flow channels of the Santa Ana River, Mill Creek, Plunge Creek or City Creek and would not alter the course of these drainages. A few of the connector pipelines would cross the Santa Ana River, however, as they would be located under the streambed they would not alter the course of the Santa Ana River. Since the footprints of new well sites are small, approximately 0.25 acre per well, they would not result in substantial alteration of the existing drainage pattern of the areas where they would be located. Maintenance of existing pipelines and canals would not alter the drainage pattern of the areas where they are located and would not alter the course of any drainage. The proposed new wells and infrastructure and their maintenance would not substantially alter the existing drainage pattern of the sites or larger area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. Potential impacts are less than significant and no mitigation is required.

Transportation

The proposed expansion of existing roads and maintenance would involve construction that would cross the active channels of the Santa Ana River, Plunge Creek, and City Creek; however, there are existing bridges where Alabama Street, Orange Street, Boulder Avenue, and Greenspot Road cross these drainages. Existing bridges would be widened as necessary to accommodate the proposed expansions but would not alter the existing drainage pattern of the low flow channels of the Santa Ana River, Plunge Creek, and City Creek, such that substantial erosion or siltation on- or off-site would result. Potential impacts are less than significant, and no mitigation is required.

Flood Control

Although the Plunge and Elder Creek Multipurpose Habitat Enhancement and Flood Control Reasonably Foreseeable Project would result in modification to the low flow channel of Plunge Creek, the end result is to restore a braided channel structure in Plunge Creek, providing additional SBKR habitat and restoring flows in Plunge and Elder Creeks above Orange Street, which is impeded by sedimentation in the stream channels. Implementation of this Project would not alter the existing drainage pattern of Plunge Creek in a way that would result in substantial erosion or siltation on- or off-site. Ongoing maintenance of channels, access roads and levees would not alter the existing drainage pattern of the

active channels of the Santa Ana River, Plunge Creek, or City Creek, such that substantial erosion or siltation on- or off-site would result. New drainage facilities at Church Street, Judson Street, Orange Street, and Wabash Street would convey water runoff from areas south of the Santa Ana River down into the low flow channel. However, the storm drain outlets would generally be at grade and would direct water runoff in a downstream direction consistent with the existing drainage pattern of the Santa Ana River. Therefore, potential impacts regarding existing drainage patterns and potential substantial erosion and/or siltation are less than significant and no mitigation is required.

Trails

The development and operations of the proposed trail system would utilize existing roads and access easements. Since no substantial grading or alteration of natural areas would be conducted, the development and operation of trails would not substantially alter the existing drainage pattern of the areas they are located in or alter the course of a drainage. Therefore, impacts would be less than significant, and no mitigation is required.

Habitat Enhancement and Monitoring

Restoration activities include control of invasive species, relocation of covered species, monitoring, surveys and research, and vegetation management. Since no additional grading or substantial alteration of natural areas would be conducted, restoration activities would not substantially alter the existing drainage pattern of the areas they are located in or alter the course of a drainage. Therefore, impacts would be less than significant, and no mitigation is required.

Agriculture

There is a 6.7-acre citrus grove operated within the Plan Area. Although this activity requires maintenance of access roads and irrigation infrastructure, these activities would not substantially alter the existing drainage pattern of the grove area or alter the course of a drainage. Potential impacts are less than significant, and mitigation is not required.

Flooding Hazards

HYD-4: 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? ***Determination: Less Than Significant Impact.***

HYD-5: Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? ***Determination: Less Than Significant Impact.***

- HYD-7:** Would the Project place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? **Determination: No Impact.**
- HYD-8:** Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows? **Determination: Less Than Significant Impact.**
- HYD-9:** 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? **Determination: Less Than Significant Impact.**
- HYD-10:** Would the Project result in inundation by seiche, tsunami, or mudflow? **Determination: Less Than Significant Impact.**

The proposed expansion of Cemex and Robertson's mining operations would result in expansion of existing operations into adjacent undisturbed areas of the Plan Area. The existing mining operations and proposed expansions are located within the larger floodplain of the upper Santa Ana River and tributaries including Mill Creek, Plunge Creek and City Creek as shown in Figure 3.3-1, *Surface Hydrology*, but not within the low flow channels of these drainage features. Impacts to the floodplain are covered below. The proposed expansion of mining operations would not alter the course of a stream or river. The expansion of haul routes would increase the amount of compacted soils and therefore impervious surfaces. However, this increase is not substantial and would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. The expansion of quarries would result in areas where water would infiltrate readily and would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Therefore, impacts would be less than significant.

The expansion of haul routes would increase the amount of compacted soils, and therefore, would increase impervious surfaces. However, this increase is not substantial and would not substantially increase the rate or amount of surface runoff that exceeds the capacity of existing or planned stormwater drainage systems. The expansion of quarries would result in areas where water would infiltrate readily and thus would not increase the rate or amount of surface runoff.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identify areas subject to flooding during the 100-year storm event. Based on these FIRM maps and as indicated in the previously referenced Figure 3.3-1, *Surface Hydrology*, portions of the Plan Area within and adjacent to the Santa Ana River, Mill Creek, Plunge Creek, and City Creek are within the 100-year floodplain (or flood hazard zone), and portions of the Plan Area that are at higher elevations and between these drainages are within the 500-year floodplain.

Although portions of the Plan Area are located within the 100-year floodplain, the Proposed Projects/Covered Activities do not involve the construction of housing and would not place housing or other structures that would impede flood flows within a mapped 100-year flood hazard area. The

proposed Plunge Creek Habitat Enhancement project (CD.06) and proposed Elder/Plunge Creek Restoration project (FC.09) would result in modifications to the flow of the lower reach of Plunge Creek on-site, however, these would not impede flows and would restore the stream to a more natural state. The Proposed Projects/Covered Activities would not substantially alter the existing 100-year floodplain. Therefore, no impacts would occur, and no mitigation is required.

The existing and expanded mining operations are not located in the low flow drainage river or creek beds of the Santa Ana River, Plunge Creek, or City Creek. The closest point at which one of these drainage courses comes to an active quarry is downstream of Boulder Avenue/Orange Street where Plunge Creek is located just north of Robertson's East Basin Plant. There is an existing berm that prevents low flows from Plunge Creek from entering the quarry and mining operation areas. Berms would be expanded along with expansion of quarries and mining operation areas to keep flows in the Santa Ana River, Plunge Creek, or City Creek in their active channels and would not impede or redirect flows. Expanded haul routes would not impede or redirect flood flows. Mining operations would not include the construction of other structures within a 100-year floodplain that would impede or redirect flood flows.

The maintenance of existing water conservation, road, well and grove facilities would not affect flood flows. A few of the water well connector pipelines would cross the Santa Ana River; however, as they would be located under the streambed they would not impede or redirect flood flows. No other facilities are proposed to be constructed within the low flow channels of the Santa Ana River, Plunge Creek, City Creek or Mill Creek that would impede or redirect flood flows. Existing bridges, where Alabama Street, Orange Street, Boulder Avenue, and Greenspot Road cross drainages would be widened as necessary to accommodate the proposed expansions but would not impede or redirect flood flows.

The Plan Area is located within the Seven Oaks Dam inundation zone. No housing would be constructed that would directly increase the number of people within the Plan Area. The expansion of mining operations would result in an increase in employees working in the Plan Area. Construction of roads, wells, pipelines, storm drain outlets, etc. would result in temporary increases of construction workers in the Plan Area. An increase in recreation use of the Plan Area would be expected with designation of trails throughout the Plan Area for public use. However, implementation of the Projects would not result in a substantial increase in the number of people working or recreating in or traveling through the Plan Area. As the Proposed Project would not substantially increase the number of people within the Plan Area and the Seven Oaks Dam has been designed to withstand an earthquake magnitude measuring 8+ on the Richter Scale, it would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of the Seven Oaks Dam, and potential impacts are less than significant.

The San Bernardino County Flood Control District maintains flood control levee structures on the Santa Ana River, Mill Creek, Plunge Creek and City Creek within the Plan Area. These levees help direct stormwater flows through the Plan Area, prevent flooding of areas adjacent to these drainage courses, and protect existing roadways. Since the levees retain stormwater runoff within the improved channels

and do not fully impound stormwater as would a dam, they do not have standing large bodies of water behind them. Therefore, the Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee and potential impacts are less than significant.

Seiches are oscillations in enclosed bodies of water that are caused by a number of factors, most often wind or seismic activity. Lakes in seismically active areas are also at risk from seiches. There are no large bodies of water within the Plan Area or immediately upstream of the Plan Area.

The Plan Area is approximately 52 miles northeast of and inland from the Pacific Ocean and is not subject to a tsunami.

A mud slide (also known as a mudflow) occurs when there is fast-moving water and a great volume of sediment and debris that surges down a slope, stream, canyon, arroyo, or gulch with tremendous force. They are similar to flash floods and can occur suddenly without time for adequate warning. Mudflows can ruin substantial infrastructure improvements with the force of the flow itself or by burying improvements with mud and debris. Although the western portion of the Plan Area would normally be susceptible to mudslides, the operation of the Seven Oaks Dam effectively eliminates downstream transport of sediment larger than sand from the Santa Ana Watershed, fulfilling one of the purposes of the dam.

Since there are no lakes or oceans in proximity of the Plan Area, there is not a risk of seiches or tsunamis occurring within the Plan Area. The Seven Oaks Dam provides protection from mudslides from the San Bernardino Mountains. Therefore, impacts would be less than significant, and no mitigation is required.

Water Conservation

Maintenance of existing Conservation District facilities would not substantially alter the existing drainage pattern of the area. Most of the Conservation District facilities including the basins, spreading grounds, stockpile and processing areas and roads are located outside of the active channels of the Santa Ana River or Plunge Creek. No new channels or dikes that would redirect flows would be constructed and maintenance of the existing channels and dikes would not alter the course of the Santa Ana River or Plunge Creek (Conservation District facilities are not located in or adjacent to Mill Creek or City Creek). The proposed SBVMWD planned basins are not located within low flow channels of the Santa Ana River or Plunge Creek and would not redirect the course of these drainages. Although construction of these basins would alter the existing drainage pattern within the immediate area, by retaining flows and allowing them to infiltrate as compared to allowing them to sheet flow across the site, this moderate modification would not result in flooding on- or off-site. Therefore, impacts would be less than significant, and no mitigation is required.

Maintenance of existing Conservation District facilities would not increase impervious surfaces which would increase the amount of runoff water. The new SBVMWD recharge basins would result in areas where water would infiltrate readily and would not increase the rate or amount of surface runoff that

exceeds the capacity of existing or planned stormwater drainage systems. Therefore, impacts would be less than significant, and no mitigation is required.

Water conservation operations include ongoing maintenance of existing basins and facilities. No new facilities are proposed to be constructed within the low flow channels of the Santa Ana River, Plunge Creek, City Creek or Mill Creek that would impede or redirect flood flows. Therefore, there are no impacts and no mitigation is required.

Wells and Water Infrastructure

The construction of wells and associated connector pipelines would not occur in the low flow channels of the Santa Ana River, Mill Creek, Plunge Creek or City Creek and would not alter the course of these drainages. A few of the connector pipelines would cross the Santa Ana River; however, as they would be located underneath the streambed, they would not alter the course of the Santa Ana River. Since the footprints of new well sites are small, approximately 0.25 acre per well, they would not result in substantial increases in impermeable surfaces or alteration of the existing drainage patterns of the areas where they would be located. Maintenance of existing pipelines and canals would not alter the drainage pattern of the areas where they are located and would not alter the course of any drainage. The proposed new wells and infrastructure and their maintenance would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Therefore, impacts would be less than significant.

As the footprints of new well sites are small, approximately 0.25 acre per well, they would not result in substantial increases in impermeable surfaces that would increase the amount of water runoff. Maintenance of wells, pipelines and channels would not result in a substantial increase in impermeable surfaces. The proposed new wells and infrastructure and maintenance would not increase the rate or amount of surface runoff in a manner that exceeds the capacity of existing or planned stormwater drainage systems. Therefore, impacts would be less than significant, and no mitigation is required.

Water conservation operations include ongoing maintenance of existing basins and facilities. No new facilities are proposed to be constructed within the low flow channels of the Santa Ana River, Plunge Creek, City Creek or Mill Creek that would impede or redirect flood flows. Therefore, there are no impacts and no mitigation is required.

Transportation

The transportation Projects propose that additional land be designated for additional rights-of-way as well as associated roadway improvements. The roadway improvements would result in an increase in impermeable surfaces; however, this increase is not substantial and would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Therefore, impacts would be less than significant.

The proposed expansion and maintenance of existing roads would cross the low flow channels of the Santa Ana River, Plunge Creek, and City Creek and would be located in their respective 100-year and/or 500-year floodplains. However, there are existing bridges where Alabama Street, Orange Street, Boulder Avenue, and Greenspot Road cross these drainages. Existing bridges would be widened as necessary to accommodate the proposed expansions but would not impede or redirect flood flows. Potential Impacts are less than significant, and no mitigation is required.

Flood Control

Although the Plunge and Elder Creek Multipurpose Habitat Enhancement and Flood Control Reasonably Foreseeable Project would result in modification to the low flow channel of Plunge Creek, the end result is to restore a braided channel structure in Plunge Creek providing additional SBKR habitat and to restore flows in Plunge and Elder Creeks above Orange Street which are currently impeded by sedimentation in the stream channels. Implementation of this Project would not alter the existing drainage pattern of Plunge Creek in a way that would result in flooding on- or off-site. Ongoing maintenance of channels, access roads and levees would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. New drainage facilities at Church Street, Judson Street, Orange Street, and Wabash Street would convey existing water runoff from areas south of the low flow channel of the Santa Ana River that currently sheet flow down into the river. Impacts are less than significant, and no mitigation is required.

Ongoing maintenance of channels, access roads and levees would not increase the rate or amount of surface runoff which would exceed the capacity of existing or planned stormwater drainage systems. New drainage facilities at Church Street, Judson Street, Orange Street, and Wabash Street would convey existing water runoff from areas south of the Santa Ana River that currently sheet flows down into the river. The storm drain outlets would generally be located at grade and direct flows in the existing downstream direction and thus would not impede or redirect flows of the Santa Ana River. The outlets would include energy dissipating design features to reduce potential impacts from erosion. Impacts are less than significant, and no mitigation is required.

The San Bernardino County Flood Control District maintains flood control levee structures on the Santa Ana River, Mill Creek, Plunge Creek and City Creek within the Plan Area. These levees help direct storm water flows through the Plan Area, prevent flooding of areas adjacent to these drainage courses, and protect existing roadways. The Flood Control District would maintain existing and proposed facilities. New drainage facilities at Church Street, Judson Street, Orange Street, and Wabash Street would convey existing water runoff from areas south of the Santa Ana River that currently sheet flows down into river. The storm drain outlets would generally be located at grade and direct flows in the existing downstream direction and thus would not impede or redirect flows of the Santa Ana River. The outlets would include energy dissipating design features to reduce potential impacts from erosion. Impacts are less than significant, and no mitigation is required.

Trails

The development and operations of the proposed trail system would utilize existing roads and access easements. Since no substantial grading or alteration of natural areas would be conducted, the development and operation of trails would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Also, the proposed trail system would utilize existing roads and access easements. Since no substantial grading or alteration of natural areas would be conducted, the development and operation of trails would not increase impervious surfaces or the rate or amount of surface water runoff that exceeds the capacity of existing or planned stormwater drainage systems. The development and operation of the proposed trail system would utilize existing roads and access easements. Since no substantial grading or alteration of natural areas would be conducted, the development and operation of trails would not impede or redirect flood flows. Therefore, impacts would be less than significant, and no mitigation is required.

Agriculture

There is a 6.7-acre citrus grove operated within the Plan Area. Although this activity requires maintenance of access roads and irrigation infrastructure, these activities would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. In addition to any chemical treatments that may be required to maintain the plants, these activities would not increase impervious surfaces or, therefore, the rate or amount of water runoff that exceeds the capacity of existing or planned stormwater drainage systems. This citrus grove is not located within the 100-year floodplain, but is located within the 500-year floodplain of the Santa Ana River. Although this activity requires maintenance of access roads and irrigation infrastructure, these activities would not impede or redirect flood flows. Potential impacts are less than significant, and mitigation is not required.

Mitigation Measures

In addition, or concurrent with the NPDES requirements and the Mining and Reclamation Plans which were discussed above, the following measures are included as a means of avoiding and minimizing adverse impacts to hydrological resources that occur within the Plan Area:

HYD MM-1 Minimization of Construction Activity in Waters

Construction activity and access roads will be minimized to the extent practicable in all drainages, streams, pools, or other features that could be under the jurisdiction of the USACE, State Water Board, and/or CDFW. If impacts on these features are identified, a formal jurisdictional delineation and permit applications to the regulatory agencies may be required.

HYD MM-2 Reduction of Runoff and Siltation and Pollution Prevention

When stream flows must be diverted, the diversions will be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activity to

minimize the transport of sediments off site. Settling ponds where sediment is collected will be cleaned out in a manner that prevents the sediment from reentering the stream. Care will be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.

Erodible fill material will not be deposited into water courses. Brush, loose soils, or other similar debris material will not be stockpiled within the stream channel or on its banks.

Covered Activities near to or within the HCP Preserve or other natural areas will incorporate plans to ensure that runoff discharged is not altered in an adverse way when compared with existing conditions, which includes landscape irrigation. Stormwater systems will be designed to prevent the release of sediments, toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within the HCP Preserve.

HYD MM-3 Prevention of Water Pollution from Toxic Materials

Covered Activities within or adjacent to the HCP Preserve or other natural areas that use chemicals (herbicides, rodenticides, insecticides) or generate byproducts that are potentially toxic or may adversely affect wildlife and plant species, habitat, or water quality will incorporate measures to ensure that application of such chemicals does not result in any discharge to the HCP Preserve or other natural areas.

Equipment storage, fueling, and staging areas will be located on upland sites with minimal risks of direct drainage into the HCP Preserve or other natural areas. These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat including riparian areas. Precautions will be taken to prevent the release of toxic substance into surface waters. Project-related spills of hazardous materials will be reported to appropriate entities—including but not limited to the applicable jurisdictional city or county, USFWS, CDFW, and RWQCB—and will be cleaned up immediately and contaminated soils removed to approved disposal areas.

RESIDUAL IMPACTS AFTER MITIGATION

With implementation of the mitigation measures and NPDES requirements Mining and Reclamation Plans, all hydrological and water quality impacts would be reduced to less than significant levels, and there would be no residual impacts regarding hydrology or water quality.

4.3.1.3 Alternative C: 2008 Land Management Plan

Surface Water and Quality

Implementation of the 2008 Land Management Plan would allow or expansion of mining activities on 32 more acres than the 2019 HCP (Alternative B: Proposed Action/Projects). Although mining activities have the potential to affect surface and groundwater quality in the Plan Area by increasing sediment and other pollutants in stormwater runoff, there are multiple regulations that require mining operations to implement BMPs to protect water quality, including the Clean Water Act Section 402 NPDES program and the Surface Mining and Reclamation Act (SMARA).

As with Alternative B, aggregate mining under Alternative C would also be required to comply with these regulations. With implementation of BMPs outlined in the SWPPPs prepared for compliance with the General Construction Activity and Industrial Stormwater permits, as well as the Mining and Reclamation Plans, the expanded mining operations would not be expected to substantially degrade water quality and the potential to violate water quality standards of water bodies in or downstream of the Plan Area would be significantly reduced.

Most of the proposed construction Projects would disturb an area greater than one acre, and thus a General Construction Activity permit is required as well as preparation and implementation of a SWPPP. These construction Projects include: new recharge basins, road widening, the Plunge and Elder Creek Multipurpose Habitat Enhancement and Flood Control Reasonably Foreseeable Project, and new drainage facilities. With implementation of BMPs outlined in the SWPPPs, construction of these facilities would not be expected to substantially degrade water quality and the potential to violate water quality standards or waste discharge requirements would be significantly reduced. Potential impacts are less than significant, and no mitigation is required.

The construction proposed wells and associated connector pipelines would only disturb small areas, less than an acre in size, and would not significantly increase the exposure of sediments or other pollutants to stormwater runoff. Maintenance of existing Conservation District facilities, roadways, flood control facilities, and trails would not substantially disturb large areas within the Plan Area that could increase the exposure of sediments to stormwater runoff.

The 2008 Land Management Plan does not include avoidance and minimization measures that are in the HCP in Alternative B which were developed to ensure continued grove operation and maintenance activities would not result in pollutants such as pesticides and fertilizers being conveyed downstream in stormwater runoff. Thus, the 2008 Land Management Plan would have a higher potential for pollutants from the citrus grove and other maintenance activities conducted in the Plan Area to affect water quality as compared to Alternative B.

However, with required implementation of BMPs outlined in the SWPPPs for construction projects and mining operations, and due to the small size of areas disturbed from other construction and maintenance activities the 2008 Land Management Plan would not violate water quality standards or

waste discharge requirements or substantially degrade water quality, and potential impacts are less than significant.

Groundwater and Quality

This alternative would allow for expansion of aggregate mining on approximately 32 more acres than the 2019 HCP. Additional mining would require additional water for processing. Water for processing is pumped from the groundwater. However, as with Alternative B, the additional pumping and water use for aggregate mining and for SBVMWD and Redlands new wells would be monitored along with other users in the basin for any pumping beyond the safe yield. Due to the Conservation District's large credit, it is not anticipated that replenishment obligations would be required in the near future even if there is pumping beyond the safe yield in the current drought conditions. However, if total extractions are more than the safe yield as a result of mining activities or for water supply, the Conservation District would work with Cemex, Robertson's, SBVMWD and/or Redlands to provide the replenishment obligation.

The other Projects included in the 2008 Land Management Plan, including roadway improvements and maintenance, construction, operation and maintenance of flood control facilities, operation and maintenance of trails and the citrus grove, and habitat enhancement and monitoring, would not substantially increase impermeable surfaces or interfere with groundwater recharge. Therefore, implementation of the 2008 Land Management Plan would not 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.

Drainage Patterns and Drainage Systems

As with Alternative B, the expanded mining operations in the 2008 Land Management Plan would occur adjacent to the existing quarries and processing sites and would continue to be located outside of the low flow channels of the Santa Ana River, Plunge Creek and City Creek. Expansion of mining operations would not include any earthmoving activities or structures that would alter the course of these drainages. Existing berms around quarries would be extended along with expansion of quarries to continue to prevent storm water from these drainages in larger events from flowing into them. Therefore, the expanded mining operations would not alter the course of a stream or river (Santa Ana River, Plunge Creek, City Creek), in a manner which would result in substantial erosion or flooding on- or off-site.

The other Projects included in the 2008 Land Management Plan would not alter the course of a stream or river. No new water conservation channels or dikes that would redirect flows or the proposed SBVMWD planned basins are located within low flow channels of streams and would not redirect the course of these drainages. Although construction of these basins would alter the existing drainage pattern within the immediate area, by retaining flows and allowing them to infiltrate as compared to allowing them to sheet flow across the site, this moderate modification would not result in significant erosion or flooding on- or off-site. The construction of new wells and associated connector pipelines would not occur in the low flow channels of the Santa Ana River, Mill Creek, Plunge Creek or City Creek

and would not alter the course of these drainages. A few of the connector pipelines would cross the Santa Ana River, however, as they would be located under the streambed they would not alter the course of the Santa Ana River.

The proposed expansion of existing roads and maintenance would involve construction that would cross the active channels of the Santa Ana River, Plunge Creek, and City Creek; however, there are existing bridges where Alabama Street, Orange Street, Boulder Avenue, and Greenspot Road cross these drainages. Existing bridges would be widened as necessary to accommodate the proposed expansions but would not alter the existing drainage pattern of the low flow channels of the Santa Ana River, Plunge Creek, and City Creek. Since no substantial grading or alteration of natural areas would be conducted, the development and operation of trails and the citrus grove and habitat enhancement and monitoring would not alter the existing drainage pattern.

Proposed projects included in the 2008 Land Management Plan would not alter the course of a stream or river in the Plan Area (Santa Ana River, Plunge Creek, City Creek), in a manner which would result in substantial erosion or flooding on- or off-site. Potential impacts are less than significant, and no mitigation is required.

Flooding Hazards

Although portions of the 2008 Land Management Plan are located within the 100-year floodplain, the proposed projects do not involve the construction of housing and would not place housing within a mapped 100-year flood hazard area.

The existing and expanded mining operations are not located in the low flow drainage river or creek beds of the Santa Ana River, Plunge Creek, or City Creek. Expanded haul routes would not impede or redirect flood flows. Mining operations would not include the construction of other structures within a 100-year floodplain that would impede or redirect flood flows.

Proposed projects included in the 2008 Land Management Plan also would not impede or redirect flood flows. A few of the water well connector pipelines would cross the Santa Ana River; however, as they would be located under the streambed they would not impede or redirect flood flows. No other facilities are proposed to be constructed within the low flow channels of the Santa Ana River, Plunge Creek, City Creek or Mill Creek that would impede or redirect flood flows. Existing bridges, where Alabama Street, Orange Street, Boulder Avenue, and Greenspot Road cross drainages would be widened as necessary to accommodate the proposed expansions but would not impede or redirect flood flows.

Since there are no lakes or oceans in proximity of the 2008 Land Management Plan, there is not a risk of seiches or tsunamis occurring within the Plan Area. The Seven Oaks Dam provides protection from mudslides from the San Bernardino Mountains. Therefore, impacts would be less than significant, and no mitigation is required.

Determination: There would be less than significant impacts related to water quality, groundwater supplies, drainage patterns and drainage systems, and flooding and other water related hazards within the Plan Area from the 2008 Land Management Plan.

4.4 BIOLOGICAL RESOURCES

This section focuses on potential effects of the alternatives on vegetation, general wildlife, and local, state, and federally protected plant and animal species and their habitats. Where the potential for impacts is identified, measures are presented to avoid, minimize, and mitigate impacts to the maximum extent practicable.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. An alternative would result in significant impacts on biological resources if implementation would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. 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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on Federally protected “wetlands” or “Waters of the U.S.” as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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; and/or,
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.4.1 DIRECT AND INDIRECT EFFECTS

4.4.1.1 Alternative A: No Action Alternative

Under this Alternative USFWS would not authorize incidental take under the Federal Endangered Species Act (FESA) for Covered Activities/Proposed Projects and the HCP would not be implemented.

There would be no significant direct adverse impacts to biological resources in the Plan Area from the No Action Alternative, as the status quo for land management would continue.

Proposed Projects

Proposed Projects would not move forward if they have the potential to “take” State or Federally listed species. Each project proposed by the Conservation District, Task Force Members or other entities that have the potential for take of state or federally listed species would need to comply with Federal and State laws. The No Action Alternative would continue a lack of a coordinated and comprehensive effort to minimize and mitigate biological impacts through the HCP. No regional conservation program or conservation measures would be implemented; therefore, benefits to biological resources associated with the proposed conservation program and conservation measures would not occur. In addition, no comprehensive monitoring program for the Plan Area would track and measure the status and trends of Covered Species populations and the success of management and restoration measures. With the No Action Alternative, much of the higher-quality habitat for listed and sensitive species would continue to be privately owned.

With the No Action Alternative, the HCP and its conservation program, providing beneficial effects for listed plants and animals and other special status species that depend on the same habitat, would not occur. The consolidation and preservation of large interconnected habitat areas would not occur under the No Action Alternative. Instead, piecemeal conservation based on project-by-project decision-making may result in suboptimal actions to protect the covered species. Each project would be subject to compliance with federal and state laws and public review but without a landscape vision for conservation. The level of conservation would be reduced under the No Action Alternative as it would not be under a unified conservation strategy.

Determination: Under this alternative the USFWS would not issue an incidental take permit and the HCP would not be implemented. There would be no new permanent or temporary significant impacts to Biological Resources, including Covered Species or other special status species.

4.4.1.2 Alternative B: Proposed Action/Projects

BIO-1: Sensitive and Special Status Species

*Would the project result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? **Level of Significance: Less Than Significant Impact with implementation of mitigation measures.***

BIO-2: Riparian Habitat or Other Sensitive Natural Community

Would the project have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the

*California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? **Level of Significance: Less Than Significant Impact.***

BIO-3: Federally Protected Wetlands

*Would the project have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? **Level of Significance: Less Than Significant Impact.***

BIO-4: Movement of Wildlife

*Would the project interfere 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? **Level of Significance: Less Than Significant Impact.***

BIO-5: Local Policies

*Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? **Level of Significance: No Impact.***

BIO-6: Habitat Conservation Plan

*Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan? **Level of Significance: No Impact.***

Issuance of Section 10 and 2081(b) Permits

Issuance of ITPs from the USFWS and a Section 2081(b) permit from CDFW is required prior to initiation of Covered Activities/Proposed Projects that would have an adverse impact on state and federally listed species and the habitats that support them. Implementation of Covered Activities/Proposed Projects would result in some incidental take or loss of Covered Species or the habitats that support them. This chapter examines the potential for the Covered Activities/Proposed Projects to result in such take or loss of Covered Species and loss or degradation of their habitat. To meet regulatory requirements and properly mitigate effects, the amount of take must be discussed and, if possible, quantified. Figures 4.4-1 through 4.4-6 show where the Covered Activities/Proposed Projects are expected to occur relative to vegetation communities and the potential distribution of each of the Covered Species in the Plan Area. The anticipated amount of take associated with the Covered Activities/Proposed Projects was quantified by overlaying the Covered Activity/Proposed Project footprints on vegetation communities, species habitat, species occurrences data, and designated critical habitat.

The HCP includes a conservation program that the Conservation District, the Participating Entities, and SBCFCD would implement for SBKR, gnatcatcher, woolly-star, spineflower, and cactus wren in the Plan Area to avoid, minimize, monitor, manage, and mitigate the effects of incidental take (for wildlife) or

adverse impacts (for plants) and contribute to their survival and recovery. Biological goals and objectives are listed in Section 5.1 of the HCP.

The major components of the conservation strategy are listed in Section 5.2 of the HCP:

- The Conservation District, SBCFCD, and the Participating Entities would provide for the permanent conservation of approximately 963.3 acres within the HCP Preserve (refer to Figure 2.0-2, *Wash Plan Phasing*). This area will be managed and monitored along with the 696.2 acres of District Managed Lands¹.
- The SBCFCD, District Conserved Lands, and the District Managed Lands result in a total area of approximately 1,659.5 acres of habitat in the Plan Area that will be conserved and managed and make up the HCP Preserve.
- The HCP Preserve is generally contiguous with the existing conservation areas within the Plan Area (i.e., BLM's ACEC and USACE's Woolly-star Preserve Area [WSPA]).
- The HCP Preserve also maintains a north-south habitat linkage (areas flooded by the Santa Ana River in 1938 and 1969) across the Plan Area and to natural open space outside the Plan Area to the east and west.
- The primary habitat management approach is focused on the maintenance and enhancement of overall habitat quality for Covered Species through (1) the control of non-native annual grasses and other invasive non-native plants, and (2) the restoration and enhancement of spineflower and woolly-star populations.
- All prescribed management actions will be implemented within an adaptive management context, and therefore will be modified as new information is gained to improve the effectiveness of the management actions in meeting the biological goals and objectives.

Direct impacts are those effects of a project that occur at the same time or place as an action or project implementation, such as removal of habitat from ground disturbance. Indirect impacts are those effects of an action or project that occur either later in time or at a distance from the project location but are reasonably foreseeable, such as dust, light, noise, and pollutants that travel or are dispersed to other areas. Direct and indirect impacts can be permanent or temporary. Cumulative impacts are those incremental effects of an action or project that, in combination with the effects of other actions or projects, could significantly impact biological resources.

Biological resources could be affected directly or indirectly by Covered Activities/Proposed Projects including construction and maintenance as well as habitat enhancement and monitoring. Direct adverse impacts include modification or removal of habitat, and crushing of individuals, burrows, or nests from heavy construction equipment. Covered Activities/Proposed Projects have the potential to indirectly impact these sensitive species by adversely affecting live-in and/or foraging habitat for them. Indirect

¹ The San Bernardino Valley Water Conservation District will provide for the monitoring and management of 43.5 acres of WSPA lands and 652.6 acres of BLM lands in the Plan Area.

adverse impacts include disturbance from human presence in the area including noise, light, and dust from use of equipment and temporary or permanent modification of habitat used as live in habitat or for foraging or wildlife movement. The following activities may result in disturbances to sensitive biological resources:

- Conversion of one habitat type to another from construction or maintenance activities;
- Removal of vegetation during construction of temporary staging areas and access roads;
- Increased human presence as part of surveys, monitoring, or recreational use;
- Conversion of one habitat type to another through restoration, enhancement, or creation;
- Removal of vegetation as part of management by grazing activities or herbicide application; and
- Active or passive relocations of individuals of Covered Species.

Permanent impacts are impacts that occur when existing habitat is permanently replaced by the construction or implementation of a Covered Activity/Proposed Project. All permanent impacts were calculated based on the overlay process described above. Temporary impacts occur when habitat is removed but then allowed to regrow and recover some habitat value for Covered Species. Temporary impacts may be one time impacts, such as impacts associated with a construction staging area, or may be recurring impacts as are associated with vegetation management for facility maintenance (e.g., access road or basin maintenance). Temporary impacts were estimated based on a proportional amount of habitat expected to be impacted on an annual basis and then extrapolated across the 30-year permit term.

Vegetation Communities from All Proposed Projects

Permanent and temporary impacts of Covered Activities/Proposed Projects on each vegetation community are summarized in Table 4.4-1, *Effects on and Conservation of Vegetation Communities*. The amount of each vegetation community expected to be conserved under the HCP (or that will be in other forms of conservation) is also included for comparison. Refer to Figure 4.4-1, *Potential Impacts on Vegetation Communities* for the configuration of temporary and permanent impacts to the various vegetation types in the Plan Area. As outlined in Section 3.4.3, the Plan Area supports a diversity of common wildlife species associated with chaparral, grassland, and alluvial fan sage scrub habitats. Covered Activities/Proposed Projects would be expected to result in adverse effects to common wildlife species, however implementation of the HCP conservation program, including the conservation and management of 1,529.8 acres of habitat in the Plan Area, would provide benefits to these common species and mitigate for adverse impacts.

The two native plant communities which would be most affected by Covered Activities/Proposed Projects are RAFSS and chamise chaparral. Of the affected plant communities, the community of most importance to Covered and special status species are the various seral stages of RAFSS. Within these categories pioneer and intermediate RAFSS with low shrub density are the most frequently utilized by SBKR. Intermediate RAFSS provides wintering and nesting habitat for gnatcatcher. RAFSS with cactus

patches and/or yucca (potential nest sites) is the most beneficial to cactus wren. Woolly-star and slender-horned spineflower can be expected to be found in open areas between shrubs within the associated RAFSS habitats. Woolly-star is more likely to be associated with earlier seral stages of RAFSS because it establishes in areas opened up by fluvial process. Spineflower is more likely to be found in older flood terrace areas where active flood scouring rarely occurs but where there is sheet flow of water in major storm events. In the Plan Area, it is most often found in association with California junipers. Covered Activities/Proposed Projects would result in permanent impacts to 495.1 acres of RAFSS and temporary impacts to 80 acres of RAFSS.

Riversidean Alluvial Fan Sage Scrub

The Plan Area contains a total of approximately 3,196.2 acres of the various stages of RAFSS, with intermediate being the most common at an estimated 1,129 acres and a stage classified as intermediate/mature being the next most common at 1,057.8 acres. Pioneer RAFSS is estimated to be 470.9 acres. The construction of the Seven Oaks Dam has dramatically reduced the downstream potential for flooding; including scouring that is often associated with the rejuvenation of early successional habitats. Therefore, it is expected that the proportion of later seral stages of RAFSS will be greater through time. The majority of the area which is still subject to the levels of intermittent flooding necessary to rejuvenate RAFSS would be conserved under this alternative. It is estimated that there will be 495.1 acres of permanent impacts and 80.0 acres of temporary impacts to RAFSS from Covered Activities/Proposed Projects under Alternative B, and that 1,529.8 acres will be managed and conserved in the HCP Preserve.

The majority of permanently impacted areas are associated with new or resumed aggregate mining activities and will occur in areas contiguous with existing mining operations, which leaves the vegetation communities and Covered Species habitat largely intact with a high level of connectivity within and among habitat types.

Determination: With implementation of the HCP conservation program, including the conservation and management of 1,529.8 acres of habitat in the Plan Area, impacts to RAFSS will be reduced to less than significant levels. Additional mitigation is not required.

Riparian and Riversidean Sage Scrub

Two other plant communities would experience minor impacts, RSS and Riparian (mule fat scrub and willow thickets). For RSS, only 9.4 acres of RSS were mapped in the Plan Area, 7.8 of which would experience permanent impacts. These impacts are not considered significant due to the small number of acres affected, the availability of conserved RSS habitat on adjacent lands, i.e., Woolly-star Preserve Area (WSPA) and Redlands Conservancy lands, and the conservation of significant acreage of intermediate RAFSS which provides equivalent conservation value for Covered and special status species. For riparian, there would be 0.2 acres of temporary impacts to willow thickets and 2.7 acres of permanent impacts to mule fat scrub out of a total of 12.7 acres. In addition, general and specific, i.e.,

Streams, Drainages and Runoff, conservation measures are incorporated in Alternative B to avoid and minimize impacts to riparian communities.

Determination: Impacts to riparian vegetation and RSS are less than significant. Additional mitigation is not required.

Table 4.4-1. Effects on and Conservation of Vegetation Communities (acres)

	Impacts		HCP Preserve					
Vegetation	Permanent Impact	Temporary Impact	District Conserved Lands	SBCFCD Conserved Lands	District Managed Lands	HCP Preserve Total	Future SBCFCD Mitigation Area	Neutral Lands
Sage Scrub								
RAFSS – Pioneer	1.4	36.5	119.9	87.0	35.9	242.7	56.5	90.9
RAFSS – Intermediate	158.8	17.9	230.6	74.9	236.8	542.3	79.3	163.8
RAFSS – Intermediate/Mature	258.9	10.5	160.0	7.9	316.5	484.4	11.7	118.4
RAFSS – Mature	66.1	7.5	127.0	9.0	57.3	232.6	0.0	74.6
RAFSS – Mature/Non-Native Grassland	9.8	7.5	27.8	0.0	0.0	27.8	0.0	69.3
RAFSS Subtotal	495.0	79.9	665.3	178.8	646.5	1529.8	147.5	517.0
RSS	7.8	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Chamise Chaparral	50.4	0.3	39.3	0.0	0.0	39.3	0.0	18.5
Native Shrub Communities Subtotal	553.2	80.2	704.6	178.8	646.5	1,569.1	147.5	537.1
Riparian/Aquatic Vegetation								
Willow Thickets	0.2							11.1
Mule Fat Scrub		2.7	-	-	-	-	-	1.4
Aquatic Vegetation								0.2
Riparian/Aquatic Subtotal	0.2	2.7	-	-	-	-	-	12.7
Non-Native Vegetation								
Non-Native Grassland	24.1	16.7	7.0	2.1	19.3	28.4	1.4	101.5
Perennial Pepper Weed	0.1	0.0						21.0
Tamarisk Thickets	7.6							22.4
Non-Native Subtotal	31.8	16.7	7.0	2.1	19.3	28.4	1.4	144.9
Existing Features								
Recharge Basin	1.2	15.0	10.8		8.8	19.6		48.1
Active Sedimentation Basin	0.0							2.9
Developed/Disturbed	29.2	102.0	55.2	4.9	21.6	81.7	2.0	523.2
Existing Feature Subtotal	30.4	117.0	66.0	4.9	30.4	101.3	2.0	574.2
Total Acreage	615.7	216.6	777.6	185.7	696.1	1,659.5	150.9	1,269.0

Table 4.4-2. Effects on and Conservation of Covered Species

	Impacts		HCP Preserve					
Species	Permanent Impact	Temporary Impact	District Conserved Lands	SBCFCD Conserved Lands	District Managed Lands	HCP Preserve Total	Future SBCFCD Mitigation Area	Neutral Lands
Slender-horned Spineflower								
Extant Patches	1	0	3	-	17	20	1	-
Historic Occurrences	12	0	8	-	28	36		-
Slender-horned Spineflower Subtotal	13	0	11	-	45	56	1	-
Santa Ana River Woolly-Star								
Known Occupied Grid Areas	34.3	3.7	94.5	5.4	104.5	204.3	4.4	7.6
Cactus Wren (acres)								
Cactus Patches (Primary Nesting Habitat)	13.4	0.2	14.1	0.0	18.4	32.5	-	4.6
California Gnatcatcher (acres)								
High Quality (potential nesting and wintering habitat)	0.4	1.4	35.3	12.3	22.8	70.5	-	12.6
Medium Quality (potential wintering habitat)	9.2	5.4	30.7	34.7	124.8	190.2	36.9	66.0
Low Quality (potential foraging and dispersal habitat)	414.6	25.7	531.0	72.3	428.2	1,031.5	89.0	366.2
California Gnatcatcher Subtotal	424.2	32.5	597.0	119.3	575.9	1,292.2	125.9	444.8
San Bernardino Kangaroo Rat (acres)								
High Suitability	22.4	1.9	117.8	3.6	170.4	291.8	0.7	5.1
Medium Suitability	67.7	1.4	85.5	36.6	105.6	227.6	11.5	7.8
Low Suitability	120.1	4.8	132.4	59.4	126.1	317.9	76.0	23.9
Very Low Suitability	359.1	55.6	299.0	22.4	237.7	559.2	40.8	467.5
Ecological Process Area	1.6	45.4	121.3	61.8	42.9	226.0	21.1	46.6
San Bernardino Kangaroo Rat Subtotal	570.9	109.1	756.0	183.8	682.7	1,622.5	150.0	551.0

Effects on Slender-horned Spineflower from all Proposed Projects

Covered Activities/Proposed Projects are expected to result in permanent impacts to 1 extant occurrence of spineflower and 12 historic occurrences. No temporary impacts are expected from Covered Activities/Proposed Projects. One location, the contingency parcel, will become isolated from the other locations where it will be left as an “island” of habitat surrounded by existing and future aggregate mining operations.² Refer to Figure 4.4-2, *Potential Impacts to Slender-horned Spineflower* for the distribution of spineflower and potential impacts.

To provide for spineflower conservation, the majority of spineflower occurrences, both historic and extant, would be avoided and would be a part of the HCP Preserve. Implementation of the HCP conservation program would result in the permanent conservation of 33 extant occurrences of spineflower (HCP SHSF Action 1A) and 26 historic spineflower locations (HCP SHSF Action 1B) within the HCP Preserve. Implementation of the HCP conservation program would result in the permanent conservation and management of 100 acres of spineflower habitat adjacent to extant and historic spineflower occurrences and/or other habitat determined through modeling and subsequent onsite evaluation to be suitable (HCP SHSF Action 2). Protecting the habitat surrounding the spineflower sites provides opportunities for potential future restoration sites, and will ensure the preservation of ecological processes (i.e., sheet flow of water during storm events), which may be important to maintaining spineflower habitat. For additional information on the conservation of spineflower see Section 5.1.2 in the HCP.

Implementation of Alternative B would result in the loss of 1 extant patch of spineflower and 12 historic occurrence patches. However, this loss would be compensated for with implementation of the HCP conservation program (SHSF Objectives 1-10) which includes permanent conservation of 33 extant patches of spineflower and 26 historic spineflower locations within the HCP Preserve, permanent conservation and management of 100 acres of spineflower habitat adjacent to extant and historic spineflower occurrences, and establishment of a minimum of six new patches of spineflower in the HCP Preserve covering at least 35 square meters each. Under HCP SHSF Objectives 3, 5, 6, 9, and 10, the conserved occurrences and habitat would be management specifically for the benefit of spineflower. Under HCP SHSF Objective 7, spineflower populations in areas planned for permanent impacts, seeds will be salvaged and stored for use in habitat enhancement and restoration elsewhere in the HCP Preserve. Under HCP Objective 8, spineflower populations within the vicinity of Covered Activities/Proposed Projects will be protected.

Determination: With implementation of the HCP conservation program impacts to spineflower are sufficiently compensated and impacts are reduced to less than significant levels. Additional mitigation is not required.

² The contingency parcel, while initially conserved, could be mined in the future contingent upon the successful establishment of spineflower elsewhere in the HCP Preserve.

Effects on Santa Ana River Woolly-Star from all Proposed Projects

As shown in Figure 4.4-3, *Potential Impacts on Santa Ana River Woolly-Star*, the largest concentrations of occupied Santa Ana River Woolly-star habitat (including those areas with the highest density of plants) are generally unaffected by direct impacts of Covered Activities/Proposed Projects, or are impacted at the edges of plant clusters. Therefore, the Covered Activities/Proposed Projects leave the populations largely intact with sufficient habitat connectivity between occupied areas. However, Covered Activities/Proposed Projects would result in permanent impacts to 34.3 grid areas and temporary impacts to 3.7 grid areas of woolly-star occupied habitat.

Implementation of the HCP conservation program would result in the conservation and maintenance of 204.3 acres of habitat containing woolly-star in the HCP Preserve (HCP SARWS Action 1A) and conservation and management of at least 50 additional acres of suitable habitat adjacent to occupied habitat to preserve ecological processes that maintain woolly-star habitat (HCP SARWS Action 1B). The HCP conservation program would increase the average density of woolly-star in occupied patches in the HCP Preserve (HCP SARWS Objective 3) and enhance the distribution of woolly-star by planting collected seeds in selected areas of suitable habitat (HCP SARWS Objective 5). For additional information on the conservation of woolly-star see Section 5.1.2 in the HCP.

Implementation of Alternative B would result in permanent impacts to 34.3 grid areas and temporary impacts to 3.7 grid areas of woolly-star occupied habitat. An estimated 204.3 acres of occupied woolly-star habitat would be conserved and managed within the HCP Preserve as would at least 50 additional acres of adjacent suitable habitat. Hydrological processes necessary to the maintenance of woolly-star habitat would be maintained through the conservation of habitat in the Plunge Creek and Santa Ana River portions of the Plan Area. Under HCP SARWS Objectives 2, 3, 5, and 10, the conserved occurrences and habitat would be managed specifically for the benefit of woolly-star. Under HCP SARWS Objective 4, spineflower populations in areas planned for permanent impacts, seeds will be salvaged and stored for use in habitat enhancement and restoration elsewhere in the HCP Preserve. Under HCP Objective 6, woolly-star populations within the vicinity of Covered Activities/Proposed Projects will be protected.

Determination: With implementation of the HCP conservation program impacts to woolly-star are compensated and impacts are reduced to less than significant levels. Additional mitigation is not required.

Effects on Cactus Wren from all Proposed Projects

The distribution of cactus wren habitat in the Plan Area is quantified in terms of nesting habitat based on the field mapping of cactus patches suitable for nesting (buffered by 50 feet). Expansion of the aggregate mining areas would impact three areas that have supported nesting cactus wrens and would remove some foraging habitat (refer to Figure 4.4-4, *Potential Impacts on Cactus Wren*). However, the majority of suitable nesting habitat and known nest sites are north of the mining areas and south of Plunge Creek, with several other concentrations of suitable nesting habitat south and east of the mining areas. Another concentration of suitable nesting habitat would be removed with the construction of

new spreading basins. Covered Activities/Proposed Projects would result in permanent impacts to 13.4 acres and temporary impacts to 0.2 acre of primary nesting habitat.

Implementation of the HCP conservation program would result in the permanent conservation and management of 14.1 acres of cactus patches and surrounding habitat in the HCP Preserve (HCP CAWR Action 1A) and permanently provide for the additional management of 18.4 acre of cactus patches and surrounding habitat in the HCP Preserve (HCP CAWR Action 1B). The HCP conservation program would also establish and manage eight new cactus patches suitable for nesting cactus wren in the HCP Preserve (HCP CAWR Objective 2). The HCP conservation program would recover cactus patches damaged or destroyed by wildfire (HCP CAWR Objective 3), maintain the quality of habitat to sustain the current breeding population of cactus wren within the HCP Preserve (HCP CAWR Objective 4), and determine the current extent and location of cactus wren occurrences in the HCP Preserve and monitor breeding population trends over time (HCP CAWR Objective 6). For additional information on the conservation of cactus wren see Section 5.1.2 in the HCP.

Determination: With implementation of the HCP conservation program impacts to cactus wren are compensated and impacts are reduced to less than significant levels. Additional mitigation is not required.

Effects on California Gnatcatcher from all Proposed Projects

There are no nesting records for gnatcatcher in the Plan Area; however, gnatcatchers are known to nest in suitable habitat south of the Santa Ana River below the eastern portion of the Plan Area. Two of the six recent known occurrences are within the Covered Activity/Proposed Project footprints (refer to Figure 4.4-5, *Potential Impacts on California Gnatcatcher*); however, the core area of habitat use is generally south of most of the Covered Activities/Proposed Projects (on the WSPA, BLM land, and Conservation District land).

The Plan Area and adjacent lands to the south contain some of the only known extant occurrences of gnatcatcher in San Bernardino County; therefore, conservation of gnatcatcher in the Plan Area is important to the maintenance of inland populations of the species. Gnatcatcher habitat within the Plan Area was assessed to determine which areas provided the best habitat for nesting and wintering birds. The majority of the highest quality habitat is either in existing conserved areas, (i.e., the WSPA) or will be part of the HCP Preserve.

Covered Activities/Proposed Projects would result in permanent impacts to 0.4 acre of high quality habitat (potential nesting and wintering habitat), 9.2 acres of medium quality habitat (potential wintering habitat), and 414.6 acres of low quality habitat (potential for foraging and dispersal habitat), for a combined permanent impact total of 424.4 acres. Covered Activities/Proposed Projects would result in temporary impacts to 1.4 acres of high quality habitat, 5.4 acres of medium quality habitat, and 25.7 acres of low quality habitat, for a combined temporary impact total of 32.5 acres. For additional information on the conservation strategy for the gnatcatcher see Section 5.1.2 in the HCP.

Implementation of Alternative B would result in permanent impacts to 0.4 acre of high quality habitat, 9.2 acres of medium quality habitat, and 414.6 acres of low quality habitat. Covered Activities/Proposed Projects would result in temporary impacts to 1.4 acres of high quality habitat, 5.4 acres of medium quality habitat, and 25.7 acres of low quality habitat. However, this loss would be compensated for with implementation of the HCP conservation program (HCP CAGN Objectives 1-6) which includes conservation and management of 1,292.2 acres of habitat in the HCP Preserve. Under HCP CAGN Objectives 2, 3, 4, and 6, the conserved occurrences and habitat would be management specifically for the benefit of gnatcatcher. Under HCP CAGN Objective 5, impacts on nesting gnatcatcher would be avoided.

Determination: With implementation of the HCP conservation measures impacts to gnatcatcher are compensated and impacts are reduced to less than significant levels. Additional mitigation is not required.

Effects on San Bernardino Kangaroo Rat from all Proposed Projects

Habitat suitability was mapped into high, medium, low, and trace suitability categories. The areas supporting ecological processes that maintain SBKR suitability (hydrogeomorphic scour and deposition) were also mapped, and impacts on these areas are quantified. As is evident in the balance of impact in each habitat suitability type, the Covered Activities/Proposed Projects (primarily aggregate mining) have been located outside of the habitat with the highest suitability. This pattern also correlates with the overlap of Covered Activity/Proposed Project footprints with the occurrence data (refer to Figure 4.4-6, *Potential Impacts on San Bernardino Kangaroo Rat*).

Because of the widespread distribution of SBKR in the Plan Area and the location of Covered Activities/Proposed Projects, it is not expected that any occupied SBKR habitat would be isolated following the implementation of Covered Activities./Proposed Projects Activities that could place temporary or permanent impediments to SBKR movement could disrupt habitat connectivity and SBKR dispersal patterns; therefore, any Covered Activities/Proposed Projects with the potential to interrupt a known habitat connection would be implemented according to the Impact Avoidance and Minimization Measures outlined in the HCP.

The extent and spread of non-native grasses is one of the greatest threats to SBKR habitat suitability. Such habitat degradation could result from the effects of Covered Activity/Proposed Project land disturbance and related activities that induces additional spread of non-native plant species. Therefore, monitoring and avoidance and minimization measures would be implemented along with an adaptive management strategy addressing non-native grass management.

Covered Activities/Proposed Projects would result in permanent impacts to 22.4 acres of high suitability, 67.7 acres of medium suitability, 120.1 acres of low suitability, 359.1 acres of very low suitability of SBKR habitat, and 1.6 acres of ecological process area for SBKR. The combined permanent impacts total, for all suitability habitat types, is 570.9 acres. Covered Activities/Proposed Projects would result in temporary impacts to 1.9 acres of high suitability, 1.4 acres of medium suitability, 4.8 acres of low suitability, 55.6

acres of very low suitability of SBKR habitat, and 45.4 acres of ecological process area for SBKR. The combined temporary impacts total, for all suitability habitat types, is 109.1 acres.

Implementation of the HCP conservation program would result in the permanent conservation and management of 121.4 acres of high suitability habitat, 122.1 acres of medium suitability habitat, 191.8 acres of low suitability habitat, 321.4 acres of very low suitability habitat, and 193.1 acres of ecological process area habitat in the HCP Preserve (HCP SBKR Action 1A). Implementation of the HCP conservation program would provide for the additional management of 170.4 acres of high suitability habitat, 105.6 acres of medium suitability habitat, 126.1 acres of low suitability habitat, 237.7 acres of very low suitability habitat, and 42.9 acres of ecological process area habitat to support SBKR in the HCP Preserve (HCP SBKR Action 1B). The HCP conservation program would maintain and increase the quality of habitat for SBKR in the HCP Preserve, by managing non-native grasses (HCP SBKR Objective 2); maintaining a stable or increasing population of SBKR in the HCP Preserve (HCP SBKR Objective 3); maintaining and increasing connectivity between SBKR populations in the HCP Preserve (HCP SBKR Objective 4); and determining the status and distribution of SBKR in the HCP Preserve, monitoring long term trends, and assessing the effectiveness of management actions (HCP SBKR Objective 7). For additional information on the conservation for the San Bernardino Kangaroo Rat see Section 5.1.2 in the HCP.

The entire Plan Area is included within USFWS-designated Critical Habitat (CH) for SBKR. The USFWS will formally analyze effects on CH from the Covered Activities/Proposed Projects under ESA in their internal Section 7 consultation as part of the process for issuing the ITPs. Implementation of Alternative B would result in permanent impacts to 570.9 acres and temporary impacts to 109.1 acres of SBKR of varying habitat suitability. However, this loss would be compensated for with implementation of the HCP conservation program (HCP SBKR Objectives 1-7) which includes conservation and management of 1,622.5 acres of habitat in the HCP Preserve. Under HCP SBKR Objectives 2, 3, 4, and 7, the conserved habitat would be managed specifically for the benefit of SBKR. Under HCP SBKR Objectives 5 and 6, impacts on SBKR from Covered Activities/Proposed Projects would be minimized to the greatest extent feasible.

Determination: With implementation of the HCP conservation measures impacts to SBKR and its critical habitat are compensated and impacts are reduced to less than significant levels. Additional mitigation is not required.

Other Special Status Species

This DEIS/SEIR also evaluates non-covered special-status species. These include migratory birds, reptiles and amphibians, small mammals and rare plants. Special status species known to occur, or with the potential to occur, in the study area are summarized in Tables 3.4-2, *Special Status Plant Species Potentially Occurring within the Plan Area* and Table 3.4-3, *Special Status Wildlife Species Potentially Occurring within the Plan Area* in Section 3.4. These species are not proposed for coverage under the Wash Plan HCP. The evaluation of impacts on non-covered species relied on a combination of the available natural community and land cover mapping as presented in the Wash Plan HCP as well as

species occurrence information. The species occurrence information was compiled from California Natural Diversity Database, Calflora, the Jepson Interchange, and information presented in the EIR for the 2008 Land Management Plan. More details about each species are provided in the Biological Technical Report, Appendix M of the 2008 EIR.

Effects on Special Status Plant Species from all Proposed Projects

Special status plant species include state or federally listed threatened or endangered species, those proposed for listing, candidate species for listing, or considered a Species of Special Concern. In addition, plants included on the California Native Plant Society (CNPS) Inventory with rankings of 1A, 1B, 2A, 2B, 3, and 4 are also considered special-status species. Plant species were evaluated for their potential to occur within the Plan Area boundaries based on habitat requirements, availability and quality of suitable habitat, and known distribution. Sensitive plant species determined to occur or have the potential to occur within the Plan Area are provided in Table C.4.3-1, in Appendix C. In addition to woolly-star and spineflower, four other rare plants have been documented within the Plan Area, Parry's spineflower (*Chorizanthe parryi* var. *parryi*), Plummer's mariposa lily (*Calochortus plummerae*), Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*), and California spineflower (*Mucronea californica*). California satintail (*Imperata brevifolia*) and Parish's bush mallow (*Malacothanmus parishii*) also have the potential to occur. All six plants are associated with the plant communities and soils that would be conserved and managed under the HCP for the benefit of the Covered Species: chaparral, RAFSS, and RSS. California satintail may also occur in wetlands. Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to these plant communities. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The conserved habitat, collectively the HCP Preserve, consists of large interconnected blocks of some of the highest quality habitat in the Plan Area.

Prior to Covered Activities/Proposed Projects which will result in ground disturbance, preconstruction surveys will be conducted by a qualified biologist using the BLM's Survey Protocols. In the event a special status plant species is found, seed (or if Plummer's mariposa lily, corms or cormlets) will be collected and planted in appropriate receptor sites located on the HCP Preserve at the direction of the Preserve Manager. If seed is not immediately planted after collection, it will be cleaned and stored in cool dry conditions. Seeds, corms, or cormlets will be planted with preferred habitat. Seeds will be lightly raked into the substrates. Corms or cormlets will be planted at the appropriate depth. Weeds will be removed prior to planting.

Determination: With the implementation of the proposed conservation measures and avoidance and minimization measures impacts to special status plants would be less than significant. Additional mitigation is not required.

Effects on Special Status Fish from all Proposed Projects

The federally endangered Santa Ana sucker (*Catostomus santaanae*) was found historically in portions of the Plan Area including City Creek and the Santa Ana River but it is no longer present there. However,

Santa Ana sucker critical habitat is in the Plan Area. The Plan Area encompasses part of Critical Habitat Unit 1A. Critical habitat was designated in this area because the USFWS determined that Mill Creek, City Creek and the Santa Ana River provide stream and storm waters (Primary Constituent Element 1) required to transport coarse sediments that are necessary to maintain preferred substrate (Primary Constituent Element 2) conditions in portions of the Santa Ana River occupied by Santa Ana sucker. Therefore, these areas were determined to be essential for the conservation of the species.

The majority of the critical habitat for Santa Ana sucker in the Plan Area is in existing conservation areas or HCP Preserve lands (See Table 4.4-3). Permanent impacts to Santa Ana sucker critical habitat from Covered Activities/Proposed Projects would be approximately 23.9 acres. These impacts would be offset by the conservation of approximately 279.4 acres of critical habitat. The loss of a very small amount of habitat coupled with the conservation of a significant portion of each of the stream reaches in the Plan Area is expected to have only minor impacts to Santa Ana sucker critical habitat.

Table 4.4-3: Santa Ana Sucker Critical Habitat in the Plan Area

Santa Ana Sucker Critical Habitat in the Plan Area	
Land Use	Acres
District Managed	28.0
District Conserved	165.1
Conserved (Flood Control)	86.3
Conservation Subtotal:	279.4
Permanent Impacts from Covered Activities/Proposed Projects	23.9
Existing Conservation	112.5
Neutral Lands	46.4

The upland areas of the Plan Area, although not designated as critical habitat, provide a source of coarse sediments for transport by the stream and storm waters. Covered Activities/Proposed Projects would result in approximately 553.2 acres of permanent impacts to these upland areas. However, these impacts would be offset by the conservation and management of 1,569.1 acres of habitat which is a potential source of coarse sediments.

Determination: With the implementation of the proposed conservation measures, impacts to Santa Ana sucker and its critical habitat would be less than significant. Additional mitigation is not required.

Effects on Special Status Reptiles and Amphibians from all Proposed Projects

Sensitive reptile and amphibian species determined to occur or to have the potential to occur within the Plan Area are provided in Table C.4.3-2, Appendix C.

Silvery legless lizard (*Anniella stebbinsi*), western spadefoot toad (*Spea hammondi*), and coast horned lizard (*Phrynosoma coronatum*) have been documented within the Plan Area. Northern red-diamond rattlesnake (*Crotalus ruber ruber*), coastal western whiptail (*Aspidoscelis tigris stejnegeri*), and two-striped garter snake (*Thamnophis hammondi*) have the potential to occur in the Plan Area. All six

species are associated with the plant communities that would be conserved and managed under the HCP for the benefit of the Covered Species: grassland, chaparral, RAFSS, and Riversidean sage scrub. Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to these plant communities. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The conserved habitat, collectively the HCP Preserve, consists of large interconnected blocks of some of the highest quality habitat in the Plan Area.

Prior to any ground-disturbing activities, the area will be surveyed by a qualified biologist who has demonstrated expertise with special status reptiles and amphibians. The survey will take place at the appropriate time of year and time of day when the species' are active. If special status reptiles or amphibians are detected, they will be captured and relocated to the nearest adjacent Preserve lands. Results of the surveys and relocation efforts shall be provided to the Conservation District and/or USFWS (as part of the annual report of activities prepared as part of HCP implementation) and relocation of animals shall only occur with the proper scientific collection and handling permits.

Determination: With the implementation of the proposed conservation measures and avoidance and minimization measures the impacts to special status reptiles and amphibians would be less than significant. Additional mitigation is not required.

Effects on Special Status Small Mammals from all Proposed Projects

Sensitive small mammal species determined to occur or have the potential to occur within the Plan Area are provided in Table C.4.3-3 in Appendix C. San Diego black-trailed jackrabbit (*Lepus californicus bennettii*), Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and San Diego woodrat (*Neotoma lepida intermedia*) have been documented in the Plan Area. There is potential for southern grasshopper mouse (*Onychomys torridus ramona*) to occur in the Plan Area. All five species are associated with the plant communities that would be conserved and managed under the HCP for the benefit of the Covered Species: grassland, chaparral, RAFSS, and Riversidean sage scrub. They also coexist with SBKR which was a priority for conservation and influenced the selection of conservation areas. Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to these plant communities. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The conserved habitat, collectively the HCP Preserve, consists of large interconnected blocks of some of the highest quality habitat in the Plan Area.

Prior to any ground disturbing activities, a qualified biologist will survey for San Diego black-tailed jack rabbits. If they are detected, the biologist shall passively relocate them out of the work area prior to ground disturbance if feasible. If an active warren is detected in an area where ground disturbance will occur, the warren will be avoided, if feasible, until the qualified biologist determines it is no longer active. Dens that are determined to be inactive by the qualified biologist shall be collapsed by hand to prevent occupation of the burrow between the time of the survey and construction activities.

Prior to any ground disturbing activities, a qualified biologist will trap for Los Angeles pocket mouse, northwestern San Diego pocket mouse, southern grasshopper mouse, and Sand Diego desert woodrat as part of preconstruction SBKR surveys. For woodrats, the qualified biologist will also look for active nests and trap in their vicinity if one or more is found. For longer term projects where ground disturbance will be ongoing for more than two weeks or will occur in phases, SBKR exclusionary fencing of the type required by the HCP will be installed. For short-term projects, individual animals may be held in appropriate conditions for up to two weeks after capture and then relocated when the project is complete. All animals captured during the trapping surveys will be relocated to the nearest adjacent habitat within the Preserve under the direction of the Preserve Manager.

Determination: With the implementation of the proposed conservation measures impacts to special status small mammals would be less than significant. Additional mitigation is not required.

Effects on Badger from all Proposed Projects

The American badger (*Taxidea taxus*) is associated with the plant communities and soils that would be conserved and managed under the HCP for the benefit of the Covered Species: grassland, chaparral, RAFSS, and Riversidean sage scrub.

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to these plant communities. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The conserved habitat, collectively the HCP Preserve, consists of large interconnected blocks of some of the highest quality habitat in the Plan Area.

Prior to ground disturbing activities, a qualified biologist will survey for American badger. If badgers are detected, the biologist shall passively relocate badgers out of the work area prior to ground disturbance, if feasible. If an active den is detected in an area where ground disturbance will occur, the den will be avoided, if feasible, until the qualified biologist determines it is no longer active. Dens that are determined to be inactive by the qualified biologist shall be collapsed by hand to prevent occupation of the burrow between the time of the survey and construction activities.

Determination: With the implementation of the proposed conservation measures, impacts to American badger would be less than significant. Additional mitigation is not required.

Effects on Bats from all Proposed Projects

There are two special status species of bats which may occur in the Plan Area, the western mastiff bat (*Eumops pertis californicus*) and pallid bat (*Antrozous pallidus*).

The western mastiff bat is in the family Molossidae. There are currently three recognized subspecies, with *Eumops perotis californicus* (western mastiff bat) the only subspecies occurring in North America (Wilson and Reeder 2005). The western mastiff bat occurs in a wide variety of habitats, including chaparral and scrub communities, in the vicinity of their roost sites. Day roosts are established in

crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical (Best et al. 1996), as well as in trees and tunnels (Zeiner et al. 1990).

The pallid bat (*Antrozous pallidus*) is the only species in the genus *Antrozous* of the family Vespertilionidae (Hermanson and O'Shea 1983; Hooper et al. 2003). The pallid bat is widespread throughout the western United States. Pallid bats occur in a variety of habitats including grasslands and shrublands. Pallid bat day roosting habitat typically includes rocky outcrops, cliffs, and spacious crevices. They have been known to use a variety of other substrates for roosts including stone piles (Beck and Rudd 1960; Rambaldini 2006) and live trees and snags in mature forest stands (Baker et al. 2008).

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities which may be used by one or more of the special status bat species. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities.

There are a limited number of potential roost sites within the Plan Area. It is likely that most bats which forage in the Plan Area are roosting in cliffs and crevices or manmade structures (e.g., buildings and bridges) outside its boundaries. However, some roosting could be occurring in trees, rock piles and other suitable substrates within the Plan Area. Prior to the removal of any rock piles, trees, or other suitable bat roosting sites, a qualified bat biologist will conduct a survey for roosting bats. If roosting bats are found, construction, operation and maintenance activities will avoid the bat nesting season.

Determination: In consideration of the conservation measures which would be implemented to conserve foraging habitat and to minimize impacts, and the limited number of suitable roosting sites that occur and which might be removed, impacts to special status bats would be less than significant. Additional mitigation is not required.

Effects on Migratory Birds from all Proposed Projects

Sensitive bird species determined to occur or have the potential to occur within the Plan Area are provided in Table C.4.3-4 in Appendix C.

Construction and O&M projects which are Covered Activities/Proposed Projects in the HCP could affect breeding birds. In order to minimize these effects, the following conservation measure will be implemented:

If construction-related activities are to occur during the nesting season (February 1 through September 15), a qualified biologist will conduct a preconstruction survey of the proposed construction area and an appropriate buffer. If nesting habitat for owls is present, the nest season will be considered as starting January 1. This preconstruction survey will commence no more than 72 hours prior to the onset of construction. If an active nest is observed, an appropriate buffer will be established until nesting is completed.

A number of Best Management Practices will also be implemented which will provide protection to migratory birds and other resources (see HCP Section 5.5, Impact Avoidance and Minimization Measures).

Planned restoration activities, such as cactus planting, control of invasive species, and restoration of fluvial processes to portions of the Plan Area, while developed to benefit Covered Species, will also benefit migratory birds by improving their habitat.

Determination: With implementation of the proposed conservation measures, impacts to migratory birds would be less than significant. Additional mitigation is not required.

Effects on Burrowing Owl from all Proposed Projects

Suitable habitat for burrowing owl in the Plan Area includes grasslands, RSS and RAFSS. They may also be found on the earthen levees and berms of canals and ground water spreading basins. Burrowing owls have been detected in the Plan Area but they are not common. There are two recorded occurrences, both from the San Bernardino County Museum. They were in disturbed habitat and intermediate RAFSS, one in the vicinity of the Seven Oaks Dam borrow pit and the other in area of the spreading basins to the west of the borrow pit (Appendix M of the 2008 EIR). There is a NDDB record for burrowing owl just east of the San Bernardino International Airport which to the west of the Plan Area.

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities, significant portion of which could potentially be used by burrowing owls. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing the same communities.

To minimize impacts to burrowing owl, the breeding season for this species will be avoided if feasible when conducting ground disturbing activities. If it cannot be avoided pre-construction surveys and active nest avoidance measures will be taken, as needed, following the avoidance and minimization measure for migratory birds. Mitigation measures will be implemented as necessary per the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012), published March 7, 2012, be used in developing the final burrowing owl mitigation measures for burrowing owl. If the measures are updated or superseded, the current accepted protocol will be followed. The guidelines include avoidance of nests during nesting season and measures to relocate owls during the non-nesting season. If owls must be relocated, it will be to the nearest suitable habitat within the Preserve.

Determination: In consideration of the suitable habitat that would be conserved, the minimization measures that would be implemented and the relatively few individuals that are thought to forage or reside in the Plan Area, impacts to burrowing owl would be less than significant. Additional mitigation is not required.

Effects on Short-eared Owl from all Proposed Projects

The short-eared owl would be expected to forage in grassland and areas with low shrub cover within the Plan Area. There has been only one report of a short-eared owl within the Plan Area and it is outside of their breeding range, so it is expected to be an uncommon or rare winter resident or migrant. Of the 1,569.1 acres of habitat to be conserved and managed to offset permanent impacts of 553.2 acres, much of it has low shrub cover which would provide foraging opportunities for the short-eared owl.

Determination: With implementation of the proposed conservation measures in the HCP, impacts to short-eared owl would be less than significant. Additional mitigation is not required.

Effects on Cooper's Hawk from all Proposed Projects

The Plan Area contains marginal nesting habitat at best. The nearest NDDB occurrence record is approximately 6 miles south in San Timoteo Canyon, but it is expected that Cooper's hawk's periodically visit and forage within the Plan Area.

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities, portions of which could be used by foraging Cooper's hawks. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing the same communities.

The breeding season for this species will be avoided if feasible when conducting ground disturbing activities. If it cannot be avoided pre-construction surveys and active nest avoidance measures will be taken, as needed, following the avoidance and minimization measure for migratory birds. If an active nest is detected during pre-construction surveys, it will be avoided until nesting is complete. If a nest tree or grove is removed by a Covered Activity/Proposed Project, the habitat will be restored at a suitable location determined in consultation with the Preserve Manager. Performance standards for the restoration will be developed in coordination with the Preserve Manager and provided to the Preserve Management Committee for their review and approval.

Determination: With implementation of the proposed conservation measures, impacts to Cooper's hawk would be less than significant. Additional mitigation is not required.

Effects on White-tailed Kite from all Proposed Projects

According to Appendix M of the 2008 EIR, a kite was detected during surveys in the mid-1990's for the aggregate mines. There are no other records.

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities which may be used by white-tailed kite for foraging. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The conserved habitat (HCP Preserve) consists of large blocks of contiguous, interconnected habitat which is desirable to white-tailed kite for foraging, and aggregate mining, the Covered Activity/Proposed Project with the highest level of human disturbance, will be consolidated next to existing mining areas,

minimizing its effects to conserved areas. Permanent impacts to non-native grassland, 24.1 acres, will be almost as great as those conserved, 28.4 acres. However, there are a number of places in the Plan Area which consist of a mosaic of grassland and shrubs which are open enough that they could serve as foraging habitat.

Determination: With the implementation of the proposed conservation measures including habitat conservation and avoidance and minimization measures, impacts to white-tailed kite would be less than significant. Additional mitigation is not required.

Effects on Golden Eagle from all Proposed Projects

The Plan Area offers a number of habitats which could be used by golden eagle and it has been seen flying over the Plan Area. It is also known to nest in the vicinity.

Nesting habitat is largely absent; suitably sized trees are rare in the Plan Area and cliffs with suitable ledges, their preferred nest sites can be found offsite.

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities, portions of which could be used by golden eagles for foraging. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The conserved habitat (HCP Preserve) consists of large blocks of contiguous, interconnected habitat which is desirable to golden eagles for foraging, and aggregate mining, the Covered Activity/Proposed Project with the highest level of human disturbance, will be consolidated next to existing mining areas, minimizing its effects to conserved areas.

The breeding season for this species will be avoided if feasible when conducting ground disturbing activities. If it cannot be avoided pre-construction surveys will be conducted and active nest avoidance measures will be taken, as needed, following the avoidance and minimization measure for migratory birds.

Determination: In consideration of the proposed conservation measures which will be implemented including the conservation of large blocks of suitable foraging habitat, the low potential for nesting golden eagle in the Plan Area, and the avoidance and minimization measures that will be implemented, impacts to golden eagle would be less than significant. Additional mitigation is not required.

Effects on Prairie Falcon from all Proposed Projects

Nesting habitat is not present in the Plan Area but prairies falcons have been seen flying over the Plan Area and may occasionally forage there.

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities, portions of which could be used by prairie falcon for foraging. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities.

Determination: With implementation of the proposed conservation measures, impacts to prairie falcon would be less than significant. Additional mitigation is not required.

Effects on Loggerhead Shrike from all Proposed Projects

The loggerhead shrike (*Lanius ludovicianus*) is known to the Plan Area and likely is a year-round resident. Open country with scattered shrubs and trees is the typical habitat of loggerhead shrike. Of the 1,569.1 acres of habitat to be conserved and managed to offset permanent impacts of 553.2 acres, much of it provides nesting and foraging opportunities for loggerhead shrike.

The breeding season for this species will be avoided if feasible when conducting ground disturbing activities. If it cannot be avoided pre-construction surveys and active nest avoidance measures will be taken, as needed, following the avoidance and minimization measure for migratory birds. If an active nest is detected during pre-construction surveys, it will be avoided until nesting is complete.

Determination: With implementation of the proposed conservation measures, impacts to loggerhead shrike would be less than significant. Additional mitigation is not required.

Effects on California Horned Lark from all Proposed Projects

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities, portions of which could be used by California horned lark for foraging. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The breeding season for this species will be avoided if feasible when conducting ground disturbing activities. If it cannot be avoided pre-construction surveys and active nest avoidance measures will be taken, as needed, following the avoidance and minimization measure for migratory birds will be implemented.

Determination: With implementation of the proposed conservation measures, impacts to the California horned lark would be less than significant. Additional mitigation is not required.

Effects on Southern California Rufous-crowned and Bell's Sparrow from all Proposed Projects

These birds spend much of their time under the cover of vegetation, often foraging or running across the ground instead of flying. This species is sensitive to fragmentation and edge effects, and is thus dependent on larger patches of sage scrub/open chaparral habitat. In surveys conducted Appendix M of the 2008 EIR, Southern California rufous-crowned sparrows were detected in a number of locations across the Plan Area.

Bell's sparrow is a common to uncommon resident and summer visitor in California. It is not migratory in many areas. It frequents low, fairly dense stands of shrubs. In cismontane California it frequents chaparral dominated by chamise and coastal scrub (RSS and RAFSS in the Plan Area), dominated by sage (CDFW 2017). This species has been documented at more than one location in the Plan Area (Appendix M of the 2008 EIR).

Covered Activities/Proposed Projects will result in approximately 553.2 acres of permanent impacts to plant communities portions of which could be used by Southern California rufous-crowned and Bell's sparrows for foraging and nesting. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing these communities. The configuration of the conservation acreage, large blocks of interconnected habitat, would address Southern California rufous-crowned sparrows' sensitivity to edge effects and habitat fragmentation.

Determination: With implementation of the proposed conservation measures, impacts to Southern California rufous-crowned and Bell's sparrows would be less than significant. Additional mitigation is not required.

Effects on Wildlife Movement and Connectivity from all Proposed Projects

The HCP Preserve was designed with a priority given to maintaining and enhancing connectivity to existing and proposed conservation areas within the Plan Area. It was also designed to provide connectivity to existing conservation lands to the west of the Plan Area and to the upstream areas of Mill Creek and the Santa Ana River. This led to a pattern of conservation in and adjacent to the Santa Ana River and Mill and Plunge Creeks. To maintain connectivity between the Santa Ana River and Mill Creek, a contiguous area between them was included in the Preserve. This area, known as the breakout area, was flooded in 1938 and 1969 when a portion of the Santa Ana River broke out of its normal east-west reach in this area and flowed northwest to Plunge Creek. To enhance existing connectivity between the two areas, an earthen ramp will be constructed to serve as a wildlife crossing where existing ground water recharge basins extend into the linkage area. Non-native annual grasses will be controlled in linkage areas to enhance the quality of the habitat. This will provide more habitat for SBKR and other species within the linkages. The Preserve design is also consistent with and helps preserve two regional wildlife corridors identified by South Coast Wildlands within the vicinity of the Plan Area; an east to west corridor along Mill Creek, south of the Project site; and a wildlife corridor that follows the Santa Ana River into the San Bernardino Mountains. Implementation of the conservation measures is expected to have a beneficial effect to Covered and Other special status species.

Determination: Habitat linkages within the Plan Area and between it and other areas would be conserved and the linkage between the Santa Ana River and Plunge Creek would be improved through the construction of a crossing over the recharge basins and the control of non-native plants to enhance the habitat. Based on these conservation measures, impacts to wildlife movement and connectivity would be less than significant. Additional mitigation is not required.

Effects of Construction and Operations and Maintenance Activities from all Proposed Projects

Fugitive Dust

Excessive dust from construction activities can decrease the vigor and productivity of vegetation communities through effects on light penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. It is expected that ground disturbing activities will produce dust which could result in these effects.

To address the effects of dust, the Best Management Practices included in the HCP include a requirement to control dust. See Section 5.5 in the HCP.

Noise

Construction noise and vibration may affect behavior of wildlife in several ways. Excessive noise may affect birds by causing them to abandon nests; noise may raise levels of stress, interfering with sleep and other activities; and noise can interfere with communication by masking important sounds (Dooling 2006). Similar effects may occur in other taxa. Noise may interfere with communication in toads and frogs, which use calls to advertise their location and attract mates (Barrass and Cohn 1984).

To address the effects of noise, the HCP includes the following measure: Covered Activities/Proposed Projects adjacent to or surrounded by the HCP Preserve or other natural areas that generate noise in excess of 60 dBA Leq hourly will incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent HCP Preserve or other natural areas. Noise must be reduced to 60 dBA Leq at the edge of the HCP Preserve. Berms and other noise abatement measures will only be employed at permanent facilities when noise impacts are ongoing. The berm or other noise abatement measure will be placed within the footprint of the Covered Activity/Proposed Project.

Lighting

Lighting can affect both diurnal and nocturnal wildlife. Birds may be attracted to lights suffering injury or mortality due to collisions with lighted structures. Insects who are attracted to light sources may be taken by bats resulting in higher than normal mortality. Wildlife may avoid lighted portions of their home ranges. Wildlife reproduction may be affected by lighting in various ways. Movement to breeding areas, chorus behavior, and mate selection by some amphibians may be affected (Longcore and Rich 2004). Lighting may disturb the nighttime rest and sleep periods of diurnal bird species and may cause them to abandon nests.

To address the effects of light, the HCP includes the following measure: Covered Activities/Proposed Projects, including new project construction and ongoing construction (e.g., aggregate mining), will take place during the daylight hours to the extent feasible. If nighttime work is unavoidable, lighting will be shielded away from the HCP Preserve. Fixtures will be shielded to downcast below the horizontal plane of the fixture height and mounted as low as possible. Permanent nighttime lighting of facilities within the Preserve should be avoided. If permanent lighting is determined to be unavoidable for a Covered Activity/Proposed Project (e.g., required by existing law or regulation), a nighttime lighting plan will be prepared by the affected Participating Entity and presented to the Conservation District for its review and approval. To minimize their effects on the Preserve, the plan will include fixtures that shield the light away from the Preserve, are mounted as low as possible, and use the least intrusive type of lighting available (e.g., LED or low sodium lighting).

Determination: With implementation of the proposed conservation measures to reduce the impacts from fugitive dust, noise and light, impacts would be less than significant. Additional mitigation is not required.

Effects on Jurisdictional Waters from all Proposed Projects

Jurisdictional waters on-site (e.g., creeks, streams, and drainages) are protected by state and federal regulations as administered by the United States Army Corps of Engineers (USACE), California Regional Water Quality Control Board (RWQCB), and CDFW. The USACE regulates the discharge of dredged material, placement of fill material, or excavation within waters of the United States through Section 404 of the Clean Water Act. The RWQCB requires issuance of a Section 401 water quality certification for impacts to jurisdictional waters of the State. The CDFW regulates impacts to beds, channels, or banks of any river, stream, or lake through Section 1602 of the California Fish and Game Code (CFGF).

Covered Activities/Proposed Projects which may affect state or federal jurisdictional waters include proposed wells, water conservation facilities, mining, flood control facilities construction and maintenance, and transportation projects. Jurisdictional delineation surveys will be prepared by the District and/or Participating Entities for those areas demonstrating riparian habitat or stream or river flows. The jurisdictional delineation surveys will comply with California Fish and Game Code Sections 1600–1616 and Section 404 requirements from the USACE for any discharge of dredged or fill material in jurisdictional waters of the U.S. A Section 401 Certification from the RWQCB could also be required.

Preliminary estimates of impacts to waters of the US was completed by the Conservation District. Permanent impacts from Covered Activities/Proposed Projects on waters of the US based on the US Geologic Survey's National Hydrography Area is 7.8 acres and based on the HCP SBKR Ecological Process Areas (wetted areas within active channels) is 2.2 acres. The Covered Activity/Proposed Project Elder/Plunge Creek Restoration – Reasonably Foreseeable Project is anticipated to result in approximately 13 additional acres of wetted areas within the active channel and potentially waters of the US.

If jurisdictional areas are identified at the site of proposed Covered Activities/Proposed Projects, CWA § 401 and § 404 and the State Fish and Game Code § 1600 et seq. may apply. Any such areas are likely to be small and isolated from larger more valuable habitat areas; consequently, impacts will be less than significant through avoidance and mitigation resulting from any ACOE and/or CDFW jurisdictional permitting actions that may be required. During jurisdictional permit actions, resources will be located and impacts and mitigation measures identified. Mitigation measures typically include avoidance, replacement, or participation in in-lieu fee programs such as regional mitigation banks.

Determination: Impacts to jurisdictional areas would be less than significant with mitigation. Additional mitigation is not required.

Effects on Local Policies from all Proposed Projects

Goals, policies, and ordinances applicable to the Plan Area are detailed in Appendix B, *Biological Regulations*. The Covered Activities/Proposed Projects are consistent with the applicable goals, policies, and ordinances of the City of Redlands, the City of Highland, and the County of San Bernardino. Each of these municipalities promotes the conservation of biological resources including habitat and species

within their respective *General Plans*. Although Covered Activities/Proposed Projects are anticipated to have adverse impacts on sensitive biological species and their habitats in the Plan Area, implementation of the HCP would provide substantial beneficial impacts to these species by preserving, enhancing, managing and monitoring the habitat that supports them for the long-term. Therefore, the Covered Activities/Proposed Projects will not conflict with local policies and ordinances protecting biological resources; no impact would occur.

Effects on Habitat Conservation Plan from all Proposed Projects

The Proposed Action/Projects include the approval and implementation of the HCP, There are no existing adopted HCPs or Natural Community Conservation Plans (NCCP) within the Plan Area. Therefore, the Proposed Action/Projects would not conflict with a HCP or NCCP; no impacts would occur.

MITIGATION MEASURES

The following compliance implementation guidance is provided as a means of avoiding and minimizing adverse impacts to biological resources that occur, or have the potential to occur, within the Plan Area:

BIO MM-1 Pre-Project Nesting Bird Surveys

In order to comply with the relevant sections of the CFGC (e.g., 3503, 3503.4, 3504, 3505, etc.), and to reduce adverse impacts to sensitive birds, any Covered Activities/Proposed Projects that require ground disturbance and/or vegetation clearing should take place outside of the typical avian nesting season (i.e., March 1 to August 30), to the maximum extent practical. However, if ground disturbance and/or vegetation clearing cannot be conducted outside of the nesting season, a pre-construction nesting bird survey shall be conducted by a qualified biologist. The survey shall occur prior to initiation of project activities, and any occupied passerines and/or raptor nests occurring within or adjacent to the project footprint shall be delineated. If an active bird nest is located, the biologist shall establish, implement, and monitor avoidance and minimization measures to ensure compliance with all applicable laws and regulations related to nesting birds. Once nesting has been determined to cease, the buffer may be removed.

BIO MM-2 Jurisdictional Permitting

Prior to initiating Covered Activities/Proposed Projects with the potential to impact waters of the US/State, a formal Jurisdictional Delineation shall be conducted and if waters of the US/State, including wetlands, cannot be entirely avoided, a 404 permit from USACE, 401 Water Quality Certification from the Regional Water Quality Control Board, and 1600 Streambed Alteration Agreement from CDFW shall be obtained. Project specific mitigation shall be determined with these agencies on a project-by-project basis. Project specific mitigation shall be consistent with the agencies policies and the

guidelines at the time permits are obtained for a project. Each project shall mitigate for a minimum of equal or superior function and value of streambed and habitat affected.

RESIDUAL IMPACTS AFTER MITIGATION

No residual impacts related to sensitive biological resources would occur after implementation of the proposed conservation measures of the HCP and Mitigation Measures MM BIO-1 and MM BIO-2 for the Proposed Projects. Impacts would be reduced to less than significant.

4.4.1.3 Alternative C: 2008 Land Management Plan

Alternative C, the 2008 Land Management Plan³ was prepared by the Conservation District to describe the comprehensive land management strategy necessary to maintain public services, to provide construction aggregate materials, and to preserve sensitive plant and wildlife habitat. Alternative C outlined a conceptual plan for how to coordinate and manage the present and future activities in the Upper Santa Ana River Wash and balance the ground-disturbing activities of aggregate mining, recreation, water conservation and other public services with preservation of quality, natural habitat for endangered, threatened, and sensitive species.

As with the 2019 HCP, part of Alternative B, Alternative C focused on the conservation of four federally listed species, the endangered SBKR, woolly-star, and spineflower, and the threatened gnatcatcher. Unlike Alternative B, Alternative C did not provide for conservation of the cactus wren.

A Habitat Enhancement Plan (HEP) was proposed for preparation as part of Alternative C but few details were provided other than goals such as maintenance of habitat for the state and federally listed species, the maintenance of native vegetation communities including RAFSS and surveys for and the eradication of exotic species (FEIR Chapter 4.4, Mitigation Measures). Specific avoidance and minimization measures were not developed for special status species.

Vegetation Communities

The Covered Activities/Proposed Projects as described in the Alternative C would result in approximately 719 acres of permanent impacts to native plant communities including RAFSS, RSS and chaparral. These impacts would be mitigated for by the conservation and management of approximately 1,347 acres of habitat containing these communities.

Riversidean Alluvial Fan Sage Scrub

As stated above under Alternative B, RAFSS is considered a rare natural community in the State of California, with a Rarefind occurrence ranking of 1.1. It occurs in three different seral stages in the Plan Area, pioneer, intermediate and mature. Alternative C would conserve a minimum of 1,496 acres of RAFSS, in a combination of all seral stages and combinations with non-native grassland.

³ The full name of the plan is the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan Document.

If adopted, Alternative C would conserve approximately 312 fewer acres of habitat (much of it RAFSS) than would be conserved by implementation of the 2019 HCP under Alternative B, and it would result in approximately 88 more acres of permanent impacts than Alternative B. A comparison of the permanent impacts from proposed activities and the proposed conservation for each of the two alternatives can be found in Table 4.4-5 below. In addition, Alternative C does provide few specifics on how RAFSS and other habitat would be maintained.

Determination: Implementation of the Alternative C would not provide adequate conservation to address impacts to RAFSS from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Covered Species

While lacking in specifics, the Alternative C stated that it would maintain adequate habitat for the four federally listed species and that there would be surveys for and eradication of exotic plants. Alternative C would conserve fewer known locations of woolly-star and spineflower and less gnatcatcher and SBKR habitat. Table 4.4-8 below, provides the increase in species conservation in the 2019 HCP as compared to the 2008 Land Management Plan.

**Table 4.4-4: Increase in Covered Species Conservation in 2019
HCP from 2008 Land Management Plan**

Species	Increase by Unit	Percent Increase
<i>Slender-horned spineflower</i>		
Locations	32	25%
<i>Santa Ana River woolly-star (grid cells)</i>		
Individuals	103	14%
1-25	161	18%
25-50	48	16%
>50	17	8%
<i>Woolly-star Subtotal</i>	<i>329</i>	<i>15%</i>
<i>San Bernardino kangaroo rat (acres)</i>		
High	61	15%
Medium	98	21%
Low	175	27%
<i>SBKR Subtotal</i>	<i>335</i>	<i>22%</i>
<i>Coastal California gnatcatcher (acres)</i>		
High	10	12%
Medium	72	24%
Low	267	14%
<i>Gnatcatcher Subtotal</i>	<i>350</i>	<i>15%</i>

As stated above, Alternative C provides fewer acres of conservation and allows for more permanent impacts than Alternative B. This would result in less conservation of Covered Species. It also provides few specifics about how the habitat would be maintained.

Table 4.4-5: Comparison of Permanent Impacts between the Alternatives B and C

Land Use Types	Alternative C 2008 Management Plan (Acres)	Alternative B 2019 HCP (Acres)
<i>Permanent Impacts</i>		
New Groundwater Recharge Basins	238	150
New Mining	434	402
Transportation	47	35
Trails	0	9
Flood Control	0	18
Wells and Water Infrastructure	0	17
<i>Total of Permanent Impacts:</i>	<i>719</i>	<i>631</i>
<i>Conservation</i>		
District Conserved	673	963
District Managed	670	696
<i>Total Conservation:</i>	<i>1,347⁴</i>	<i>1,659</i>

Implementation of Alternative C would allow mining of an area between two existing mining pits containing spineflower (after relocation of the plants) with no contingency. Development of this area in the 2019 HCP is contingent upon the establishment of six new spineflower areas within the HCP Preserve.

Effects on Slender-horned Spineflower

Implementation of Alternative C would be expected to have adverse effects on spineflower. Mining of an area between two existing mining pits containing spineflower would be allowed after relocation of the plants without any contingency. It would result in 88 more acres of permanent impacts and conserve 312 less acres. This would result in 25% less conservation of spineflower (based on unit locations).

Determination: Implementation of Alternative C would not provide adequate conservation to address the impacts to slender-horned spineflower from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Santa Ana River Woolly-star

Implementation of Alternative C is expected to have adverse effects on woolly-star. Alternative C would permanently impact 88 more acres and conserve 312 less acres of woolly-star habitat than Alternative B. This would result in 15% less conservation of woolly-star (based on individuals in grid cells).

⁴ This represents the minimum (guaranteed) acreage which would be conserved in the 2008 Management Plan.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to woolly-star from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Cactus Wren

Implementation of Alternative C is expected to have direct and indirect adverse effects on cactus wren, including both potential nesting and foraging habitat. It would have 88 more acres of permanent impacts than Alternative B, and it would conserve 312 fewer acres, reducing the amount of cactus wren nesting and foraging habitat.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to cactus wren from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on California Gnatcatcher

Implementation of Alternative C is expected to have adverse effects on gnatcatcher. It would have 88 more acres of permanent impacts than Alternative B, and it would conserve 312 fewer acres. Alternative C conserves 430 fewer acres of gnatcatcher habitat; 12 acres of high quality habitat, 74 acres of medium quality, and 344 acres of low quality habitat, respectively. In addition, there would not be a comprehensive management plan for the conserved areas as proposed in Alternative B.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to gnatcatcher from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on San Bernardino Kangaroo Rat

Implementation of Alternative C would have 88 more acres of permanent impacts than Alternative B, and it would conserve 312 fewer acres. All of this acreage is critical habitat and the majority of it is known or thought to be occupied by SBKR, so its loss would have adverse effects. In addition, there would not be a comprehensive management plan for the conserved areas as proposed in Alternative B.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to SBKR and its critical habitat from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Other Special Status Species

The 2008 Land Management Plan evaluated non-covered special status species. These included migratory birds, reptiles and amphibians, small mammals and rare plants. Special status species known to occur, or with the potential to occur, in the study area are summarized in Table 3.4-2, *Special Status Plant Species Potentially Occurring within the Wash Plan HCP Area* and Table 3.4-3, *Special Status*

Wildlife Species Potentially Occurring within the Wash Plan HCP Area. These species were not proposed for coverage under the 2008 Land Management Plan. The evaluation of impacts to species was based upon:

- Existing Biological Conditions Report for the Upper Santa Ana River Habitat Conservation Plan, prepared by Dudek, February 2007 (attached as Appendix E-1 of the 2008 EIR);
- Slender-horned Spineflower Enhancement and Relocation Plan, prepared by United States Fish and Wildlife Service, November 2007 (attached as Appendix E-2 of the 2008 EIR);
- Robertson's Ready Mix Santa Ana Wash Development Agreement and Annexation to the City of Highland Draft Environmental Impact Report, prepared by Lilburn Corporation, June 1997;
- Sunwest Materials Santa Ana Wash Development Agreement Draft Environmental Impact Report, prepared by Lilburn Corporation, May 1997; and
- A site visit by LSA Associates, Inc. on February 16, 2007.

More details about each species are provided in Appendix M of the 2008 EIR.

Effects on Special Status Plant Species

Special status plant species include state or federally listed threatened or endangered species, those proposed for listing, candidate species for listing, or considered a Species of Special Concern. In addition, plants included on Lists 1B, 2, 3, or 4 of the CNPS Inventory are also considered special-status species. Plant species were evaluated for their potential to occur within the management plan area boundaries based on habitat requirements, availability and quality of suitable habitat, and known distribution. Species determined to occur or which had the potential to occur within the area of Alternative C can be found in Table C.4-1, *Non-Covered Sensitive Plant Species Present or with Potential to Occur in the Plan Area and Avoidance and Mitigation Measures*, of Appendix C.

In addition to woolly-star and spineflower, four other rare plants were documented within the management plan area, Parry's spineflower (*Chorizanthe parryi* var. *parryi*), Plummer's mariposa lily (*Calochortus plummerae*), Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*), and California spineflower (*Mucronea californica*). California satintail (*Imperata brevifolia*) and San Bernardino aster (*Symphyotrichum defoliatum*) also have the potential to occur there. All six plants are associated with the plant communities and soils present within the management plan area: chaparral, RAFSS, and RSS. California satintail may also occur in wetlands.

Although maintenance of the associated plant species in the HEP would have been beneficial to the five special status plant species found to occur in the management plan area, no pre-project surveys or seed collection and planting measures specifically for the special status plant species are included in Alternative C.

Alternative C would have 88 more acres of permanent impacts and would conserve 312 fewer acres than Alternative B, adversely affecting special status plant species.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to special status plant species from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Special Status Fish

The federally endangered Santa Ana sucker (*Catostomus santaanae*) was not addressed in the 2008 Land Management Plan. However, significant portions of its critical habitat were included in the proposed habitat conservation areas. The primary difference between Alternative C and Alternative B is that under Alternative C, Flood Control lands in the Santa Ana River, 318.1 acres, do not have a conservation designation. No permanent impacts were contemplated and temporary impacts would be limited to a few acres to keep areas around structures such as highway bridges over the Santa Ana River free of debris, but the lands do not receive protected status. In Alternative B, 172.0 acres of the 318.1 acres of Flood Control lands in the Santa Ana River are designated as SBCFCD Conserved and would become part of the Preserve, and the balance, 146.1 acres, have been earmarked for future conservation by Flood Control.

Permanent impacts to Santa Ana sucker critical habitat, although not quantified in Alternative C, would be similar to those in Alternative B. This conclusion is based on the fact that the impacts as depicted and described in Alternative C are almost exclusively outside of the designated critical habitat areas.

As stated under Alternative B, upland habitats provide a source of coarse sediments for transport by the stream and storm waters. Covered Activities/Proposed Projects resulting in permanent impacts, primarily in upland areas, under Alternative C, could be 88 acres greater in Alternative C than in Alternative B. Permanent impacts would be offset by the conservation of a minimum of 1,347 acres in both designated critical habitat and upland areas.

Determination: Alternative C would largely avoid Santa Ana Sucker critical habitat and substantial areas of upland habitat would be set aside for conservation, providing a source of coarse sediments. Therefore, with implementation of the proposed conservation measures, impacts to Santa Ana sucker would be less than significant. Additional mitigation would not be required.

Effects on Special Status Reptiles and Amphibians

Southern California legless lizard (*Anniella stebbinsi*), western spadefoot toad (*Spea hammondi*), and San Diego horned lizard (*Phrynosoma coronatum blainvillei*) have been documented within the management plan area. Northern red-diamond rattlesnake (*Crotalus ruber ruber*) and coastal western whiptail (*Aspidoscelis tigris stejnegeri*) also have the potential to occur in the management plan area. All five species are associated with the plant communities and soils present within the management plan area: chaparral, RAFSS, and RSS. Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts to these plant communities.

Although maintenance of the associated plant species in the HEP would have been beneficial to the five special status reptile and amphibian species found to occur in the management plan area, no surveys or relocation plan specifically for the special status species were included as part of Alternative C.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to special status reptiles and amphibians from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Special Status Small Mammals

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and San Diego desert woodrat (*Neotoma lepida intermedia*) have been documented in the management plan area. There is also potential for southern grasshopper mouse (*Onychomys torridus Ramona*). All five species are associated with the plant communities and soils present within the management plan area: chaparral, RAFSS, and RSS. Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts to these plant communities that support these sensitive mammal species.

Alternative C requires the preparation and implementation of an HEP. The 2008 EIR stated that the HEP would include surveys for and the eradication of non-native plants. The goal was to maintain adequate habitat for the four listed species, but also included maintenance of the associated plant communities. Maintenance of the associated plant communities in the HEP would have been beneficial to the five special status small mammal species found to occur or with the potential to occur in the management plan area.

Alternative C does not include pre-project surveys or relocation plans for small mammals potentially impacted by Covered Activities/Proposed Projects.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to special status small mammals from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Badger

The American badger (*Taxidea taxus*) was associated with the plant communities and soils present within the management plan area: chaparral, RAFSS, and RSS. Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts to these plant communities. Alternative C would have 88 more acres of permanent impacts and conserve 312 acres less than Alternative B. The majority of this habitat is suitable for badger, so its loss would be expected to adversely affect badger.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to badger from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Bats

There were two special status species of bats determined to potentially occur in the management plan area, the western mastiff bat (*Eumops pertis californicus*) and the pallid bat (*Antrozous pallidus*). The western mastiff bat occurs in a wide variety of habitats, including chaparral and scrub communities, in the vicinity of their roost sites. Pallid bats occur in a variety of habitats including grasslands and shrublands. The plant communities associated with the management plan area where the bats might occur include RSS, RAFFS, and riparian areas. Implementation of Alternative C would result in permanent impacts to approximately 507.3 acres of the total 3,275 acres of these plant communities within the entirety of the management plan area. Alternative C also requires the preparation and implementation of a Habitat Enhancement Plan. The goal of the plan was to maintain adequate habitat for the four listed species, but also special status species that utilize the same habitats.

Although maintenance of the associated plant species in the Habitat Enhancement Plan would have been beneficial to these bats, no surveys or relocation plans specifically for the bats were included as part of Alternative C.

Determination: Implementation of Alternative C would not provide adequate conservation to address impacts to special status bats from implementation of the plan. Therefore, impacts would be significant and unavoidable.

Effects on Migratory Birds

Construction and O&M projects which are Covered Activities/Proposed Projects in the 2008 Land Management Plan could affect breeding birds. In order to minimize these effects, the following conservation measure was included as part of Alternative C:

“Trees and other significant vegetation that may provide nesting habitat for migratory birds shall be removed from the construction areas by the District between September 1 and March 1, outside of the nesting season. If trees or other significant vegetation must be removed during the nesting season, a nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing. If nesting birds are found within the areas to be impacted by the project, the nest and a 100-foot buffer area (200 feet for raptors) around the nest shall be protected and maintained until the biologist determines that young have fledged and/or the nests are no longer active. The buffer area shall be delineated with orange construction fencing.”

Although the above measure would result in avoidance of impacts to some nesting birds, the avian nesting season is more accurately February 1 to September 15, and in some instances raptor nesting may begin as early as January 1, i.e., owls. In addition, nest buffers of 200 feet for raptors and 100 feet for all other birds would not be sufficient in some instances. Many species of raptors require much larger nest buffers, particularly when the construction activities are within line of site of the nest and/or the construction activities will generate significant noise. Richardson and Miller (1997) recommended monitoring raptor behavior prior to developing management recommendations and buffers to determine the extent to which individuals have been sensitized to human disturbance. The same is true

for song birds. Nest buffers of 300-500 feet are more typical for listed species such as least Bell's vireo and southwestern willow flycatcher. For species without standard nest buffers, the size of the buffer needs to be determined by a qualified biologist and will vary by circumstance. In addition, pre-construction surveys should be initiated closer to the beginning of construction than 14 days.

Determination: The proposed incorporation of breeding bird surveys and nest buffers would result in avoidance and minimization of some impacts to migratory breeding birds. However, the nesting bird season which would trigger preconstruction surveys is too narrow, the nest buffers if nesting birds were found would be insufficient in some cases, and conducting breeding bird surveys 14 days before ground disturbance/construction activities may result in missing birds which began to nest subsequent to the survey. For these reasons impacts to nesting migratory birds would be expected to still be significant after mitigation.

Effects on Burrowing Owl

Suitable habitat for burrowing owl in the management plan area includes grasslands, RSS and RAFSS. They may also be found on the earthen levees and berms of canals and ground water spreading basins. Burrowing owls were detected in the management plan area and more information can be found in Appendix M of the 2008 EIR.

Covered Activities/Proposed Projects as described in Alternative C would result in permanent impacts to approximately 507.3 acres of that could potentially be used by burrowing owl of the total 3,275 acres of these plant communities within the entirety of the management plan area.

To minimize impacts to burrowing owl, the following was included in Alternative C:

"Prior to construction, the District shall conduct a habitat assessment for burrowing owl. If habitat is observed, a focused burrowing owl survey shall be conducted during breeding season (March 1–August 31) per approved survey protocol. If occupied burrows are found, appropriate mitigation measures shall be implemented which may include one or more of the following in consultation with CDFW:

- Avoid disturbance within 160 feet of occupied burrows during non-breeding season and within 250 feet during breeding season; and/or
- If owls must be moved, passive relocation during the non-breeding season per CDFW recommendations shall be implemented.
- A burrowing owl pre-construction survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing in areas with potential borrowing owl habitat not previously mitigated. If nesting owls or occupied burrows are found within the areas to be impacted, the above mitigation measure shall be implemented."

The avoidance and minimization measures described above include preconstruction surveys for burrowing owl during the breeding season, stated as March 1 to August 31. The current recognized breeding season for burrowing owls is February 1 to August 31. In addition, recommended mitigation measures in the California Department of Fish and Wildlife's 2012 Staff Report on Burrowing Owl, non-breeding season surveys, avoidance of non-breeding burrowing owl burrows, and site-specific buffer zones, which could vary from those specified in the 2008 plan.

Determination: Although Alternative C incorporates avoidance, minimization and mitigation measures to protect burrowing owl, they are not sufficient to avoid potential impacts. Therefore, potential impacts to nesting burrowing owl would remain significant after mitigation.

Effects on Cooper's Hawk

The primary sensitivity for Cooper's hawks is during nesting. The management plan area contains marginal nesting habitat at best. The nearest NDDB occurrence record is approximately 6 miles south in San Timoteo Canyon, but it is expected that Cooper's hawks periodically visit and forage within the management plan area.

Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts the plant communities in the overall 3,275 acres management plan area that Cooper's hawks may utilize for foraging. In order to minimize these effects, the following conservation measure was included as part of Alternative C for migratory birds:

"Trees and other significant vegetation that may provide nesting habitat for migratory birds shall be removed from the construction areas by the District between September 1 and March 1, outside of the nesting season. If trees or other significant vegetation must be removed during the nesting season, a nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing. If nesting birds are found within the areas to be impacted by the project, the nest and a 100-foot buffer area (200 feet for raptors) around the nest shall be protected and maintained until the biologist determines that young have fledged and/or the nests are no longer active. The buffer area shall be delineated with orange construction fencing."

As stated previously, the extent of nest buffer necessary to avoid impacts to nesting raptors will vary by species and circumstance and should be determined on a case by case basis, and the trigger for nest surveys should begin February 1 (or earlier for some owl species). Also, surveys should be conducted closer to the beginning of construction than 14 days.

Determination: Although Alternative C incorporates avoidance, minimization and mitigation measures to protect the Cooper's hawk, they are not sufficient to avoid potential impacts. Therefore, impacts to Cooper's hawk would remain significant after mitigation.

Effects on White-tailed Kite

According to Appendix M of the 2008 EIR, a white-tailed kite was detected during surveys in the mid-1990's for the aggregate mines. There are no other records.

Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts the plant communities in the overall 3,275 acres management plan area that white-tailed kite may utilize for foraging or nesting. In order to minimize these effects, the following conservation measure was included as part of Alternative C for migratory birds:

“Trees and other significant vegetation that may provide nesting habitat for migratory birds shall be removed from the construction areas by the District between September 1 and March 1, outside of the nesting season. If trees or other significant vegetation must be removed during the nesting season, a nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to any grading or vegetation clearing. If nesting birds are found within the areas to be impacted by the project, the nest and a 100-foot buffer area (200 feet for raptors) around the nest shall be protected and maintained until the biologist determines that young have fledged and/or the nests are no longer active. The buffer area shall be delineated with orange construction fencing.”

As stated previously, the extent of nest buffer necessary to avoid impacts to nesting raptors will vary by species and circumstance and should be determined on a case by case basis, and the trigger for nest surveys should begin February 1 (or earlier for some owl species). Also, surveys should be conducted closer to the beginning of construction than 14 days.

The potential for white-tail kite is low, but it cannot be ruled out. Therefore, it is important that measures to prevent impacts to white-tail kite be sufficient to detect it, if present, and to sufficiently buffer nest sites to avoid disturbance and possible nest abandonment.

Determination: Although Alternative C incorporates avoidance, minimization and mitigation measures to protect white-tail kite, they are not sufficient to avoid potential impacts. Therefore, potential impacts to nesting white-tail kite would remain significant after mitigation.

Effects on Golden Eagle

Cliffs and large trees are used for nesting. The management plan area offers a number of habitats which could be used by golden eagle and it has been seen flying over the management plan area. It is also known to nest in the vicinity. Nesting habitat is largely absent in the management plan area; suitably sized trees are rare and cliffs are absent.

Implementation of Alternative C would result in approximately 719 acres of permanent impacts to plant communities, many of which could be used by golden eagle for foraging. This impact would be offset by the conservation of 1,347 acres. The conserved area would be in addition to lands already in conservation status in the area including the 526-acre WSPA and mitigation lands owned by the City of

Highland. Flood control lands, although not in conservation would be expected to remain largely undeveloped.

Determination: If Alternative C were implemented, it would result in the loss of foraging habitat for golden eagle. However, this loss would be offset by the conservation of 1,347 acres. This acreage, taken together with existing conservation lands, would provide golden eagle with substantial foraging opportunities. With mitigation, impacts to golden eagle would be less than significant.

Effects on Prairie Falcon

Nesting habitat is not present in the management plan area but prairies falcons have been seen flying over the area and may occasionally forage there.

Implementation of Alternative C would result in approximately 719 acres of permanent impacts to plant communities, many of which could be used by prairie falcon for foraging. This impact would be offset by the conservation of 1,347 acres. The conserved area would be in addition to lands already in conservation status in the management plan area including the 526-acre WSPA and mitigation lands owned by the City of Highland. Flood control lands, although not in conservation would be expected to remain largely undeveloped.

Determination: If Alternative C were implemented, it would result in the loss of foraging habitat for prairie falcon. However, this loss would be offset by the conservation of 1,347 acres. This acreage, taken together with existing conservation lands, would provide prairie falcon with substantial foraging opportunities. With mitigation, impacts to prairie falcon would be less than significant.

Effects on Loggerhead Shrike

The 3,275-acre management plan area contains sage scrub plant communities, much of it provides nesting and foraging opportunities for loggerhead shrike. Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts to these plant communities.

As described above, Alternative C included measures for loggerhead shrike and other migratory birds, including the removal of vegetation outside the nesting season when feasible and pre-construction surveys when not feasible. It also established nest buffers to be monitored by a biologist. However, as also stated above, the identified nesting season is not long enough, the pre-construction surveys are too far in advance of construction, and the buffers are set distances instead of being site and species specific as determined by a qualified biologist, in order to ensure the detection of all nesting birds and to establish appropriate buffers around active nests.

Determination: Although Alternative C incorporates avoidance, minimization and mitigation measures to protect loggerhead shrike, they are not sufficient to avoid potential impacts. Therefore, potential impacts to nesting loggerhead shrike, would remain significant after mitigation.

Effects on California Horned Lark

The California horned lark is a common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent. They are found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above tree line (CDFW 2017).

Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts to these plant communities of the overall 3,275-acre management plan area that may support the California horned lark.

As described above, Alternative C included measures for California horned lark and other migratory birds, including the removal of vegetation outside the nesting season when feasible and pre-construction surveys when not feasible. It also established nest buffers to be monitored by a biologist. However, as also stated above, the identified nesting season is not long enough, the pre-construction surveys are too far in advance of construction, and the buffers are set distances instead of being site and species specific as determined by a qualified biologist, in order to ensure the detection of all nesting birds and to establish appropriate buffers around active nests.

Determination: Although the proposed conservation would offset the permanent loss of habitat, potential impacts to nesting California horned lark would still be significant without additional measures to address nesting birds.

Effects on Southern California Rufous-crowned and Bell's Sparrow

These species is sensitive to fragmentation and edge effects, and is thus dependent on larger patches of sage scrub/open chaparral habitat. In surveys conducted for the 2008 EIR, Southern California rufous-crowned sparrows were detected in a number of locations across the management plan area.

Bell's sparrow is a common to uncommon resident and summer visitor in California. It is not migratory in many areas. It frequents low, fairly dense stands of shrubs. In cismontane California it frequents chaparral dominated by chamise and coastal scrub (RSS and RAFSS in the management plan area), dominated by sage (CDFW 2017). This species has been documented at more than one location in the management plan area (Appendix M of the 2008 EIR).

Implementation of Alternative C would result in approximately 507.3 acres of permanent impacts to these plant communities that support Southern California rufous-crowned sparrow and Bell's sparrow in overall 3,275-acre management plan area.

As described above, Alternative C included measures for Southern California rufous-crowned sparrow and Bell's sparrow and other migratory birds, including the removal of vegetation outside the nesting season when feasible and pre-construction surveys when not feasible. It also established nest buffers to be monitored by a biologist. However, as also stated above, the identified nesting season is not long enough to ensure the detection of all nesting birds, the pre-construction surveys are too far in advance of construction, and the buffers are set distances instead of being site and species specific as

determined by a qualified biologist, in order to ensure the detection of all nesting birds and to establish appropriate buffers around active nests.

Determination: Although the proposed conservation would offset the permanent loss of habitat, potential impacts to nesting Southern California rufous-crowned and Bell's sparrows would still be significant without additional measures to address nesting birds.

Effects on Wildlife Movement and Connectivity

Alternative C was designed with a priority given to maintaining and enhancing connectivity to existing and proposed conservation areas within the plan area. It was also designed to provide connectivity to existing conservation lands to the west of the plan area and to the upstream areas of Mill Creek and the Santa Ana River. This led to a pattern of conservation in and adjacent to the Santa Ana River and Mill and Plunge Creeks. To maintain connectivity between the Santa Ana River and Mill Creek, a contiguous area between them was included in the habitat conservation area of the plan. This area, known as the breakout area, was flooded in 1938 and 1969 when a portion of the Santa Ana River broke out of its normal east-west reach in this area and flowed northwest to Plunge Creek. The planned habitat conservation design is also consistent with and helps preserve two regional wildlife corridors identified by South Coast Wildlands within the vicinity of the plan area; an east to west corridor along Mill Creek, south of the plan area; and a wildlife corridor that follows the Santa Ana River into the San Bernardino Mountains. Implementation of the conservation measures is expected to have a beneficial effect on special status wildlife species in the plan area.

Determination: Habitat linkages within the management plan area and between it and other areas would be conserved. Impacts to wildlife movement and connectivity would be less than significant. Additional mitigation is not required.

Effects of Construction and Operations and Maintenance Activities

Fugitive Dust

Excessive dust from construction activities can decrease the vigor and productivity of vegetation communities through effects on light penetration, photosynthesis, respiration, transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases.

Alternative C included the following mitigation measures to reduce the level of emissions of particulate matter:

“The emissions of diesel particulate are expected to result in carcinogenic health risks that exceed the AQMD thresholds at nearby sensitive receptors. Applicable mitigation measures may include the following:

- Heavy-duty diesel equipment shall have exhaust particulate traps as certified and/or verified by EPA or California installed, if available.

- Heavy-duty diesel equipment shall be fitted with the most modern emission control devices and be kept in proper tune to minimize construction vehicle emissions, where feasible. This measure shall be monitored by the construction manager.”

All mining, flood control, and water conservation operations for proposed projects would also be required to comply with standard regional rules that assist in reducing air pollutant emissions, such as SCAQMD Rule 402 and Rule 403.

Noise

Construction noise and vibration may affect behavior of wildlife in several ways. Excessive noise may affect birds by causing them to abandon nests; noise may raise levels of stress, interfering with sleep and other activities; and noise can interfere with communication by masking important sounds (Dooling 2006). Similar effects may occur in other taxa. Noise may interfere with communication in toads and frogs, which use calls to advertise their location and attract mates (Barrass and Cohn 1984).

Alternative C did not contain any specific findings for noise as most of the covered projects were maintenance of existing facilities. Specific projects, when constructed, could result in significant short-term noise emissions during construction. These include the establishment of new aggregate mine and ground water recharge facilities. The future operation of new wells construction could result in noise emissions without the incorporation of minimization measures. Roadway construction noise impacts fell within the requirements of Highland and Redlands exterior noise standards.

Unlike Alternative B, Alternative C did not include avoidance and minimization measures for noise emissions such as setbacks, berms, or walls, to minimize the effects of noise on the adjacent conservation areas or other natural areas.

Lighting

Lighting can affect both diurnal and nocturnal wildlife. Birds may be attracted to lights suffering injury or mortality due to collisions with lighted structures. Insects who are attracted to light sources may be taken by bats resulting in higher than normal mortality. Wildlife may avoid lighted portions of their home ranges. Wildlife reproduction may be affected by lighting in various ways. Movement to breeding areas, chorus behavior, and mate selection by some amphibians may be affected (Longcore and Rich 2004). Lighting may disturb the nighttime rest and sleep periods of diurnal bird species and may cause them to abandon nests.

As determined in the 2008 Land Management Plan; the widening and construction of roadways would contribute light and glare impacts in the form of vehicular lighting, however, as existing roadways, light and glare impacts currently occur and new sources of light and glare would not be introduced. The volume of vehicles traveling on these roadways is not expected to increase to the point that a significant light and glare impact would result. No new or additional light sources would be added by the mining operations, however, existing lighting used for mining operations would be moved to other locations as new portions of the project are mined.

The movement of light sources to new areas and the installation of new lights associated with facilities such as new wells could have impacts on Covered and special status species without mitigation such as shielding to direct the light to the project area and away from adjacent wildland and the use of LED or low sodium lights.

Determination: Impacts from fugitive dust with incorporation of mitigation measures would be less than significant.

The noise impacts from Alternative C would be significant without the incorporation of measures to reduce or eliminate construction and ongoing sound emissions from new facilities.

Although new light sources would not be substantial under Alternative C, new lighting or lighting moved to new areas adjacent to the conservation areas could impact listed and special status species. Therefore, impacts from lighting would expected to be significant without mitigation measures.

Effects on Jurisdictional Waters

Jurisdictional waters on-site (e.g., creeks, streams, and drainages) are protected by state and federal regulations as administered by the USACE, California Regional Water Quality Control Board (RWQCB), and CDFW. The ACOE regulates the discharge of dredged material, placement of fill material, or excavation within waters of the United States through Section 404 of the Clean Water Act. A Section 401 water quality certification issued by the RWQCB is required for impacts to jurisdictional waters of the US. CDFW regulates impacts to beds, channels, or banks of any river, stream, or lake through Section 1602 of the California Fish and Game Code.

Alternative C included the following requirements for future water conservation facilities, the construction of the 5th Street Access Road, mining within the Plunge Creek Quarry, and all roadway improvement projects:

“Jurisdictional delineation surveys shall be prepared by the District, Robertson’s, and the City of Highland and/or Redlands for those areas demonstrating riparian habitat and historic river flows. The jurisdictional delineation surveys shall comply with California Fish and Game Code Sections 1600–1616 and Section 404 requirements from the USACE for any discharge of dredged or fill material in jurisdictional waters of the U.S. A Section 401 Certification from the RWQCB could also be required.”

Determination: Impacts to jurisdictional areas would be less than significant with mitigation.

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4.5 LAND USE

The purpose of this section is to analyze the impacts of the alternatives on land use, project consistency with relevant land use plans, and to recommend mitigation measures to avoid or lessen potential impacts, if needed.

This section was prepared using objectives and policies of the *City of Highland General Plan*, *City of Redlands General Plan*, *County of San Bernardino General Plan*, *Redlands Municipal Airport Land Use Compatibility Plan*, as well as the *California Environmental Quality Act (CEQA) Guidelines*. The information gleaned from these documents was analyzed for compliance for relevant thresholds found under the CEQA Guidelines Appendix G.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. An alternative would result in significant land use impacts if it would cause any of the following to occur:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.5.1 DIRECT AND INDIRECT EFFECTS

4.5.1.1 Alternative A: No Action

In the No Action Alternative, the USFWS would not issue a permit for incidental take of Covered Species. Current mining and water conservation would continue.

The Habitat Conservation Plan (HCP) would not be implemented. Individual projects within the Plan Area would have to be addressed independently as they are proposed. Each new project would be analyzed for CEQA and NEPA compliance. Proponents for each new project would have to avoid take of listed wildlife, and adverse effects to listed plants if a Federal nexus exists, to proceed with their projects without Federal Endangered Species Act (ESA)/NEPA compliance. Projects with impacts to state or federally listed species would have to apply for an individual Section 10 permit, or engage in Section 7 consultation if a Federal nexus exists, in conformance and compliance with FESA and/or a 2081 permit in compliance with CESA, respectively. There is no guarantee any Section 10 permit would be issued. Other

regulatory permits could be required as well. The Conservation Strategy, which includes the designation of new onsite conservation of lands, additional management on already conserved lands, biological goals and objectives for five covered species, adaptive management and monitoring, and habitat restoration and maintenance, would not be implemented. The lack of a comprehensive plan would result in piecemeal approach to both development and conservation, greatly reducing the potential for a coordinated conservation strategy in the Plan Area. This could result in the fragmentation of conserved habitat and inconsistent and inefficient species and habitat management and monitoring.

Although the No Action Alternative would not result in highest and best use of lands within the Plan Area related to existing natural resources in the Plan Area, the No Action Alternative would not result in incompatible or conflicting land uses/projects with existing land use plans including General Plans of the Cities of Redlands and Highland and San Bernardino County.

Determination: Impacts related to land use from the No Action Alternative are less than significant.

4.5.1.2 Alternative B: Proposed Action/Projects

Issuance of Incidental Take Permit for the HCP

LUP-1: *Would the Project physically divide an established community? **Determination: No Impact.***

LUP-2: *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? **Determination: Less Than Significant Impact.***

LUP-3: *Would the Project conflict with any applicable habitat conservation plan? **Determination: No Impact.***

The Plan Area contains the following existing land uses: aggregate mining, water conservation, wells and water infrastructure, transportation, flood control facilities, trails and open space/ natural habitat. There are no existing residences or residential communities. Therefore, the Proposed Projects would not divide an established community and there would be no impact.

A number of Covered Activities would take place under an incidental take permit (ITP) which would affect land use. New mining, wells, and water conservation basins would be developed, and roads would be widened in areas which are currently undeveloped wildland. To mitigate the impacts of these and other Covered Activities, new conservation areas, "District Conserved Lands" would be permanently protected, and the Conservation District would provide for additional management on a subset of Woolly-star Preserve Area (WSPA) lands.

There are two land use plans that apply to the Plan Area that are not addressed here, due to the fact that these plans are better suited to be discussed in other sections of this EIS/EIR, as indicated below:

- South Coast Air Quality Management District (SCAQMD), Air Quality Management Plan (AQMP). A description of the AQMP and a consistency analysis is provided in Sections 3.1 and 4.1, Air Quality.
- Water Quality Control Plan for the Santa Ana River Basin. A description of the Water Quality Control Plan and a consistency analysis is provided in sections 3.3 and 4.3 Hydrology and Water Quality.

The following land use plans/ uses are discussed here:

- Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy
- Redlands Municipal Airport Land Use Compatibility Plan
- San Bernardino International Airport
- City of Highland General Plan and Zoning
- City of Redlands General Plan and Zoning
- County of San Bernardino General Plan and Zoning
- Santa Ana River Woolly-star Preserve Area Multi-Species Habitat Management Plan

Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

On April 4, 2012, SCAG's Regional Council adopted the landmark 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future. The 2012-2035 RTP/SCS provided goals for the long-range plan, identified key transportation investments to address the growing population in the region and strategies to reduce traffic congestion and greenhouse gas emissions. The SCS is a new element of the long-range plan that demonstrates the integration of land use, transportation strategies, and transportation investments within the Plan. The RTP/SCS is updated every four years to reflect changes in economic trends, state and federal requirements, progress made on projects and adjustments for population and jobs. Transportation projects must be included in the RTP in order to qualify for federal and state funding.

On July 6, 2017, SCAG's Regional Council adopted the 2016 RTP/SCS Amendment #2 and the 2017 FTIP Consistency Amendment #17-07, including the associated transportation conformity determination. The update to the 2016 RTP/SCS was initiated as a result of the passage of Measure M, the Los Angeles County sales tax measure approved by voters in November 2016. The majority of the changes in the amendment include updates to projects as a result of the extended funding, as well as several new transportation improvements.

What is at the heart of the 2016 RTP/SCS are over 4,000 transportation projects ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs, and replacement bridges. These future investments were included in county plans developed by the six County Transportation Commissions (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and seek to reduce traffic bottlenecks, improve efficiency of the region's network and expand mobility choices for everyone.

The Proposed Projects include roadway improvements, including bike lanes, as well as trails identified by the Cities of Redlands and Highland to help implement their General Plans. Implementation of the Proposed Action/Projects would help implement local transportation and mobility planning that will integrate with regional transportation and mobility planning. Implementation of the Proposed Action/Projects will not conflict with the 2016 RTP/SCS, but rather compliment it.

Redlands Municipal Airport Land Use Compatibility Plan

The southern portion of the Plan Area is located within portions of Safety Zones 1-5 and most of the remaining portion of the Plan Area is located within Safety Zone 6 of the Redlands Municipal ALUCP. The compatibility plan is intended to ensure that any potential development plans consider a project's compatibility with airport land uses in the area. The proposed flood control facilities and trails are compatible uses within Safety Zones 1-5. The remaining Proposed Projects, including aggregate mining, water conservation, wells and water infrastructure, transportation, flood control, trails, habitat enhancement, and agriculture are all compatible uses within Safety Zone 6. Implementation of the Proposed Action/Projects will not conflict with the Redlands Municipal ALUCP. Hazards area also discussed in Sections 3.11 and 4.11, Hazards.

San Bernardino International Airport

The Plan Area's western boundary is located near the San Bernardino International Airport (SBIA). Currently, the SBIA does not have an Airport Land Use Compatibility Plan (ALUCP) with mapped Safety Zones.

The Proposed Projects, including aggregate mining, water conservation, wells and water infrastructure, transportation, flood control, trails, habitat enhancement, and agriculture are all compatible uses adjacent to the SBIA. Implementation of the Proposed Action/Projects will not conflict with operations of the SBIA.

City of Highland General Plan and Zoning

The City of Highland General Plan includes the following land use designations within the Plan Area: Agriculture/Equestrian, Open Space, Parks, Industrial, Public, Low Density Residential, and Neighborhood Commercial and General Commercial. Zoning within the City of Highland corresponds with the land use designations and includes: Agricultural/Equestrian Residential, Open Space, Industrial,

Public/Quasi-Public, R-1 Single Family Residential, General Commercial, and Planned Commercial and Development.

Proposed Projects within areas designated as Industrial, Public/Quasi-Public, R-1 Single Family Residential, General Commercial, and Planned Commercial and Development include flood control, transportation, trails which are compatible uses in these designations. Habitat Conservation and water conservation are proposed in areas designated as Agricultural/Equestrian Residential, Open Space, and Public/Quasi-Public which are compatible uses in these designations. Implementation of the Proposed Action/Projects is compatible with and would not conflict with the City of Highland General Plan and zoning.

City of Redlands General Plan and Zoning

The City of Redlands General Plan includes the following land use designations within the Plan Area: Flood Control/Construction Aggregates and Conservation/Habitat Preservation, Agriculture, Resource Conservation, Public/Institutional, Open Space, Parks/Golf Courses, and Light Industrial. The portion of the Plan Area in the City of Redlands is zoned Open Space.

Proposed Projects within areas designated as Agriculture, Open Space, Parks/Golf Courses, and Light Industrial include transportation, trails, flood control and wells and water infrastructure and are compatible. Habitat Conservation, mining, and water conservation are proposed in areas designated as Flood Control/Construction Aggregates and Conservation/Habitat Preservation which are compatible uses in these designations. Implementation of the Proposed Action/Projects is compatible with and would not conflict with the City of Redlands General Plan and zoning.

County of San Bernardino General Plan and Zoning

The following land use designations occur within the small unincorporated areas along the southeastern border of the Plan Area: Resource Conservation, Light Industrial, and Agriculture. Corresponding Zoning includes: Floodway, Region Industrial, and Agriculture.

Proposed Projects within areas designated as Resource Conservation, Light Industrial, and Agriculture include trails, flood control and wells and water infrastructure and are compatible. Habitat Conservation is proposed in areas designated as Resource Conservation which is compatible. Implementation of the Proposed Action/Projects is compatible with and would not conflict with the County of San Bernardino General Plan and zoning.

Santa Ana River Woolly-star Preserve Area Multi-Species Habitat Management Plan

The WSPA was created to mitigate for the impacts of Seven Oaks Dam. The Santa Ana River Woolly-star Preserve Area Multi-Species Habitat Management Plan (MSHMP) was developed by the USACE in coordination with technical experts, local sponsors, USFWS, CDFW and other stakeholders. It contains objectives to guide implementation of all program elements associated with WSPA management. The ultimate purpose of these objectives is “to support implementation of an effective and science-based

adaptive management plan for the covered species in a manner that is consistent with the conservation measures specified” (in the biological opinions for the dam). The species covered by the MSHMP are spineflower, woolly-star and SBKR. The management actions proposed in the HCP are consistent with and complementary to the MSHMP. The management plan and framework of the HCP is structured to foster a collaborative and cooperative approach to the management of the HCP Preserve and the WSPA.

Although the Proposed Action/Projects include implementation of an HCP, there are no existing habitat conservation plans that apply to the Plan Area. The Plan Area contains the WSPA and City of Highland Mitigation Area. These areas are included in the proposed HCP Preserve. Therefore, no impacts would occur to an existing habitat conservation plan.

Determination: The Proposed Action/Projects are consistent with the applicable land use plans, and they would not result in adverse impacts associated with land use. Rather, the Proposed Action/Projects would result in beneficial impacts associated with land use in the Plan Area as compared to the existing condition (see CEQA analysis, below, for more details).

MITIGATION MEASURES

There are no potentially significant impacts regarding land use associated with the Proposed Action/Projects. Therefore, no mitigation is required.

RESIDUAL IMPACTS AFTER MITIGATION

Because no mitigation is required with regards to land use, there are no residual impacts after mitigation.

4.5.1.3 Alternative C: 2008 Land Management Plan

Incidental Take Permit Application

Under this alternative, the applicant would prepare an HCP based upon 2008 Land Management Plan. The 2008 Land Management Plan outlined the conceptual plan for how to coordinate and manage the present and future activities in the Upper Santa Ana River Wash and balance the ground-disturbing activities of aggregate mining, recreation, water conservation and other public services with preservation of quality, natural habitat for endangered, threatened, and sensitive species. The proposed land uses are similar to those in Alternative B, with the exception that up to 312 fewer acres of habitat would be conserved.

A Habitat Enhancement Plan (HEP) was proposed as part of the 2008 Land Management Plan and EIR. While lacking in specifics, the 2008 Land Management Plan stated that it would maintain adequate habitat for the four federally listed species and that there would be surveys for and eradication of exotic plants. This plan would be compatible with the WSPA MSHMP.

The proposed land uses in Alternative C do not conflict with any applicable land use or conservation plans, nor do they divide any communities.

Determination: Alternative C is consistent with the applicable land use plans in the area, and they would not result in adverse impacts associated with land use. Rather, Alternative C would result in beneficial impacts associated with land use as compared to the existing condition.

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4.6 SOCIOECONOMICS, POPULATION AND HOUSING, AND ENVIRONMENTAL JUSTICE

This section discusses potential socioeconomic and Environmental Justice impacts from the Proposed Action/Projects, and alternatives. This includes impacts to existing minority and/or low-income populations within the Plan Area. The social and economic conditions are characterized by the needs, demands, and values of the local, regional, and national public as well as the economic opportunities, benefits, and constraints. This section also discusses the potential of the Proposed Action/Projects and alternatives to induce population growth or displace existing housing or people.

Economic impacts are defined as expected gains or losses from market transactions on local jobs and income, and market and non-market value of resources to users. Social impacts are defined as the consequences to human populations that alter the way in which people live, work, recreate, relate to one another, organize to meet their needs, and generally cope as members of society. Social impacts also include cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society (Inter-organizational Committee on Principles and Guidelines 2003¹). Social impacts are defined as direct, meaning that they would potentially result from the action taken, or secondary, meaning that they result from primary or direct impacts and often are separated from direct impact in terms of both time and geographic distance.

Key economic impact variables that were considered as part of the analysis include employment, income, economic dependency, and market and non-market economic value of resources to users within the social and economic Plan Area and vicinity and at the regional and national levels.

THRESHOLDS AND CRITERIA

Although the State CEQA Guidelines exclude discussion of significance criteria for economic impacts, the guidelines include questions related to population growth and displacement. However, we have combined the socioeconomic impact discussion to comply with NEPA and CEQA.

An alternative would result in significant impacts related to population or housing if implementation would do any of the following:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

¹ <http://unpan1.un.org/intradoc/groups/public/documents/cgg/unpan026197.pdf>

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.6.1 DIRECT AND INDIRECT EFFECTS

4.6.1.1 Alternative A: No Action Alternative

In the No Action Alternative, the USFWS would not issue an incidental take permit. Current mining and water conservation would continue.

Aggregate mining operations would continue producing an average of 4.0 to 4.5 million tons per year (MTPY) of aggregate materials. The total average MTPY is the average production numbers of both Cemex and Robertson's operations within the Plan Area. The existing permitted mining would be mined to completion, but no additional mining permitting is presumed.

Prohibitions or restrictions would continue to potentially affect the development of valid existing mineral rights, and, thereby, associated potential economic gain and social change. Site-specific impacts and mitigation would be identified through case-by-case analysis of future proposed activities.

Currently, Cemex has ten (10) to twelve (12) employees (combined permanent and contract).² Currently, Robertson's employs a total of approximately 175 employees, 50 employees associated with the quarry, approximately 47 employees associated with the batch plant, and approximately 70 to 80 employees at the maintenance shop.³

The No Action Alternative would result in a gradual slowing of mining activities in the Plan Area as aggregate resources are depleted under existing permits and leases. The aggregate sources currently available to Robertson's are expected to be depleted in the next 1-2 years and upon depletion aggregate mining by Robertson's operations in the Plan Area would be shut down and the approximate 175 jobs would be lost. The aggregate sources currently available to Cemex are expected to be depleted in the next 10-15 years (dependent on the market) and upon depletion aggregate mining would be shut down and approximately 10-12 jobs would be lost.

Secondary impacts to the development community resulting from the declining availability of the aggregate resources could include relocation of mining operations to other areas and associated price fluctuations. Other secondary impacts would likely include impacts to other businesses associated with Robertson's existing operations that are located just west of the current mining operations, which include Pro Cast Products (manufacture pipes, k-rails, and septic tanks), ProParts (provides the transport of mined product), and a recycled asphalt batch plant, all of which depend on Robertson's production.⁴

² Per email from Christine Jones at Cemex on September 26 & 29, 2017.

³ Per phone call with Christine Goeysvarts at Robertson's on September 20, 2017.

⁴ Per phone call with Christine Goeysvarts at Robertson's on May 8, 2015.

With implementation of the No Action Alternative, the beneficial social and economic impacts of mining (jobs and industry transactions) would decline overtime as the aggregate resources are depleted under the current permits and leases, adversely affecting these commercial entities and their employees.

No environmental justice impacts would occur with implementation of Alternative A, since current mining operations would continue as they normally do. Increased mining activity would not occur with Alternative A, and potential new or increased impacts to minority and/or low-income populations residing near the Plan Area would not be anticipated.

Determination: As the aggregate resources are depleted under the current permits and leases, adverse effects from the loss of approximately 175 Robertson's jobs in the next 1-2 years and 10-12 Cemex jobs in the next 10-15 years would result. However, this loss is not expected to have a significant impact on the local economy, and therefore potential impacts are less than significant. No environmental justice impacts would occur with this alternative.

4.6.1.2 Alternative B: Proposed Action/Projects

POP-1 Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? **Determination: Less Than Significant Impact.**

POP-2 Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? **Determination: No Impact.**

POP-3 Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? **Determination: No Impact.**

The Proposed Action/Projects would allow expanded mining operations to occur. Specifically, Cemex is expected to increase its average annual production rate of 2 to 2.5 million tons per year (MTPY) to 3 MTPY, and Robertson's is expected to increase its production from 2 to 2.5 MTPY to 3 MTPY. Combined, the increase in annual production would be from approximately 4.0 to 4.5 MTPY to 6 MTPY. The Proposed Action/Projects would result in an expansion of the existing mining production, which would translate to a beneficial economic impact. The economic gains would not represent a significant economic increase, however, would still result in an economic benefit the local area, in the form of additional jobs (described in detail below), as well as additional revenue for the Cities of Highland and Redlands from sales taxes on the increased aggregate production.

Employment growth associated with expanded mining operations would occur under the Proposed Action/Projects. Cemex anticipates adding approximately 18-20 additional job positions (combination of permanent and contract employees) with the proposed expansion. Robertson's does not anticipate adding job positions with the proposed expansion, rather it would retain its existing approximately 175 employees longer, beyond the anticipated 1-2 years in which currently available resources would be

depleted and those job positions lost. This increase would represent a very small amount employment within the Plan Area and surrounding communities. This increase in employment, although beneficial, would not be of great enough magnitude to indirectly induce substantial population growth. Due to the unemployment rate of approximately 8.8 percent in San Bernardino County (refer to Section 3.6), it is anticipated that at least the majority, if not all, of the new jobs would be filled with individuals that already reside in the region.

Secondary employment growth associated with expanded mining operations is likely to occur with expansion of Robertson's production, such as Pro Cast Products and ProParts as they depend on Robertson's production. This increase in employment, although beneficial, would not be of great enough magnitude to substantially alter existing population patterns, housing demand, or subsequently, socioeconomic conditions within or surrounding the Plan Area, and a less than significant socioeconomic impact is anticipated.

The presence and percentages of low-income and minority populations are presented in Section 3.6, *Affected Environment*. As discussed in Section 3.6, there are no populations in the Plan Area and therefore are no low-income or minority populations within the Plan Area. However, two out of the four census tracts included in the study area, which includes areas outside of the Plan Area boundary, do contain minority populations. Therefore, the Proposed Action is subject to the provisions of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and must identify and address disproportionately high and adverse effects on the health or environment of these populations.

An assessment of the potential impacts identified in the other resource sections of this EIS/SEIR was conducted to determine the potential for adverse effects, such as noise, air pollutant emissions, soils and water quality effects, and traffic delays resulting from both short-term construction activities, and long-term operations associated with implementation of Alternative B. Both construction and operational adverse impacts are anticipated to occur, particularly with regard to the additional mining and processing activities associated with Alternative B.

These impacts would not be confined to minority populations, but would result to the general population residing with proximity to construction areas. The construction-related impacts would be long-term in nature and would cease upon completion of the additional mining and processing activities. In addition, Alternative B proposes several mitigation measures that would reduce potential construction-related impacts and also would be required to comply with multiple regulations and provisions within the respective City and County Municipal Codes. For example, the Proposed Projects would be required to: develop a Transportation Management Plan (TMP) to mitigate traffic impacts; develop a Storm Water Pollution Prevention Plan (SWPPP) to mitigate water quality impacts; adhere to construction hour and time limitations to mitigate noise impacts; and would be required to adhere to Best Management Practices (BMPs) during construction to mitigate air quality/greenhouse gas impacts.

Significant and unavoidable operational impacts related to air quality and traffic would occur with implementation of Alternative B; these impacts are discussed at length in Sections 4.1, *Air Quality*, and Section 4.7, *Transportation Systems and Traffic*, of this Draft EIS/SEIR. However, as with construction-related impacts, these long-term adverse impacts would not occur disproportionately to the existing minority populations residing near the Plan Area, because the impacts would occur to all populations or the general population surrounding the Plan Area (including populations within Highland, Redlands, and unincorporated areas of San Bernardino County).

As such, both construction and operational impacts of Alternative B would not cause disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898.

Determination: This alternative would not have an adverse impact, rather it would have a beneficial impact related to socioeconomic conditions in the region and would not result in significant adverse impacts related to environmental justice.

MITIGATION MEASURES

Because it was determined that less than significant or no impacts would result from implementation of the Proposed Action/Projects with respect to socioeconomics, population and housing, no mitigation is required.

RESIDUAL IMPACTS AFTER MITIGATION

All impacts are less than significant, and no mitigation measures are required. There are no residual impacts after mitigation.

4.6.1.3 Alternative C: 2008 Land Management Plan

Implementation of the 2008 Land Management Plan would allow for expansion of aggregate mining on approximately 32 more acres than the 2019 HCP (Alternative B: Proposed Action/Projects). Thus, implementation of the 2008 Land Management Plan would result in an increase in aggregate materials produced from the Plan Area as compared to the 2019 HCP.

The 2008 Land Management Plan would result in an expansion of the existing mining production, which would translate to a beneficial economic impact. The economic gains would not represent a significant economic increase, however, would still result in an economic benefit the local area, in the form of additional jobs, as well as additional revenue for the Cities of Highland and Redlands from sales taxes on the increased aggregate production.

As with Alternative B, Cemex anticipates adding approximately 18-20 additional job positions (combination of permanent and contract employees) with the proposed expansion. Robertson's does not anticipate adding job positions with the proposed expansion, rather it would retain its existing

approximately 175 employees longer, beyond the anticipated 1-2 years in which currently available resources would be depleted and those job positions lost.

Secondary employment growth associated with expanded mining operations is likely to occur with expansion of Robertson's production, such as Pro Cast Products and ProParts as they depend on Robertson's production. This increase in employment, although beneficial, would not be of great enough magnitude to substantially alter existing population patterns, housing demand, or subsequently, socioeconomic conditions within or surrounding the Plan Area, and a less than significant socioeconomic impact is anticipated.

Significant and unavoidable operational impacts related to air quality and traffic would occur with implementation of the 2008 Land Management Plan; these impacts are discussed at length in Sections 4.1, *Air Quality*, and Section 4.7, *Transportation Systems and Traffic*, of this Draft EIS/SEIR. However, as with construction-related impacts, these long-term adverse impacts would not occur disproportionately to the existing minority populations residing near the Plan Area, because the impacts would occur to all populations or the general population surrounding the Plan Area (including populations within Highland, Redlands, and unincorporated areas of San Bernardino County). As such, both construction and operational impacts of Alternative B would not cause disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898.

Determination: This alternative would not have an adverse impact, rather it would have a beneficial impact related to socioeconomic conditions in the region and would not result in significant adverse impacts related to environmental justice.

4.7 TRANSPORTATION SYSTEMS AND TRAFFIC

This analysis is intended analyze the impacts of the alternatives and to satisfy requirements for project-specific transportation and traffic impact analysis by examining the short-term (Year 2008) and long-term (Year 2030) potential impacts of the Proposed Action/Projects within the Plan Area and surrounding roadway network and SR-210, and by evaluating the effectiveness of mitigation measures.

The potential for transportation and traffic impacts could occur if an alternative generates a substantial amount of new operational trips or increases their contribution to peak-hour traffic.

4.7.1 TRAFFIC STUDY

A *Traffic Study* was conducted for the proposed Project in 2007 to assess potential impacts associated with issuance of new mining permits for Cemex and Robertson's subsequent issuance of an incidental take permit by USFWS. The *Traffic Study* was prepared for and included in the Conservation District's November 2008 Final EIR (SCH No. 2004051023), Appendix J, for the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan. See Appendix C in this DEIS/SEIR for a summary of the *Traffic Study*.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. Alternatives would result in significant impacts to transportation systems and traffic if it would cause any of the following to occur:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

4.7.2 DIRECT AND INDIRECT EFFECTS

4.7.2.1 Alternative A: No Action Alternative

The No Action Alternative represents the continuation of current management practices. This alternative assumes that the Proposed Action would not occur and the Plan Area would remain in its present condition. The No Action Alternative would not alter the activities that are currently taking place within the Plan Area. Mining operators would be presumed to mine to completion the existing permitted mining, but no additional mining permitting is presumed.

Determination: The No Action Alternative would not result in significant adverse impacts associated with transportations systems and traffic.

4.7.2.2 Alternative B: Proposed Action/Projects

Significance Determinations

- | | |
|--------------|--|
| TRA-1 | Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? Determination: Less Than Significant Impact. |
| TRA-2 | Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? Determination: Significant and Unavoidable Impact. |
| TRA-3 | Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? Determination: Less Than Significant Impact. |
| TRA-4 | Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Determination: Less Than Significant Impact. |
| TRA-5 | Would the Project result in inadequate emergency access? Determination: Less Than Significant Impact. |

- TRA-6** Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? **Determination: Less Than Significant Impact.**

Traffic Level of Service Standards for All Proposed Projects

The analysis in this section is based on the *Traffic Study*. The *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than Alternative B. Therefore, the potential adverse impacts on transportations systems and traffic in the Plan Area from Alternative B are anticipated to be less than or equal to those identified in the *Traffic Study* for Alternative C.

The establishment of habitat preservation areas is not expected to result in any new transportation or traffic impacts above existing traffic levels. However, indirect impacts as a result of the exchange would have potential traffic impacts, with regards to the consolidation and increase of mining activities. Therefore, the analysis below will discuss indirect impacts associated with expansion of mining operations.

Construction-related traffic for ongoing operation and maintenance of existing and new facilities for aggregate mining would not result in a significant source of new trips in the Plan Area, and construction-related traffic would be short-term in nature. Operational traffic would increase in the Plan Area, but alone would not produce increases in traffic levels that would result in a significant traffic impact.

Robertson's aggregate and concrete trucks and Cemex's aggregate trucks that are inbound from SR-210 (SR-30) or 5th Street east of SR-210 (SR-30) would access the plants via a new direct connection to 5th Street west of SR-210 (SR-30). This alternative roadway was developed to minimize operational haul trips on the local roadway network.

Trip Generation for Expanded Aggregate Mining for All Proposed Projects

The *Traffic Study* prepared for the proposed expanded aggregate mining provides the following trip generation data: the Cemex Orange Street Plant is expected to generate 444 new daily passenger car equivalent (PCE) trips, with 39 PCE trips occurring during the a.m. peak hour and 9 PCE trips occurring during the p.m. peak hour, and the number of employee trips and miscellaneous delivery trips would not increase from the baseline number of trips for the Cemex operation, refer to Table 4.7-1 below. The Robertson's Alabama Street plant is expected to generate 768 new daily PCE trips with no increase of trips occurring during the peak hours. Robertson's trucks are centrally dispatched so that the facility has control over when trucks enter and exit the plant. The number of employee trips and miscellaneous delivery trips have been accounted for in the baseline driveway counts, and would not increase from the baseline number of trips for the Cemex or Robertson's operation.

Table 4.7-1 – Project New Trip Generation, Aggregate Trucks

Land Use	A.M. Peak Hour			P.M. Peak Hour			Daily ⁵
	In	Out	Total	In	Out	Total	
Robertson's Plunge Creek Plant ¹							
Existing Trucks at 2.0 MTPY Baseline	11	10	21	6	6	12	384
Proposed Trucks at 3.0 MTPY ²	11	10	21	6	6	12	640
Net New Trucks	0	0	0	0	0	0	256
Net New PCE Trips ³	0	0	0	0	0	0	768
Cemex Orange Street Plant ⁴							
Existing Trucks at 2.5 MTPY Baseline	38	39	77	10	7	17	762
Proposed Trucks at 3.00 MTPY	44	46	90	12	8	20	910
Net New Trucks	6	7	13	2	1	3	148
Net New PCE Trips ³	18	21	39	6	3	9	444
Total New PCE Trips (Robertson's and Cemex)	18	21	39	6	3	9	1,212

Note: These are ship numbers that reflect waste and stockpiling.

MTPY-Million Tons Per Year

¹ Based on Robertson's memo updated February 24, 2006 (3 years of truck data from 2003 to 2005)

² Robertson's has the ability to limit shipments during local peak traffic hours, so that no net change from baseline conditions would occur during these hours.

³ All values given are in Passenger Car Equivalency (PCE). PCE of 3 has been used for all aggregate trucks.

⁴ Based on Lilburn Corporation and Cemex memo updated June 16, 2006 (3 years of truck data from 2003 to 2005)

⁵ Based on Robertson's memo updated February 24, 2006 and Cemex memo updated June 16, 2006.

Year 2030 With Proposed Action/Projects Conditions (Intersection) Traffic and Level of Service (LOS) Impacts

Development of traffic volumes for the year 2030 with Proposed Action/Projects scenario are described in detail in the *Traffic Study*. An intersection level of service (LOS) analysis was conducted for the 2030 with Proposed Action/Projects scenario volumes. With the addition of Proposed Action/Projects traffic to the year 2030 background scenario, intersection levels of service at the following eight intersections would result in less than the minimum standard in the a.m. peak hour, p.m. peak hour, or both:

- Palm Avenue/5th Street. The intersection would continue to operate at LOS F during the a.m. peak hour.
- Palm Avenue/3rd Street. The intersection would continue to operate at LOS E in the a.m. peak hour and change from LOS F to LOS E in the p.m. peak hour.
- Alabama Street/Robertson's Access. The intersection would continue to operate at LOS E in the a.m. peak hour and would continue to operate at LOS F in the p.m. peak hour.
- Alabama Street/Cemex Access. The intersection would continue to operate at LOS F during the p.m. peak hour.
- SR-210 (SR-30) Northbound Ramps/5th Street. The intersection would continue to operate at LOS F in the a.m. peak hour.
- SR-210 (SR-30) Southbound Ramps/5th Street. The intersection would continue to operate at LOS F in the a.m. and p.m. peak hour.

- Boulder Avenue/Greenspot Road. The intersection would continue to operate at LOS F in both the a.m. and p.m. peak hours.
- Orange Street-Boulder Avenue/Cemex Access. The intersection would change from LOS F to LOS E in the a.m. peak hour and continue to operate at LOS F in the p.m. peak hour.

The Proposed Action/Projects includes a new means of access for trucks, and the LOS at the following four intersections would improve, resulting in beneficial impacts.

- Palm Avenue/5th Street;
- Palm Avenue/3rd Street;
- Boulder Avenue/Greenspot Road; and
- Orange Street-Boulder Avenue/Cemex Access.

The intersection geometric and control improvements portrayed in Figure 4.7-1 below would result in satisfactory LOS at these intersections, for both the year 2030 background and year 2030 background with Proposed Action/Projects scenarios. Although the four intersections are forecast to operate at a deficient LOS in 2030, the Proposed Action/Projects contribute to the reduction of delay times at these intersections. Delay times are not reduced substantially to maintain a satisfactory LOS, but are reduced or maintained to improve or maintain LOS over the background condition. While an improvement at these intersections occurs, they continue to operate at a failing LOS; therefore, mitigation is required as outlined below.

MM TRAFFIC-1 Robertson's aggregate processing plant shall control the distribution of commercial haul trucks on local streets to ensure that no new peak hour vehicle trips are generated. Peak hours are 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

MM TRAFFIC-2 Within one year of the issuance of a Conditional Use Permit (CUP) for the new mining areas or as otherwise specified in the CUP, the following improvements shall be constructed by the permit proponent:

Third Street: Widen and extend 3rd Street from Palm Avenue to connect to 5th Street at the intersection of Church Avenue/5th Street. Convert 3rd Street to a one-way street traveling east consistent with the City of Highland's planned roadway network and conceptual drawings of 5th Street provided by the City.

Church Avenue/5th Street: Add a northbound free right-turn lane corresponding to the 3rd Street connection. Restripe the east leg of the intersection to a six-lane roadway. The restriping to six lanes can be accommodated within the existing right-of-way and is consistent both with the City of Highland's General Plan roadway network and conceptual drawings of 5th Street provided by the

City. Add a southbound leg to the intersection corresponding to the 3rd Street connection.

Truck Traffic and 5th Street Access Road: Truck traffic shall conform to Access Alternative D. This truck traffic pattern shall be maintained in order to ensure the safe operation of traffic on 5th Street and enforced by the City of Highland.

MM TRAFFIC-3

Within one year of the issuance of a Conditional Use Permit (CUP) for the new mining areas or as specified in the CUP, the permit applicant shall pay all applicable City development impact fees for regional and local circulation and CMP fair-share fees based on current construction costs estimated at time of payment. Based on the year 2030 analysis prepared for this DEIS/SEIR, year 2030 intersection impacts can be mitigated with implementation of the following specific improvement measures, which shall be in place by year 2030:

Palm Avenue/5th Street: Add a westbound left-turn lane.

Palm Avenue/3rd Street: Add a northbound right-turn lane. Restripe the rightmost northbound through lane as a shared through/right-turn lane. Widen the east leg of the intersection to accommodate two departure lanes.

Boulder Avenue/Greenspot Road: Restripe the southbound right-turn lane as a shared through/right-turn lane. Add a northbound left-turn lane.

Orange Street-Boulder Avenue/Cemex Access: Add a northbound through lane and a southbound through lane.

Alabama Street-Robertson's Access-Cemex Access: Install a traffic signal and add a northbound through lane and a southbound through lane.

With the implementation of Mitigation Measures MM TRAFFIC-1 through MM TRAFFIC-3, the above-listed intersections would operate at a satisfactory LOS of C and impacts are reduced to a less than significant level.

Year 2030 With Proposed Action/Projects Conditions (Freeway Ramp Intersections) Traffic and LOS Impacts

The following two freeway ramp intersections are forecast to operate below acceptable LOS standards with increases in the delay times as a result of the Proposed Projects:

- SR-210 (SR-30) Southbound Ramps/5th Street; and
- SR-210 (SR-30) Northbound Ramps/5th Street.

Because aggregate mining and operations would result in potentially significant impacts to freeway ramp intersections in year 2030 With Proposed Action/Projects Conditions, mitigation is required and outlined below.

MM TRAFFIC-4

Within one year of the issuance of a Conditional Use Permit (CUP) for the new mining areas or as specified in the CUP, the permit applicant shall pay all applicable City development impact fees for regional and local circulation and CMP fair-share fees based on current construction costs estimated at time of payment. Based on the year 2030 analysis prepared for this DEIS/SEIR, year 2030 impacts can be mitigated with implementation of the following specific improvement measures, which shall be in place by year 2030:

SR-210 (SR-30) Southbound Ramps/5th Street. Widen 5th Street to two eastbound through lanes, an eastbound shared through/right-turn lane, a dedicated eastbound right-turn lane, three westbound through lanes, and two westbound left-turn lanes. Provide storage length for turn lanes per the traffic study. This improvement is consistent both with the City of Highland's General Plan roadway network and conceptual drawings of 5th Street provided by the City. This improvement would require widening of Greenspot Road under the SR-210 (SR-30) bridge from 80 feet to 110 feet or more.

SR-210 (SR-30) Northbound Ramps/5th Street. Widen 5th Street to three eastbound through lanes, an eastbound left-turn lane, two westbound through lanes, and a westbound shared through-right-turn lane (wide enough for *de facto* right-turn lane). Add a northbound left-turn lane to the off-ramp. Widening of 5th Street to six lanes is consistent both with the City of Highland's General Plan roadway network and conceptual drawings of 5th Street provided by the City. Provide storage length for turn lanes per the traffic study. These improvements would require widening of Greenspot Road under the SR-210 (SR-30) bridge from 80 feet to 110 feet or more. Approximately 12 feet of additional right-of-way would also be required on the south leg of the intersection unless Caltrans approval to re-stripe the off-ramp is obtained.

Table 4.7-2 below presents the intersection levels of service with the recommended intersection improvements for the 2030 with Project conditions. The intersection improvements for these two locations are shown Figure 4.7-2, *2030 Mitigated Intersection Geometrics and Stop Control*.

Table 4.7-2 – Year 2030 with Improvements Intersection Levels of Service

Intersection	Control	A.M. Peak Hour			P.M. Peak Hour		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
SR-210 (SR-30) Southbound Ramps/5 th Street	Signal	0.76	24.1	C	0.67	19.7	B
SR-210 (SR-30) Northbound Ramps/5 th Street	Signal	0.66	23.1	C	0.76	27.8	C

Source: Traffic Study Upper Santa Ana River Wash, San Bernardino County, California; prepared by LSA Associates, Inc.; August 31, 2007, Table Y.

With implementation of the recommended improvements in Mitigation Measure MM TRAFFIC-4, the minimum LOS standards would be maintained at the freeway ramp intersections where significant Project impacts are identified. Furthermore, the Project would be responsible for contributing to the City's traffic and signal impact fees. Therefore, a less than significant impact would occur with implementation of recommended improvements and impact fees.

Year 2030 with Proposed Action/Projects Conditions (Freeway Segments) Traffic and LOS Impacts

With the addition of Proposed Action/Projects traffic to the year 2030 background scenario, freeway LOS at all segments would operate at less than the minimum service standard:

- **SR-210 (SR-30) Northbound 5th Street Off-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.
- **SR-210 (SR-30) Northbound 5th Street On-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.
- **SR-210 (SR-30) Southbound 5th Street Off-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.
- **SR-210 (SR-30) Southbound 5th Street On-Ramp Influence Area.** This segment would continue to operate at LOS F conditions.

Because aggregate mining and operations would result in potentially significant impacts to freeway segments in year 2030 With Proposed Action/Projects conditions, mitigation is required.

However, because improvements to the freeway segments are under the authority of Caltrans, there is no mechanism for development Project proponents to pay fees or make fair-share contributions toward improving mainline freeway lanes. Fees collected by Highland would be used for the improvement of intersections and freeway ramps. Even if there were such a mechanism to collect fees for mainline freeway lanes, there would be no way to ensure that such payments would be directed to a specific freeway improvement project. Consequently, there are no feasible mitigation measures for these impacts. Impacts would remain significant and unavoidable until such time as the Caltrans or co-sponsor can install the improvements. Because freeway segment modifications are controlled by Caltrans, the schedule of completing improvements is not in the hands of local agencies or private sponsors. No feasible mitigation exists. Potential impacts to these freeway segments are significant and unavoidable.

Compliance with Plans, Ordinances, and Policies for All Proposed Projects

All Proposed Projects are not anticipated to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including mass transit and non-motorized travel.

Safety Risks and Hazards

While Proposed Projects are located within the airport influence areas for both the San Bernardino International Airport and the Redlands Municipal Airport, they do not include any prohibited uses in any of the safety areas for either airport. The proposed aggregate mining and other construction and maintenance projects are compatible with the nearby airports and implementation of the activity would not create substantial safety hazards associated with air traffic patterns or increased traffic levels in the Plan Area. Impacts are less than significant, and no mitigation is required.

Emergency Access for All Proposed Projects

The proposed transportation projects would be designed by a licensed professional civil engineer and constructed by a licensed construction contractor in accordance with City, County, and/or Caltrans standards (as applicable). All other projects do not include construction that would increase hazards due to a design feature. The Proposed Projects would not result in the creation of circulation design hazards.

Public Transit for All Proposed Projects

The proposed transportation projects would be designed by a licensed professional civil engineer and constructed by a licensed construction contractor in accordance with City, County, and/or Caltrans standards (as applicable). Some of the Proposed Projects include construction of bike lands and sidewalks and would not conflict with public policies, plans or programs but would help implement and improve them. All other Proposed Projects would not conflict with public transit, bicycle or pedestrian facilities.

Determination: With implementation of Mitigation Measures MM TRAFFIC-1 through MM TRAFFIC-4 impacts to local City and freeway ramp intersections from expanded aggregate mining operations are reduced to less than significant levels. Impacts to freeway segments, SR-210 (SR-30) northbound and southbound 5th Street on- and off-ramp influence areas, are significant and unavoidable as no feasible mitigation exists. The Proposed Projects would not conflict with plans, ordinances or policies related to the performance of the circulation system or programs regarding public transit, bicycle or pedestrian facilities. The Proposed Projects would not result in a change in air traffic patterns or safety risks, an increase in hazards, or result in inadequate emergency access. Potential impacts associated with these topics are less than significant.

RESIDUAL IMPACTS AFTER MITIGATION

Aggregate mining and processing activities would result in potentially significant impacts to the following freeway segments: SR-210 (SR-30) northbound 5th Street on- and off-ramp influence areas; and SR-210 (SR-30) southbound 5th Street on- and off-ramp influence areas.

Because improvements to the freeway segments are under the authority of Caltrans, there is no mechanism for development Project proponents to pay fees or make fair-share contributions toward improving mainline freeway lanes. Fees collected by the City of Highland would be used for the improvement of intersections and freeway ramps. Even if there were such a mechanism to collect fees for mainline freeway lanes, there would be no way to ensure that such payments would be directed to a specific freeway improvement project. Consequently, there are no feasible mitigation measures for these impacts. Impacts would remain significant and unavoidable until such time as the Caltrans or co-sponsor can install the improvements. Because freeway segment modifications are controlled by Caltrans, the schedule of completing improvements is not in the hands of local agencies or private sponsors. Thus, no feasible mitigation exists for this impact, and potential adverse impacts remain significant and unavoidable.

4.7.2.3 Alternative C: 2008 Land Management Plan

Traffic Level of Service Standards

As outlined above for Alternative B, the *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than Alternative B (Proposed Action/Projects). Although the traffic impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Therefore, potential impacts from implementation of Alternative C would be consistent with the analysis and conclusions outlined above for Alternative B.

Alternative C would not conflict with plans, ordinances or policies related to the performance of the circulation system or programs regarding public transit, bicycle or pedestrian facilities. Alternative C would not result in a change in air traffic patterns or safety risks, an increase in hazards, or result in inadequate emergency access.

Determination: With implementation of Mitigation Measures MM TRAFFIC-1 through MM TRAFFIC-4 impacts to local City and freeway ramp intersections from expanded aggregate mining operations are reduced to less than significant levels. Impacts to freeway segments, SR-210 (SR-30) northbound and southbound 5th Street on- and off-ramp influence areas, are significant and unavoidable as no feasible mitigation exists. Potential impacts associated with safety risks, hazards, emergency access, and conflict with plans, policies, or ordinances related to the circulation system are less than significant.

4.8 VISUAL RESOURCES

This section analyzes the visual impacts that may result from implementation of the alternatives. The purpose of this analysis is to document and describe the existing visual setting, characterize the aesthetic and visual character of the alternatives and determine their impacts on the surroundings. It also describes the mitigation measures which would address the visual impacts. The potential impacts of Proposed Projects on visual resources are assessed in the context of the goals and policies from the *City of Redlands General Plan*, *City of Highland General Plan*, and *County of San Bernardino General Plan*, the SCRMP, as well as Mine and Reclamation Plans, and site observations, using BLM's VRM methodology (further described in Chapter 3.8).

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with NEPA implementing regulation Section 1508.27. The Alternatives would result in significant visual impacts if it would cause any of the following to occur:

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

4.8.1 DIRECT AND INDIRECT EFFECTS

4.8.1.1 Alternative A: No Action Alternative

In the No Action Alternative, the USFWS would not issue an incidental take permit. Current mining and water conservation would continue.

Aggregate mining operations would continue producing an average of 4.0 to 4.5 million tons per year (MTPY) of aggregate materials. The total average MTPY is the average production numbers of both Cemex and Robertson's operations within the Plan Area. The existing permitted mining would be mined to completion, but no additional mining permitting is presumed. Existing water conservation facilities would continue to be operated and maintained; there would be no additional basins constructed. Construction of other Proposed Projects (wells and water infrastructure, roadway widening, flood control facilities, habitat restoration activities) would not occur under this alternative.

No development would occur within the Plan Area that would have the potential to create visual contrast. Therefore, no new changes to visual resources would occur under Alternative A.

Determination: There would be no new short-term or long-term impacts to visual resources within the Plan Area from the No Action Alternative.

4.8.1.2 Alternative B: Proposed Action/Projects

The cities of Highland and Redlands envision the Plan Area as a joint-use opportunity for recreation, habitat preservation, and water conservation. San Bernardino County has indicated support for recreational uses, particularly trails.

VIS-1: *Would the Project have a substantial adverse effect on a scenic vista?* **Determination: Less Than Significant Impact.**

VIS-2: *Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?* **Determination: Significant and Unavoidable.**

VIS-3: *Would the Project substantially degrade scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?* **Determination: Significant and Unavoidable.**

VIS-4: *Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?* **Determination: Less Than Significant Impact.**

VRM Objectives of SCRMP

The assessment of visual impacts is based on identifying changes to existing landscape features which would occur as a result of the Proposed Action/Projects and determining whether such changes would be consistent with VRM objectives of the SCRMP. The assessment method utilized is the contrast rating system, which rates the degree of contrast between the proposed activity and existing landscape.

Contrast ratings measure the degree to which the Proposed Action/Projects would conflict with the characteristic landscape, including the landforms, vegetation and soil patterns, water resources, and cultural features. Contrast ratings also consider the degree (weak, moderate, or strong) of change in line, form, color, and texture that the Proposed Action/Projects would cause. Because construction and maintenance of recharge basins would result in removal of the native vegetation they could create impairment of near views from commonly viewed observation points, such as adjacent roads, including Greenspot Road. However, because they sit below the surrounding topography and there are patches of native habitat between them they integrate well with the portions of the Plan Area that will remain in a natural vegetated state. The development and operation of the trail system is planned primarily on existing roads and access easements to minimize impacts on vegetation. Flood control maintenance activities are planned in active stream channels that are largely devoid of vegetation.

Large storm events have the potential to result in stormwater runoff that can cause flooding and scouring that removes large amounts of vegetation in and adjacent to active stream channels. Fires burn vegetation and leave a barren areas and ash. Unavoidable adverse impacts to visual resources within the Plan Area could occur from flooding events and wildfires. Completion of the Seven Oaks Dam, approximately one mile northeast and upstream of the Plan Area, provides significant storm water runoff attenuation, and substantially reduces the risk of flooding and erosion in the Plan Area. Potential adverse effects to visual resources in the Plan Area from flooding are less than significant. Fire risks in the plan area could occur naturally (lightning strike) or more likely from humans (intentional or accidental). Risk of wildfires in the Plan Area are increased by human presence as well as growth of non-native grasses in the Plan Area. Implementation of the Proposed Action/Projects are anticipated to result in a decrease of non-authorized human presence in the Plan Area due to increase patrolling of the Plan Area by Preserve Manager and Participating Entities/Task Force Members. Implementation of Habitat Management which includes the control of non-native annual grasses and other invasive non-native plants will reduce fuel for wildfires. Potential risks of wildfires and resulting adverse effects to visual resources in the Plan Area are less than significant.

Visual Impact Assessment

Panoramic photographs of the Plan Area were taken at eight different viewpoints. The viewpoints and direction for each panoramic photograph are shown in *Figure 4.8-1, Viewpoint and Simulation Location*. The panoramic photographs for viewpoints 1 and 2 are shown in *Figure 4.8-2*, for viewpoints 3 and 4 in *Figure 4.8-3*, for viewpoints 5 and 6 in *Figure 4.8-4*, and for viewpoints 7 and 8 in *Figure 4.8-5*. There would be no changes to the views of the Plan Area from implementation of the Proposed Projects for viewpoints 1, 3, 4, 6, and 7. There would be a change to views of the Plan Area from implementation of the Proposed Projects for viewpoints 2, 5, and 8.

It should be noted that although the photographs used in this analysis were taken in 2008, no significant changes have occurred in the Plan Area since then, and thus, these photographs and visual simulations are still valid representations today. The only exception to this is the new Greenspot Road Bridge across the Santa Ana River adjacent to the existing bridge (refer to *Figure 4.8-5, Viewpoint and Simulation Location 7 and 8*).

Simulation for Viewpoint 2

There is an existing round quarry that is visible from this location, looking east from SR-210. The existing mining areas would be expanded to the north and west to increase the depth and size of the existing quarry. Implementation of expanded mining would result in the removal of native vegetation, disrupting the color and texture of the area and creating a perceptible change in the landscape. The degree of contrast from the contrast rating would be weak in the short-term during mining operations. Over the long-term the contrast would be weak, because this area would be reclaimed following the completion of mining activities. *Figure 4.8-8, Viewpoint 2 Simulation* shows the simulated change after the mining phase and upon completion of the reclamation phase. The aesthetic appearance that would result upon the completion of the reclamation phase is illustrated in this simulation as the reclamation activities

would clear up irregular formations through grading and revegetation and would produce an improved appearance of the pit(s).

Simulation for Viewpoint 5

Viewpoint 5 is from Pole Line Road. This view would only be altered by a physical barrier along the existing trail at this location. This barrier would serve to define the edges of the trail and would prevent incursions by trail users into the adjacent sensitive habitat. This barrier could be constructed using boulders or other natural features to ensure that visual impacts are less than significant.

Simulation for Viewpoint 8

Viewpoint 8 looks southwest just west of the original Greenspot Road Bridge. There would be no changes to this viewshed with the exception of the realignment of Greenspot Road and the associated new bridge. The original Greenspot Road Bridge is part of Highland's planned trail system and no longer supports vehicular traffic.

As outlined above, implementation of expanded mining would result in the removal of native vegetation, disrupting the color pattern of the area and creating a perceptible change in the view from this location. Expanded mining areas would be reclaimed following the completion of mining activities. The reclamation activities would clear up irregular formations through grading and revegetation and would produce an improved appearance of the pit(s). However, the completion reclamation activities including the establishment of vegetation would not be completed until an extended period of time from the initial disturbances of expanded mining.

Expanded Mining

Disturbances to the views of the Plan Area from continuing and expanded mining operations, would mainly affect near views from areas of public access (i.e., I-210, Alabama Street, Orange Street). Views of the Plan Area from public roads are considered a visual resource. Near views are considered to be points of view that are observed within a close range. Prime views are defined as the views of the mountains, which form the backdrop of the Plan Area and implementation of the Proposed Action/Projects would not change these views.

During the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the existing visual character and quality of the Plan Area will be substantially and adversely affected. Expanded mining would result in temporary significant and unavoidable impacts to visual resources in the Plan Area. Mitigation measures are outlined below to minimize impacts from expanded aggregate mining as much as possible.

To shield the proposed expansion of the quarry pits from public view and maintain the existing landscape as much as possible, the following mitigation measures shall be implemented:

- MM VIS-1** Prior to initiating grading for expanding mining pits/quarries east and west of Boulder Avenue and Orange Street a berm shall be constructed and maintained by the mining operator closest to these roadways. The berm shall be planted with vegetation consistent with the natural community throughout the Plan Area (Riversidean Alluvial Fan Sage Scrub "RAFSS") and approved by the Conservation District. Berm and landscaping plans shall be submitted to the Conservation District and the City of Highland for review and approval.
- MM VIS-2** Trees at least 15 gallons in size and of a species native to the Plan Area shall be planted by the mining operator along the western edge of the SR-210 freeway Right-of-Way on Conservation District owned property within six months following the issuance of mining permits. These trees shall be placed 15 feet apart to allow for unrestricted growth but ensuring that views of the quarry are blocked from passing motorists on SR-210. The mining operator shall submit landscaping plans to the City of Highland and the City of Redlands for review and approval prior to quarry expansion. The trees shall be maintained for the life of the quarry and replaced, if necessary, by the mining operator.
- MM VIS-3** Trees of a species native to the Plan Area shall be planted along the eastern edge of the Alabama Street Quarry, where space is available that parallels SR-210. These trees shall be 15 feet apart to ensure unrestricted growth while ensuring that views of the quarry are blocked from passing motorists on SR-210. The mining operator shall draw plans for such trees and plantings and submit landscaping plans to the City of Highland and the City of Redlands for review and approval prior to quarry expansion. The trees shall be maintained for the life of the quarry and replaced, if necessary, by the mining operator.
- MM VIS-4** The slopes of the quarries shall be reclaimed upon the completion of mining activities and re-vegetated per the approved Reclamation Plans by the mining operators. This shall be done with species common to the RAFSS and approved by the Conservation District and the Cities of Highland and Redlands.

During the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the visual quality of the Plan Area will be substantially and adversely affected. Implementation of Mitigation Measures MM VIS-1, MM VIS-2, MM VIS-3, and MM VIS-4 would reduce visual impacts to the greatest extent possible. However, even after implementation of these mitigation measures, active mining operations would substantially degrade the visual quality of the site until reclamation is complete, and these impacts are significant and unavoidable.

Other Covered Activities

Aggregate Mining

As the Proposed Projects include the expansion of areas being mined for aggregate, there would be effects on visual resources within these immediate areas. This would include new open pits and

associated haul roads. The majority of these roads would be located outside of the public view, with the exception of places where they are concurrent with existing public roads and where they cross under the freeway.

The expansion of mining activities in the Plan Area would be visible in the foreground/middleground. The expanded mining pits and associated haul roads are located at a lower elevation than viewers traveling along the main roadways and freeway that crosses the Plan Area. These disturbances would have an adverse visual effect on the landscape by creating larger areas that are disturbed, and the natural vegetation removed. However, reclamation of these sites after the cessation of mining activities would help restore the visual character and quality to a more natural state and to blend in and resemble more closely the surrounding undisturbed areas. Expansion of aggregate mining activities would not result in a significantly different aesthetic imprint as the expanded areas will be located adjacent to and in between existing pits and not in new areas that are relatively undisturbed in the more central and eastern portions of the Plan Area.

There would be construction of additional haul roads associated with the increase in mining activities in the Plan Area. The majority of these roads would be located outside of the public view behind patches of native habitat, with the exception of places where they are concurrent with or cross under existing public roads and the SR-210 freeway.

The greatest impact to the existing visual character of the Plan Area is during construction and operation of aggregate mining pits which can be seen by the general public driving on Alabama Street, SR-210 freeway, and Boulder Avenue/Orange Street. During the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views of the Plan Area will be substantially and adversely affected. Implementation of Mitigation Measures MM VIS-1, MM VIS-2, MM VIS-3, and MM VIS-4 would reduce visual impacts to the greatest extent possible. However, even after implementation of these mitigation measures, active mining operations would substantially degrade the visual quality of the site until reclamation is complete, and these impacts are significant and unavoidable.

Aggregate mining operations would expand in the Plan Area which has the potential to increase light and glare in the area due to the increase presence of mining machinery and associated operating processes.

Water Conservation

Existing water conservation facilities in the Plan Area including access roads, canals, culverts, basins, dikes, and other diversion structures would continue to be operated and maintained. Construction and operation of additional basins would result in minor grading and removal of native vegetation. These basins would affect near views, which are considered to be points of view that are observed at close range, largely from Greenspot Road. However, the basins are at or below grade and would not include any above ground obstructions to the scenic view of the surrounding mountains. Water conservation projects would not have a substantial adverse effect on a scenic vista.

Operation and maintenance of basins would include periodic ponding of water in the basins and re-growth and removal of native and non-native vegetation. The basins are developed utilizing the existing topographic relief of the area they are to be located. The proposed new basins are proposed between existing basins in the eastern portion of the Plan Area. The proposed basins would be most visible from the proposed trails across the Plan Area and to a lesser extent from Greenspot Road to the northeast. Although the existing and proposed new basins are visible from various proposed trails and portions of Greenspot Road, they are set within the existing topography and native habitat patches are located between each of the basins and between the roads and trails and the basins. Therefore, the basins are integrated along with portions of the Plan Area that will remain in its natural vegetated state. The water conservation basins will not substantially degrade the existing visual character or quality of the Plan Area.

Wells and Water Infrastructure

Currently both the East Valley Water District (EVWD) and Redlands Municipal Utilities Department (RMUD) operate water production facilities in the Plan Area. Construction of new wells and pipelines would result in temporary ground disturbances and vegetation removal; however, individual project footprints are generally small (2-4 acres) and located near roadways. Construction of new wells and pipelines therefore would not substantially degrade the existing visual character or quality of the Plan Area. Impacts would be less than significant.

Transportation

The Proposed Projects includes roadway widening and maintenance of Alabama Street, and Orange Street-Boulder Avenue. The proposed widening would occur along existing improved road rights-of-way and therefore would not substantially change the existing visual quality of the Plan Area. Because the existing character of these areas would be largely preserved, impacts would be less than significant.

Flood Control

The proposed flood control projects include, Elder/Plunge Creek in-stream restoration, in-stream, levee, and access road maintenance, stockpiling and storm drains and outlet pipes. The maintenance would be conducted along/within existing facilities. The planned stockpile location is an existing mining pit and would not be a large above ground mound. Construction of storm drains and outlets are located below ground and at ground level. Flood control projects would not substantially change the existing visual character or quality of the Plan Area.

Trails

The development and operation of the trail system is planned to only use existing roads and access easements to minimize disturbance impacts and removal of vegetation. The trail system would not substantially change the existing visual character or quality of the Plan Area.

The Proposed Projects would also include the designation of trail rights-of-way in the Wash Plan Area. These would be located adjacent to Alabama Street, Greenspot Road, and Orange Street-Boulder Avenue. As the proposed rights-of-way are located on existing streets, service roads, or old railroad beds, no effects on visual resources such as trees, rock outcroppings, or historic buildings would occur. Although there would be construction of barriers within these rights-of-way to prevent the public from accessing sensitive biological areas, these barriers would be created with local materials such as large boulders, and therefore, would not affect visual resources in these areas. The development and operation of the trail system is planned to only use existing roads and access easements to minimize disturbance impacts and removal of vegetation. The trail system would not substantially change the existing visual character or quality of the Plan Area.

Habitat Enhancement and Monitoring

Habitat enhancement, restoration, creation, and management could include temporary soil disturbance and removal of invasive species that could have a temporary adverse impact to visual resources in the immediate vicinity. However, overall these activities would help maintain natural vegetation and habitat in the Plan Area and retain the visual character over the long term. The habitat enhancement activities would not substantially change the existing visual character or quality of the Plan Area.

Agriculture

There is a 6.7-acre citrus grove operated within the Plan Area. Continued operation and maintenance of this grove would not substantially change the existing visual character or quality of the Plan Area. These activities would not require the long-term presence of equipment or facilities that could create a new source of substantial light or cause glare. Therefore, no impacts would occur. Therefore, no impacts would occur.

Light, Glare, and Nighttime Views

Because some of the mining activity occurs during pre-dawn and post-dusk hours, lighting from mining vehicles would be present in the Plan Area. Existing lighting used for operations would be moved to new locations as a result of new areas being mined. The use of haul roads would be limited to mining company vehicles and additional light sources would consist only of these vehicles' headlights, which would create only limited light intrusion and have no effect on evening or early morning views. Nighttime views would remain unchanged. Aggregate mining operations would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Construction and maintenance of other Proposed Projects would result in additional light sources from construction and maintenance vehicles' headlights, which would create only limited light intrusion. Nighttime views would remain unchanged. Construction and maintenance activities would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the Plan Area.

Determination: Impacts to visual resources in the Plan Area from the Proposed Action/Projects are less than significant, with the exception of aggregate mining expansion. However, during the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the visual character and quality of the Plan Area will be substantially and adversely affected, even after implementation of these mitigation measures.

MITIGATION MEASURES

To shield the proposed expansion of the quarry pits from public view and maintain the existing landscape as much as possible, the following mitigation measures shall be implemented:

- MM VIS-1** Prior to initiating grading for expanding mining pits/quarries east and west of Boulder Avenue and Orange Street a berm shall be constructed and maintained by the mining operator closest to these roadways. The berm shall be planted with vegetation consistent with the natural community throughout the Plan Area (RAFSS) and approved by the Conservation District. Berm and landscaping plans shall be submitted to the Conservation District and the City of Highland for review and approval.
- MM VIS-2** Trees at least 15 gallons in size and of a species native to the Plan Area shall be planted by the mining operator along the western edge of the SR-210 freeway Right-of-Way on Conservation District owned property within six months following the issuance of mining permits. These trees shall be placed 15 feet apart to allow for unrestricted growth, but ensuring that views of the quarry are blocked from passing motorists on SR-210. The mining operator shall submit landscaping plans to the City of Highland and the City of Redlands for review and approval prior to quarry expansion. The trees shall be maintained for the life of the quarry and replaced, if necessary, by the mining operator.
- MM VIS-3** Trees of a species native to the Plan Area shall be planted along the eastern edge of the Alabama Street Quarry, where space is available that parallels SR-210. These trees shall be 15 feet apart to ensure unrestricted growth while ensuring that views of the quarry are blocked from passing motorists on SR-210. The mining operator shall draw plans for such trees and plantings and submit landscaping plans to the City of Highland and the City of Redlands for review and approval prior to quarry expansion. The trees shall be maintained for the life of the quarry and replaced, if necessary, by the mining operator.
- MM VIS-4** The slopes of the quarries shall be reclaimed upon the completion of mining activities and re-vegetated per the approved Reclamation Plans by the mining operators. This shall be done with species common to the RAFSS and approved by the Conservation District and the Cities of Highland and Redlands.

RESIDUAL IMPACTS AFTER MITIGATION

If the Mitigation Measures, described above, are implemented with the Proposed Projects, impacts on visual resources and the visual character and quality of the Plan Area from active aggregate mining would be significant and unavoidable until reclamation activities are complete.

4.8.1.3 Alternative C: 2008 Land Management Plan

Scenic Vistas, Visual Character, and Scenic Resources

As with Alternative B, planned activities include water recharge basins, trails, and flood control maintenance. These activities would result in indirect effects on visual resources within and the visual character of the Plan Area. However, because they sit below the surrounding topography and there are patches of native habitat between them they integrate well with the portions of the Plan Area that will remain in a natural vegetated state. Because they are low profile they are low profile and screened by native vegetation they are not expected to significantly degrade the existing visual character or quality of the Plan Area.

As with Alternative B, unavoidable adverse impacts to visual resources within the Plan Area could occur from flooding events and wildfires. The Seven Oaks Dam provides significant storm water runoff attenuation and substantially reduces the risk of flooding and erosion in the Plan Area. Potential adverse effects to visual resources in the Plan Area from flooding are less than significant. Implementation of the 2008 Land Management Plan is anticipated to result in a decrease of non-authorized human presence in the Plan Area due to increase patrolling of the Plan Area by Preserve Manager and Participating Entities/Task Force Members. Implementation of Habitat Management which includes the control of non-native annual grasses and other invasive non-native plants will reduce fuel for wildfires. Potential risks of wildfires and resulting adverse effects to visual resources in the Plan Area are less than significant.

The development and operation of the trail system is planned to primarily use existing roads and access easements to minimize impacts on vegetation. Flood control maintenance activities are planned in active stream channels that are largely devoid of vegetation.

Expanded Mining

During the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views of near views of the Plan Area will be substantially and adversely affected. Expanded mining would result in temporary significant and unavoidable impacts to visual resources in the Plan Area. Mitigation measures are outlined below to minimize impacts from expanded aggregate mining as much as possible.

Alternative C would allow 32 more acres of expanded mining than Alternative B, and therefore, would have a larger impact on visual resources and the visual character and quality of the Plan Area. During the

period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the visual quality of the Plan Area will be substantially and adversely affected. Implementation of Mitigation Measures MM VIS-1, MM VIS-2, MM VIS-3, and MM VIS-4 would reduce visual impacts to the greatest extent possible. However, even after implementation of these mitigation measures, active mining operations would substantially degrade the visual quality of the site until reclamation is complete, and these impacts are significant and unavoidable.

Other Proposed Projects

The non-mining projects in Alternative C would be similar to those in Alternative B. Therefore, they would not be expected to result in substantial impacts to scenic vistas or degrade the existing visual character or quality of the Plan Area or its scenic resources.

Light, Glare, and Nighttime Views

As with Alternative B, because some of the mining activity occurs during pre-dawn and post-dusk hours, lighting from mining vehicles would be present in the Plan Area. Existing lighting used for operations would be moved to new locations as a result of new areas being mined. The use of haul roads would be limited to mining company vehicles and additional light sources would consist only of these vehicles' headlights, which would create only limited light intrusion and have no effect on evening or early morning views. Nighttime views would remain unchanged. Aggregate mining operations would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Other construction projects and maintenance activities would result in additional light sources from vehicles' headlights, which would create only limited light intrusion. Nighttime views would remain unchanged. Construction projects and maintenance activities would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the Plan Area.

Determination: Impacts to visual resources in the Plan Area from 2008 Land Management Plan projects are less than significant, with the exception of aggregate mining expansion. However, during the period between initial disturbances for expanded aggregate mining and when reclamation activities are completed, near views and the visual character and quality of the Plan Area will be substantially and adversely affected, even after implementation of these mitigation measures. Adverse effects from mining on visual resources would be significant and unavoidable.

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4.9 CULTURAL RESOURCES

This section focuses on potential effects of the alternatives on pre-historic resources, historic resources, and cultural tribal resources. The information and analysis in this section is based on the CRA, January 2005, prepared by LSA and the *Cultural Resources Assessment*, August 2015, which was completed by BCR Consulting, LLC (BCR).

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA* Guidelines and are consistent with NEPA implementing regulation Section 1508.27. An alternative would result in significant impacts related to cultural and/or tribal resources if it would cause any of the following to occur:

- Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA* Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA* Guidelines Section 15064.5
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources.
- Disturb any human remains, including those interred outside of formal cemeteries.
- Have a substantial adverse effect on a Tribal Cultural Resource.

4.9.1 DIRECT AND INDIRECT EFFECTS

4.9.1.1 Alternative A: No Action Alternative

In the No Action Alternative, the USFWS would not issue an incidental take permit for Covered Activities. Current mining and water conservation operations would continue. The No Action Alternative does not include the construction of any water, storm drain, or roadway infrastructure or other structures that could result in adverse impacts to any cultural resources.

Determination: The No Action Alternative would not result in significant adverse impacts associated with cultural resources.

4.9.1.2 Alternative B: Proposed Action/Projects

The APE consists of the horizontal and vertical limits of Proposed Projects/Covered Activities, and includes the area within which significant impacts or adverse effects to historic property under Section

106 of the NHPA and a historical resource under CEQA could occur. The horizontal APE consists of all areas where activities are proposed, the footprint of Covered Activities, as shown in Figure 2.0-1, *Covered Activities*. The vertical APE is described as the maximum depth below the surface to which grading and excavations will extend. Covered Activities such as aggregate mining, new recharge basins, well and pipeline infrastructure, would include grading or excavation. Thus, the vertical APE includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE varies across the project site.

- CUL-1** Would the Project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? ***Determination: Less than significant impact with mitigation implemented.***
- CUL-2** Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? ***Determination: Less than significant impact with mitigation implemented.***
- CUL-3** Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources? ***Determination: Less than significant impact with mitigation implemented.***
- CUL-4** Would the Project disturb any human remains, including those interred outside of formal cemeteries? ***Determination: Less than significant impact with mitigation implemented.***
- CUL-5** Would the Project have a substantial adverse effect on a Tribal Cultural Resource? ***Determination: Less than significant impact with mitigation implemented.***

Pre-historic Resources

No pre-historic resources were identified through the records search or pedestrian survey within the Plan Area.

As lead Federal agency, the USFWS sent letters to the Native American Tribes of the area and conducted consultation with interested Native American Tribes regarding the Proposed Action/Projects. The letters were sent on May 13, 2015 to the San Manuel Band of Mission Indians, attention Lynn Valbuena, Chairwoman, the Morongo Band of Mission Indians, attention Robert Martin, Chairperson, the San Fernando Band of Mission Indians, attention John Valenzuela, Chairperson, and the Serrano Nation of Mission Indians, attention Goldie Walker, Chairwoman¹. The letter contained a summary of relevant Federal laws, regulation, and policies and the co-lead role in notifying Native American Tribes in the area. The letter then discussed background information and how it relates to the Proposed Action/Projects. The letter ends with USFWS seeking views and comments from the tribe and offers

¹ Letters were sent to tribes and contact persons as identified in the Native American Contact List, San Bernardino County, March 19, 2015, provided by the Native American Heritage Commission.

further coordination and consultation, should the tribe wish to do so, with contact information. The USFWS did not receive any responses to the May 13, 2015 letters from these tribes. AB 52 Tribal Consultation applies to projects for which the NOP, Notice of Mitigated Negative Declaration or Notice of Negative Declaration is filed on or after July 1, 2015. A NOP to prepare a joint EIS/Supplemental EIR was filed with the State Clearinghouse (SCH# 2015031022) by the Conservation District on March 5, 2015 for a public and agency review of 30 days, through April 3, 2015. The NOP was also filed with the San Bernardino County Clerk of the Board. Therefore, this project is not required to comply with AB 52. However, the Conservation District initiated AB 52-like consultation with the San Manuel Band of Mission Indians, the Soboba Band of Luiseño Indians, and the Gabrielaño Band of Mission Indians for this project starting in October 2017.

Soboba Band of Luiseño Indians site visit and meeting on December 5, 2017. Soboba Band of Luiseño Indian representatives were concerned about impacts to remnant water facilities and asked about NHPA Section 106 consultation with the federal lead agencies.

The Conservation District met with the Gabrielaño Band of Mission Indians on December 13, 2017. The Gabrielaño Band of Mission Indian representatives at the meeting expressed concern for burial sites along riparian corridors and requested notification of ground disturbances and that qualified monitors are allowed on site.

The Conservation District, BLM and USFWS met with the San Manuel Band of Mission Indians (SMBMI) on November 27, 2017. Lee Claus, Director, Cultural Resources Management, sent an email to Jeffrey Beehler at the Conservation District on November 29, 2017 that included a recap of the Tribe's comments summarized below:

1. SMBMI desires to continue traditional plant gathering as outlined in the current MOU with the Conservation District. The Conservation District confirmed that the adoption and/or implementation of the HCP would not diminish or alter the MOU as the plant gathering is considered a Covered Activity.
2. SMBMI expressed concern about the use of herbicide used for the management of non-native plants. The HCP managers will inform the tribe on herbicide application locations and timing and rotational application of herbicides with gathering seasons.
3. SMBMI expressed some concern about removal of tree tobacco. The Conservation District will retain some non-native vegetation areas, including tree tobacco, in the Plan Area.
4. SMBMI reviewed the BCR-authored CRA and requested that an addendum be prepared with additional information provided.

The Conservation District, BLM, and USFWS have addressed the concerns of the tribes and will maintain coordination with the tribes as individual Proposed Projects move forward.

Historic Resources

CA-SBR-6006-H Civilian Conservation Corps Cone Camp (Cone Camp). Cone Camp was recorded in June 1987 (by R. Paul Hampson, Roderick S. Brown, and Margaret A. Doyle of Greenwood and Associates) to include 38 features. Between 1931 and 1938 the Civilian Conservation Corps (CCC) used the camp as a worker base. Between 1942 and 1964 its buildings were leased to house local orchard workers under the Federal “Bracero Program.” At its peak, the camp housed more than 1,000 workers. The buildings were used for storage until 1977, when the wood frames were burned for fire department training exercises. The site was revisited in 2004 and overall the site integrity remained good, and artificial impacts were noted at the time as minimal. Some natural deterioration was evident. Cone Camp is located in the Neutral Lands and Newly Conserved Lands subcomponent of the HCP, as shown in Figure 1.0-6, *Wash Plan HCP Subcomponents*, and is owned or under a Conservation Easement by the Conservation District. Cone Camp is not located within the mapped Covered Activities/Projects footprints and would not be adversely affected by implementation of Covered Activities/Projects.

P-36-5526, the historic-period orchard complex, was previously recorded as a historic period orchard and associated features. Features included poured concrete footings with exposed iron anchor bolts, a house foundation, several cobble/boulder pads, one poured concrete slab, a cement and cobble aqueduct, and numerous debris scatters. Artifacts included sun colored amethyst bottle glass, amber hand-tooled bottle finishes, tobacco tins, hole in cap cans, brick fragments, whiteware, and blue and porcelain ceramic fragments. During the 2015 survey effort it was found in place, basically intact as recorded.

P-36-5526 was determined eligible for National Register listing (ergo eligible for California Register listing) in 1991. The 2015 CRA has confirmed this and has confirmed that the resource appears to retain integrity. As a result, this resource is recommended a historic property under Section 106 of the NHPA and a historical resource under CEQA.

P-36-5526 is located in the Neutral Lands subcomponent of the HCP, as shown in Figure 1.0-6, *Wash Plan HCP Subcomponents*, and is owned by the Conservation District. **P-36-5526** is not located on lands that will be exchanged between the Conservation District and BLM. **P-36-5526** is located between proposed SBVMWD recharge basins (Covered Activity VD.01) and could be adversely affected by construction of this Covered Activity/Project. The Proposed Action/Projects could result in significant adverse impacts on **P-36-5526**, the historic-period orchard complex that was determined for California Register listing and is recommended a historical resource under CEQA. The following mitigation measure (CR-1) would reduce potential adverse impacts.

P-36-6062, a multiple-episode deposit of historic-period debris, was previously recorded as a historic-period domestic debris deposit composed of five loci on either side of a dirt road. Debris included steel beverage cans, aluminum cans, milk tins, glass fragments (brown, clear, cobalt, olive, and sun-colored amethyst), stoneware fragments, metal rivets and one rubber shoe. During the 2015 survey effort the

site was found in place as recorded. **P-36-6062** is recommended potentially eligible for National Register and California Register listing eligibility due to its potential significance.

P-36-6062 is located in the Neutral Lands subcomponent of the HCP, as shown in Figure 1.0-6, *Wash Plan HCP Subcomponents*, and is owned by the Conservation District. **P-36-6062** is not located on lands that will be exchanged between the Conservation District and BLM. **P-36-6062** is located within proposed SBVMWD recharge basins (Covered Activity VD.01) and would be adversely affected by construction of this Covered Activity/Project. The Proposed Action/Projects are anticipated to result in significant adverse impacts on **P-36-6062**, a multiple-episode deposit of historic-period debris, which is recommended potentially eligible for California Register listing and potential historical resource under CEQA. The following mitigation measure (CR-1) would reduce potential adverse impacts.

MM CR-1 To reduce potential adverse impacts from construction of Proposed Projects/Covered Activities on cultural resources (**P-36-5526** recommended as a historic property under Section 106 of the NHPA and **P-36-6062** recommended potentially eligible for National Register listing and potentially a historic property) one of the following options shall be implemented:

- Avoidance and Preservation in place.
- If avoidance and preservation in place is not feasible, then a Phase III data recovery plan, which provides for adequately recovering scientifically consequential information from and about the historic property/historical resource, shall be prepared and adopted prior to any undertaking or project-related excavation.

Paleontological Resources

Because there are no paleontological resources located within the vicinity of the Plan Area, and because sediments suitable for containing significant vertebrate paleontological resources are absent there would be no impacts to any of the nine components of the Wash Plan associated with directly or indirectly destroying a unique paleontological resource or site or unique geological site. No mitigation is required.

Determination: The Proposed Action/Projects could result in significant adverse impacts on **P-36-5526**, the historic-period orchard complex that was determined eligible for National Register listing in 1991 and is recommended a historic property under Section 106 of the NHPA. The Proposed Action/Projects are anticipated to result in significant adverse impacts on **P-36-6062**, a multiple-episode deposit of historic-period debris, that is recommended potentially eligible for National Register listing. Implementation of Mitigation Measure CR-1 would reduce potential impacts to these cultural resources to less than significant levels.

MITIGATION MEASURES

MM CR-2 An archaeological monitor shall be present during any proposed earthmoving activities for Proposed Projects. The monitor should work under the direct supervision of a cultural resources professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (the project archaeologist). Prior to commencement of any earthmoving activities, the project archaeologist should attend a pre-construction meeting in order to:

- Discuss safety procedures;
- Become acquainted with essential project personnel;
- Inform construction personnel of field methods; and
- Confirm avoidance of any National Register or (as necessary) California Register eligible or potentially eligible resources.

The monitor should be empowered to divert construction work from any resources set aside for avoidance. The monitor should also be empowered to temporarily halt or redirect construction work in the vicinity of any new find until the project archaeologist can evaluate it. In the event of a new find, salvage excavation and reporting may be required.

MM CR-3 If human remains are encountered during the undertaking, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine/notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

RESIDUAL IMPACTS AFTER MITIGATION

No residual impacts related to cultural or tribal resources would occur with implementation of the Proposed Projects and mitigation measures.

4.9.1.3 Alternative C: 2008 Land Management Plan

As with the Proposed Action/Projects alternative, cultural resources **P-36-5526** and **P-36-6062** are located within areas in the 2008 Land Management Plan proposed for Water Conservation. Implementation of water conservation projects in this area could adversely affect these cultural resources. As with the Proposed Action/Projects alternative, implementation of mitigation measure (CR-

1) would be required to reduce potential adverse impacts from implementing the 2008 Land Management Plan.

Determination: The 2008 Land Management Plan could result in significant adverse impacts on **P-36-5526**, the historic-period orchard complex, which was determined eligible for National Register listing in 1991 and is recommended a historic property under Section 106 of the NHPA. The 2008 Land Management Alternative is anticipated to result in significant adverse impacts on **P-36-6062**, a multiple-episode deposit of historic-period debris that is recommended potentially eligible for National Register listing. Implementation of Mitigation Measure CR-1 would reduce potential impacts to these cultural resources to less than significant levels.

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4.10 NOISE

This section discusses the potential effects of noise and vibration that may result from the alternatives. This impact analysis examines the short-term and long-term impacts of the alternatives on noise sensitive uses adjacent to the Plan Area. Potential impacts from noise on wildlife is covered under *Section 4.4, Biological Resources*.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the *State CEQA Guidelines* and are consistent with *NEPA implementing regulation Section 1508.27*. An alternative would have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the Plan Area are the criteria in the Noise Element of the *City of Highland General Plan* and Municipal Code, and the Noise Element of the *City of Redlands General Plan* and Municipal Code.

Based on Appendix G of the *State CEQA Guidelines*, a project may have a significant noise-related effect on the environment if it would result in any of the following:

- For a project within the vicinity of a private airstrip, exposure of people residing or working in the Plan Area to excessive noise levels.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the Wash Plan Area to excessive noise levels.
- A substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- 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.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

4.10.1 DIRECT AND INDIRECT EFFECTS

4.10.1.1 Alternative A: No Action Alternative

Under the No Action Alternative, mining operations would still occur, and the noise and vibrations generated from mining activities and traffic would continue. These noise levels currently range from 45.4 dBA to 69.2 dBA and are below established local and regional standards. The existing permitted

mining would be mined to completion, but no additional mining permitting is presumed. The No Action Alternative would result in a gradual slowing of mining activities in the Plan Area as aggregate resources are depleted under existing permits and leases. The aggregate sources currently available to Robertson's are expected to be depleted in the next 1-2 years. The aggregate sources currently available to Cemex are expected to be depleted in the next 10-15 years (dependent on the market).

4.10.1.2 Alternative B: Proposed Action/Projects

Airport Noise

NOI-1 Private Airstrip Noise Impacts

*For a project within the vicinity of a private airstrip, would the project expose people residing or working in the Wash Plan Area to excessive noise levels? **Determination: No Impact.***

NOI-2 Public Airport Noise Impacts

*For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Plan Area to excessive noise levels? **Determination: Less than Significant Impact.***

There are no private airstrips located within the Plan Area or within the vicinity of the Plan Area boundary. The Redlands Municipal Airport is located immediately south of the Plan Area, and the San Bernardino International Airport is located immediately west of the Plan Area. The Proposed Action/Projects do not include construction of any residences in the Plan Area and there are no existing residences in the Plan Area. Areas surrounding both airports, which include portions of the Plan Area, are exposed to existing aircraft noise associated with these airports. As the Proposed Action/Projects do not include noise-sensitive receptors (e.g., educational facilities, residences, or hospitals), existing aircraft noise would have a less than significant impact on the all of the uses proposed and no mitigation measures are required.

Construction Noise

NOI-3 Construction Noise Impacts

*Would the proposed project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project? **Determination: Less than Significant Impact with Mitigation Incorporated.***

*Would the proposed project result in 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? **Determination: Less than Significant Impact with Mitigation Incorporated.***

Aggregate Mining

Expanded aggregate mining may require future construction for the relocation of mining facilities. Those aggregate processing facilities may, over time, be relocated to take advantage of potential mining excavation opportunities within their present sites. The new facilities would be less permanent in nature and would be constructed within a mining pit existing at that time. The location of the potential new mining facility has not yet been determined. The construction of the mine within a mining pit would create some short-term noise; however, the construction would occur within a mining pit that would create a barrier to noise receptors.

Additionally, a new truck access road is proposed that would connect with 5th Street between Church Avenue and SR-210. The construction of this roadway would create some short-term noise impacts from grading, hauling, paving and other road construction activities. Construction-related short-term noise levels would be higher than existing ambient noise levels in the Plan Area today but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during the construction of the new road. First, construction crew commutes and the transport of construction equipment and materials to the site for the new road would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to a maximum of 87 dBA L_{max}), the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the Plan Area would be less than significant.

The second type of short-term noise impact is related to noise generated during grading and roadway construction on the Plan Area. Construction of the proposed truck access roadway is expected to require the use of earthmoving equipment such as dozers, haul trucks, front-end loaders, and water and pickup trucks. This equipment would be used in the Plan Area. Based on the information in Table I.5-2- in Appendix I, the maximum noise level generated by each scraper on the proposed Plan Area is assumed to be 87 dBA L_{max} at 50 ft from the scraper. Each dozer would generate 85 dBA L_{max} at 50 feet from the dozer. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from the active construction area. The nearest sensitive receptors are residences on Powell Drive, approximately 600 feet from the closest point of the proposed roadway. At this distance the 91 dBA L_{max} would be reduced to less than 70 dBA L_{max} . This is less than the City of Highland's 75 dBA L_{max} exterior noise standard, so there would be no significant impact and no mitigation measures are required. For more details see the CEQA analysis outlined below in Section 4.10.2.2, NOI-3.

Other Covered Activities

Water conservation, wells and water infrastructure, transportation, and flood control construction projects are not anticipated to result in substantial increases in ambient noise. However, noise impacts could occur as a result of future construction projects if they are located within 600 feet from sensitive receptors. Implementation of Mitigation Measure NOI-1 would require site specific noise analyses be conducted prior to construction to ensure noise levels do not exceed City and/or County requirements.

The following mitigation measure would reduce impacts related to increases in ambient noise from construction activities at sensitive receptors:

MM NOI-1 If construction activities are located within 600 feet from sensitive receptors a noise and vibration analysis shall be prepared to confirm that construction noise or vibration generated would not exceed standards at the property line of the nearby sensitive receptors. If the noise analysis indicates construction noise generated would exceed ambient standards then it shall identify the design features (such as noise barriers), their location and height, that are required to reduce construction noise to appropriate standards at the property line of nearby sensitive receptors.

Operation and Maintenance Noise

Existing Operation & Maintenance Activities that occur in the Plan Area include aggregate mining operations, operation and maintenance of water conservation facilities (spreading basins, dikes, weir gates, and access roads), general water wells and pipeline maintenance, flood control channels, levees, and outlets, and other structures and access roads, as well as operation of the 6.7-acre citrus grove.

The types of equipment used for these operation and maintenance activities include dozers, excavators, pickup trucks, haul trucks, scrapers, pavers, rollers, cranes, flatbed trucks, drill rigs, pump hoists, dump trucks, water trucks, and vacuum street sweepers. The different operations and maintenance activities, equipment needs for each, and the max noise level based on the type of equipment used are outlined in detail in Section 3.10, *Noise*, in Table 3.10-6, *Construction and O&M Equipment Noise Levels*.

These various maintenance activities are intermittent and short-term in duration, generally not lasting more than several days at a time or several weeks for more extensive maintenance needs. Maintenance of existing water conservation spreading basins, at the closest part of the basins, is located approximately 1,000 feet from the nearest residence. Most water conservation wells are not located near residences. The closest existing well to a residence is located south of Greenspot Road and just north of the existing citrus grove, approximately 800 feet from the nearest residences on the north side of Greenspot Road. Various flood control facilities including channels, outlets, levees and access roads in and outside the Plan Area are maintained. Flood control facilities closest to existing residences are located south of Greenspot Road and 5th Street and are within several hundred feet of residences. The existing citrus grove is located approximately 1,000 feet to the nearest residences on the north side of

Greenspot Road. Existing and future maintenance activities are not anticipated to result in substantial increases in ambient noise at sensitive receptors just outside the Plan Area.

Mobile Source Noise

NOI-4 Mobile Source Noise Impacts to Sensitive Receptors

*Would the proposed project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project? **Determination: Less than Significant Impact.***

*Would the proposed project result in 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? **Determination: Less than Significant Impact.***

Aggregate Mining

Vehicular traffic noise associated with the expansion of mining activities would potentially impact off-site noise-sensitive land uses. With the expansion of the mining activities, mobile noise sources would include truck traffic both within the project and on adjacent roads and the operation of heavy mobile equipment within the Plan Area. The expansion of the mining activities is anticipated to increase the amount of activity within the Plan Area boundary and the number of trucks on the local roadways.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the Plan Area vicinity. As previously noted, this model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry to compute typical equivalent noise levels during daytime, evening, and nighttime hours. Modeling parameters for the future 2030 ADT volumes, vehicle speed, and roadway geometry were obtained from the *Traffic Study* (LSA 2007). See appendix I for the list of parameters used for each roadway as well as the baseline traffic noise levels with and without the Projects.

The 2008 and 2030 With Project (Mining Expansion) scenarios would have a traffic noise increase of up to 0.1 dBA. As changes in noise levels of 3 dBA or less are not perceptible to the human ear in an outdoor environment, these noise level increases would be considered less than significant. The noise from the heavy-duty truck traffic on the new truck access road at 5th Street between Church Avenue and SR-210 would not cause a significant noise impact to the nearest sensitive receptors approximately 500 feet to the north on Powell Drive. No mitigation measures are required.

All Other Proposed Projects

Operation and maintenance activities associated with water conservation, wells and water infrastructure, transportation, flood control, trails, habitat enhancement & monitoring, and the citrus grove would not require significantly more vehicle trips that would increase ambient noise along roadways in the Plan Area. A less than significant impact associated with these operation and maintenance activities would occur and no mitigation is required.

Stationary Source Noise

NOI-5 Stationary Source Noise Impacts to Sensitive Receptors

*Would the proposed project result in a substantial temporary, periodic, and/or permanent increase in ambient noise levels in the project vicinity above levels existing without the project? **Determination: Less than Significant Impact.***

*Would the proposed project result in 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? **Determination: Less than Significant Impact.***

Aggregate Mining

The mining operations would potentially result in noise impacts on noise-sensitive land uses adjacent to the Plan Area. Mining operations include excavation, transporting, and processing of materials in the Plan Area.

The closest existing residences are located approximately 1,300 feet from the closest excavation site and 1,690 feet from the closest aggregate processing area and would experience maximum noise levels up to 67 dBA L_{max} . Also, the closest future planned residence is located approximately 1,700 feet from the aggregate mining area and would experience maximum noise levels up to 64 dBA L_{max} . The Cities of Highland and Redland Municipal Codes limit noise levels for over a specified duration in any hour. Maximum noise levels generated by excavation equipment in the mining area would involve 1 or 2 minutes and would not exceed the Cities' 30-, 15-, 10-, 5-, or 1-minute noise standards. The Cities of Highland and Redlands also have daytime and nighttime maximum noise level limits. The City of Highland has a daytime maximum noise level of 80 dBA L_{max} and a nighttime maximum noise level of 75 dBA L_{max} , and the City of Redlands has a daytime maximum noise level of 80 dBA L_{max} and a nighttime maximum noise level of 70 dBA L_{max} . Noise levels generated by excavation equipment measured outside of the Plan Area would be below the Cities' daytime and nighttime maximum noise levels. Therefore, a less than significant impact would occur with the on-site excavation of aggregate materials, and no mitigation measures are required.

Transporting equipment, such as haul trucks, transport excavated materials from the mining area to the processing plants. Water trucks are used to spray haul routes with water to control fugitive dust. As shown in Tables 4.10-1 and 4.10-6, haul trucks would generate a maximum noise level of 88 dBA L_{max} at 50 feet and water trucks would generate maximum noise level of 86 dBA L_{max} at 50 feet from these vehicles. The processing plant at the East Basin is the closest facility to residences located in the northwest of the Plan Area. Three rock crushers are currently located at the processing facility in the East Basin Pant and would remain the same for the Proposed Action/Projects. Assuming that each rock crusher operates at some distance from the other rock crushers, the worst-case combined noise level during this phase of aggregate mining would be 100 dBA L_{max} at a distance of 50 feet from the active mining area. Haul trucks and water trucks operating at the same time, as a worst-case scenario, would generate a maximum noise level of 90 dBA L_{max} at 50 feet.

The nearest residence to water truck and haul truck transport routes is located approximately 2,540 feet away and would experience noise levels up to 56 dBA L_{max} . Noise levels generated by water trucks and haul trucks would not exceed the Cities' 30-, 15-, 10-, 5-, or 1-minute noise standards. The maximum noise level of 56 dBA L_{max} would also be below the Cities' daytime and nighttime maximum noise levels. Therefore, no significant noise impacts would occur with the on-site transport of excavated materials, and no mitigation measures are required.

Based on manufacturing specifications, back-up alarms for mining vehicles can generate a maximum noise level of 112 dBA L_{max} at a distance of 1 foot as a worst-case scenario. It is assumed that back-up alarms from mining vehicles would not last for more than one minute. Existing residences located approximately 1,690 feet from mining activities would experience a maximum noise level of 47 dBA L_{max} . These noise levels would not exceed the Cities' 30-, 15-, 10-, 5-, 1-minute, or maximum daytime and nighttime noise level standards.

Equipment used to process the aggregate materials consists of rock crushers, conveyors, aggregate screens, stackers, water trucks, and haul trucks. Aggregate materials are transported to the processing plants using haul trucks. Excavated materials are initially crushed and moved to a surge pile using conveyors. Materials are then processed through a vibrating screen to isolate oversized materials for reduction by a secondary cone crusher. Materials are then further reduced in size and conveyed for further screening by tertiary crushers. The completed sizing of the aggregate material is then conveyed to dry finished product screens (asphalt materials) or washed finished products (concrete materials). A fourth-stage crusher and screens are sometimes used for improved particle shape.

The rock crusher is the noisiest equipment during the processing of aggregate materials. Based on previously referenced Tables 4.10-1 and 4.10-6, the maximum noise level generated by one rock crusher is assumed to be 95 dBA L_{max} at 50 feet. The East Basin processing plant is the closest facility to residences in the northwest of the Wash Plan Area. Three rock crushers are currently located at the Robertson's East Basin processing facility and five rock crushers are currently located at the Cemex processing plant. These would remain there for the Proposed Action/Projects. Assuming that each rock crusher operates at some distance from the other rock crushers, the worst-case combined noise level during this phase of aggregate mining would be 100 dBA L_{max} at a distance of 50 feet from the active mining area.

The nearest existing residence to the aggregate processing site is located approximately 1,690 feet away and would experience noise levels up to 65 dBA L_{max} . Residences adjacent to the Plan Area have intervening residential structures or barriers protecting their backyards from the Plan Area. Residential structures and backyard barriers would provide a minimum of a 5 dBA noise reduction. Therefore, with intervening structures and barriers, residences would experience a noise level of up to 60 dBA L_{max} in their backyards. The maximum noise level of 60 dBA L_{max} would not exceed the Cities' 30-, 15-, 10-, 5-, and 1-minute noise standards. Also, noise levels generated by the aggregate processing operations would be below the Cities' daytime and nighttime maximum noise levels. Therefore, no significant noise

impacts would occur with the on-site processing of aggregate materials, and no mitigation measures are required.

All Other Proposed Projects

All other Proposed Projects, including water conservation, wells and water infrastructure, transportation, flood control, trails, habitat enhancement and monitoring and agriculture do not involve any stationary sources of noise. Therefore, noise impacts to sensitive receptors from stationary sources from all other Proposed Projects would be less than significant and no mitigation measures are required.

Groundborne Vibration

Groundborne Vibration or Groundborne Noise Level Impacts

*Would the proposed project result in the exposure of persons to a generation of excessive groundborne vibration or groundborne noise levels? **Determination: Less than Significant Impact with Mitigation Incorporated.***

Aggregate Mining

Groundborne vibrations generated from excavation and processing activities would potentially impact sensitive receptors in the Plan Area vicinity. Conventional aggregate mining practices common to the industry include excavating loose material with bulldozers and loaders and loading rock and sand onto haul trucks for transport from the mine quarry to the primary crusher. Equipment used in the excavation process generally includes a shovel and/or front-end loader, end-dump trucks, dozers, and water trucks. Raw materials from the quarries are generally hauled in large bottom-dump truck-trailers directly to the plant facilities located at the Orange Street Plant and the East Basin Plant between Alabama Street and SR-210 at the Plan Area boundary. Processing at the crusher facilities consists of primary, secondary, and tertiary crushing and wet and dry screening to produce specification-quality and size concrete and asphalt aggregate, sands, and road-base material. The Proposed Project would excavate raw materials using standard open pit mining techniques. Equipment used would not differ (other than as a result of technological advancements or replacement equipment) from the current mining operations in the Plan Area.

Based on data contained in the FTA's *Transit Noise and Vibration Impact Assessment* (FTA, May 2006), bulldozers and other heavy tracked equipment operating in the proposed Plan Area would generate approximately 92 VdB at a distance of 50 feet from the source. According to Caltrans, every doubling of distance from 50 feet results in the reduction of the vibration level by 6 VdB. In other words, the vibration level at 100 feet is approximately 6 VdB lower than the vibration level at 50 feet, and vibration at 200 feet from the source is approximately 6 VdB lower than the vibration level at 100 feet. Thus, sensitive receptors at 100 and 200 feet from the construction activity may be exposed to groundborne vibration up to 86 and 80 VdB, respectively. The closest residences are located approximately 1,690 feet and 1,300 feet from the closest excavation site at East Quarry South and the aggregate processing plant, respectively. The closest residences would be exposed to vibration levels of 62 VdB and 57 VdB. These

vibration levels are below the threshold of human perception of 65 VdB. Vibration levels generated by haul roads, excavation and processing operations would be less than the perceivable level and result in a less than significant impact. No mitigation measures are required.

All Other Proposed Projects

Any groundborne vibration impacts that may occur as a result of future construction would be required to adhere to Mitigation Measure NOI-1, which would require site specific noise and vibration analyses be conducted prior to construction within 600 feet of sensitive receptors to ensure noise levels do not exceed City and/or County requirements.

MM NOI-1 If construction activities are located within 600 feet from sensitive receptors a noise and vibration analysis shall be prepared to confirm that construction noise or vibration generated would not exceed standards at the property line of the nearby sensitive receptors. If the noise analysis indicates construction noise generated would exceed ambient standards then is shall identify the design features (such as noise barriers), their location and height, that are required to reduce construction noise to appropriate standards at the property line of nearby sensitive receptors.

Determination: The Proposed Action/Projects would not expose people working in the Plan Area to excessive noise levels from a private airstrip or public airport. Construction noise and groundborne vibration from aggregate mining would not exceed standards at nearby sensitive receptors. Water conservation, wells and water infrastructure, transportation, and flood control construction projects are not anticipated to result in substantial increases in ambient noise or significant groundborne vibration and implementation of Mitigation Measure NOI-1 would ensure potential impacts from construction on sensitive receptors are less than significant. Aggregate mining operations would not generate noise from mobile or stationary sources that would exceed standards and impacts on sensitive receptors are less than significant. Operation and maintenance of water conservation, water infrastructure, roads, and flood control facilities, and trails, habitat, agriculture would not generate noise from mobile or stationary sources that would exceed standards and potential impacts on sensitive receptors are less than significant.

RESIDUAL IMPACTS AFTER MITIGATION

No residual impacts related to noise would occur after implementation of Mitigation Measure MM NOI-1 for the Proposed Projects. Impacts would be reduced to less than significant levels.

4.10.1.3 Alternative C: 2008 Land Management Plan

As outlined above for Alternative B, the *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than Alternative B (Proposed Action/Projects). Although the traffic impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Modeled noise

levels were based upon vehicle data and project trip generation included in the *Traffic Study*. Consequently, modeled noise impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Therefore, potential impacts from implementation of Alternative C would be consistent with the analysis and conclusions outlined above for Alternative B.

Determination: The 2008 Land Management Plan would not expose people working in the Plan Area to excessive noise levels from a private airstrip or public airport. Construction noise and groundborne vibration from aggregate mining would not exceed standards at nearby sensitive receptors. Water conservation, wells and water infrastructure, transportation, and flood control construction projects and maintenance of these facilities are not anticipated to result in substantial increases in ambient noise or significant groundborne vibration and implementation of Mitigation Measure NOI-1 would ensure potential impacts from construction on sensitive receptors are less than significant. Aggregate mining operations would not generate noise from mobile or stationary sources that would exceed standards and impacts on sensitive receptors are less than significant. Operation and maintenance of water conservation, water infrastructure, roads, flood control facilities, trails, habitat, and agriculture would not generate noise from mobile or stationary sources that would exceed standards and potential impacts on sensitive receptors are less than significant.

4.11 HAZARDS

This section discusses and provides analysis for potential impacts of the alternatives associated with hazards and hazardous materials in the Plan Area. The analysis is intended to satisfy Federal, State, and local requirements, and goals and policies included in the *City of Highland General Plan*, *City of Redlands General Plan*, and the *County of San Bernardino General Plan*.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines and are consistent with NEPA implementing regulation Section 1508.27. An alternative would result in significant impacts regarding hazards if it would do any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment or be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would create a significant hazard to the public or the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.11.1 DIRECT AND INDIRECT EFFECTS

4.11.1.1 Alternative A: No Action Alternative

Under the No Action Alternative, the USFWS would not issue an incidental take permit, the existing mining activities would remain and future operations could continue as allowed within the existing

permits and leases. Hazards and the use of hazardous materials from mining activities would continue as in the existing condition.

Aviation hazards would remain similar to the existing condition and would not change current activities within the Plan Area boundary.

Wildland fire hazards would continue to be present in the portions of the Plan Area as stated above and no new activities in or around the wildland fire hazard areas would occur.

Determination: Under this alternative the HCP would not be implemented. There would be no effects related to hazards or use or spill of hazardous materials, as no new changes related to hazards would occur under Alternative A.

4.11.1.2 Alternative B: Proposed Action/Projects

HAZ-1: Routine Transport, Use, and Disposal of Hazardous Materials

*Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? **Less Than Significant Impact With Mitigation Incorporated.***

HAZ-2: Reasonable Foreseeable Upset and Accident Conditions

*Would the proposed project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment or be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would create a significant hazard to the public or the environment? **Less Than Significant Impact With Mitigation Incorporated.***

HAZ-3: Safety Hazard near Existing or Proposed School

*Would the proposed project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? **Less Than Significant Impact.***

HAZ-6: Wildland Fires

*Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? **Less Than Significant Impact.***

Aggregate Mining

Currently, aggregate mining and associated support activities, such as haul roads, are occurring within the Plan Area. As part of the implementation of the HCP, the existing mining area would be expanded for new aggregate mining. Existing and expanded mining would involve the routine transport, use, or disposal of hazardous materials, petroleum products, concrete admixtures, oils, fuels, greases, and other

hazardous materials in conjunction with operations would continue to be used during mining operations. Although an existing haul road would be expanded as part of the HCP and may involve the use of hazardous materials during construction, standard construction techniques would minimize the release of hazardous waste and would be temporary. Multiple circumstances could cause the accidental release of hazardous materials into the environment, for instance a storage container leak, a spill of hazardous materials, or an equipment leak. Mining activities would not be exempt from all applicable State and Federal laws relating but not limited to containment, remediation, and reporting requirements put forth in the event of a spill or accidental release of hazardous materials. Mining activities with the Plan Area would be compliant with Federal, State, and local regulations, which would ensure that impacts would remain less than significant.

Existing and the expansion of mining activities within the Plan Area would not occur within 0.25 mile of an existing or proposed school. Impacts related to hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would be less than significant.

As part of the implementation of the HCP, the existing mining area would be expanded for new aggregate mining. New structures are not part of the HCP and would not be susceptible to wildland fire hazards within the mining activity areas. Risks associated with wildland fires would not be substantial for people working within the existing and expanded mining operations area. Equipment for fire prevention and suppression is maintained at the mining sites as required with State and local fire codes. Workers shall leave the mining areas should any fire hazard pose a significant risk of loss, injury, or death to the worker. Mining activities within the Plan Area would be compliant with State and local fire codes. Impacts associated with the risk of loss, injury, or death involving wildland fires would be less than significant.

Water Conservation

Activities with water conservation operations within the Plan Area would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Water conservation operations and maintenance would continue to occur as part of the HCP in a similar approach to current practices. Maintenance activities would occur within the basins, stockpile and processing areas, and on roads within the Plan Area footprint. Existing basin facilities shall be expanded within the Plan Area footprint and would be maintained to promote groundwater recharge. Inspections, repairs, sediment removal, stockpiling, lubrication of weir gate wheels and stems, debris removal, service roads vegetation clearing, and filling service road ruts/potholes are examples of typical maintenance activities over varying periods of time within parts of the water conservation area of the Plan Area. Much of the activities described have been part of the existing maintenance practices for the area and would continue. New and expanded water conservation facilities in the Plan Area would involve operations and maintenance activities similar to those currently utilized to ensure water conservation conditions remain optimal. The maintenance of the existing and expanded basin facilities would not pose a significant risk associated with the transport of hazardous materials.

Additionally, the Conservation District would construct and operate new recharge basins on the northwestern portion of the Plan Area on lands owned by the Conservation District. Boulder rows may be placed in areas where unauthorized access occurs frequently or to prevent unauthorized vehicle access.

The construction activities as well as operations and maintenance activities related to the water conservation area for the Plan Area would continue to be compliant with Federal, State, and local regulations associated with the routine transport, use, or disposal of hazardous materials and would not cause a significant impact to the public or environment. Impacts would be less than significant.

Existing and the expansion of water conservation activities within the Plan Area would not occur within 0.25 mile of an existing or proposed school. Impacts related to hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would be less than significant.

The construction activities for water conservation proposed within the Plan Area would be compliant with State and local fire codes. No unauthorized personnel would be within the water conservation facilities and no structures would be constructed. Operations and maintenance activities would also continue to be compliant with State and local fire codes to ensure fire safety remains. Impacts associated with the risk of loss, injury, or death involving wildland fires would be less than significant.

Wells and Water Infrastructure

The SBVMWD would construct eight new wells that would be located off of Alabama Street and Orange Street, which would include an access road, connector pipeline, and main pipeline to convey water produced by the new wells to the existing Texas Grove Reservoir and the Redlands Pump Station, located outside the Plan Area.

The temporary impact area would be restored following construction activities per the guidelines set forth in the HCP for temporary impacts on habitat. The construction stages would first include having professional surveyors clearly marking all limits of disturbance, followed by clearing and grubbing of the vegetation. All impacts would be confined to the footprint of the permanent access roads and would not include the routine transport of hazardous materials. The routine transportation, use, or disposal of hazardous materials would not be part of the construction, and therefore, impacts would be less than significant.

As part of the construction of the Alabama Street wells and Orange Street wells by the SBVMWD, two temporary pipelines (16-inch) would be placed aboveground in existing disturbed habitat in order to convey construction water in the east-west direction from the well sites to nearby mine pits or percolation basins. This activity would not involve the routine transport of hazardous materials.

The City of Redlands plans to construct one new well that would be located off of Orange Street, although the final specific locations would be identified in consultation with the USFWS and the CDFW. This would not result in the routine transport, use, or disposal of hazardous materials.

For wells within the Plan Area, long term general well maintenance would continue to take place to allow long term use of these facilities. Maintenance of wells and associated facilities includes rehabilitation, redevelopment, testing, and/or replacement. Typical activities associated with rehabilitation and redevelopment may include, but are not limited to: temporary removal of above/below ground equipment, brushing and bailing, chemical treatment (oxidizers, cleaning agents (surfactant and/or dispersant), and/or acid treatments), redevelopment, and reinstallation of above/below ground equipment. The use of chemicals for treatment of the wells would not pose a significant threat to the public or the environment through the routine transport, use, or disposal of the chemicals. The areas where chemical treatment would take place shall be closed off to the public and would allow authorized personnel only. The use of potentially hazardous materials for construction, operations, and maintenance for the wells and water infrastructure would be relatively small in scale and would not create a significant impact to accidental conditions for the release of hazardous materials into the environment.

Water pipelines within the Plan Area would also require ongoing maintenance activities and would occur in areas around water conveyance systems such as pipelines, pump stations, blow-offs, turnouts, and vaults. The maintenance activities would not require significant transportation, use, or disposal of hazardous materials and would not pose a significant threat to the environment or public.

Existing and the expansion of wells and water infrastructure activities within the Plan Area would not occur within 0.25 mile of an existing or proposed school. Impacts related to hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would be less than significant.

A portion of the wells and water infrastructure activities, near the northeastern project boundary within the City of Highland, is located in Fire Severity Zone II, which is considered areas at high risk for fire. Other portions of the wells and water infrastructure activities are located within the City of Redland's High Fire Hazard Zone and also within the San Bernardino County Fire Safety Overlay District's FR-2 Fire Safety Review Area 2. The construction activities for the wells and water infrastructure in the Plan Area would be compliant with State and local fire codes. No unauthorized personnel would be within the wells and water infrastructure facilities and no structures would be constructed. Operations and maintenance activities would also continue to be compliant with State and local fire codes to ensure fire safety remains. Impacts associated with the risk of loss, injury, or death involving wildland fires would be considered less than significant.

Transportation

Arterial road/highway maintenance and expansion is planned at a number of locations in the Plan Area. Four of these projects are proposed to obtain coverage under the HCP for the City of Highland. Projects

include the widening of two existing roadways and the construction or replacement of two additional roadway expansions across the northern and western portions of the Plan Area. The construction of these roads may include temporary transportation, use, or disposal of hazardous materials. These impacts would be temporary and would not be ongoing or routine in nature. There would not be a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment from transportation activities included for the HCP. Construction activities would include compliance with Federal, State, and local regulations with temporary storage, handling, and/or disposal of hazardous materials or volatile fuels and would reduce potential significant impacts to less than significant.

Separate from the above transportation activities of the City of Highland, another element of the Plan Area with relation to transportation is the maintenance of the Conservation District's paved roads. Maintenance on these roads includes: shoulder grading, easement and weed control, and sign and guardrail replacement. These activities would not pose significant threats to the public or the environment through the routine transportation, use, or disposal of hazardous materials. Impacts would be less than significant.

Within the City of Highland and the City of Redlands, Boulder Avenue/Orange Street from Greenspot Road to the south limit of the Plan Area would be widened along both sides to include four travel lanes, one center lane and two bike lanes. The northernmost tip of this activity is within 0.25 mile of Beattie Middle School and Highland Grove Elementary School. Boulder Avenue/Orange Street would be improved with standard street improvements such as curb, gutter, sidewalk, landscaped parkway, roadway drainage, and street lights. The construction of said improvements would have temporary impacts and would follow all applicable local, State, and Federal regulations prior to the start of such construction. Upon completion of construction, it is not anticipated significant impacts related to hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste near Beattie Middle School and Highland Grove Elementary School would occur. All other transportation activities included as part of the Plan Area is not located within 0.25 mile of an existing or proposed school. Less than significant impacts would occur.

A portion of the transportation activities, near the northeastern project boundary within the City of Highland, are located in Fire Severity Zone II, which are considered areas at high risk for fire. Portions of the transportation activities located within the City of Redlands are within the City's High Fire Hazard Zone and are also within the San Bernardino County Fire Safety Overlay District's FR-2 Fire Safety Review Area 2. However, these construction activities would be compliant with State and local fire codes and no unauthorized personnel would be within the transportation construction boundaries. Maintenance activities would also continue to be compliant with State and local fire codes to ensure fire safety remains for the public use of the public roads. Ongoing use of the public roads would continue to occur after improvements are constructed. Impacts associated with the risk of loss, injury, or death involving wildland fires would be considered less than significant.

Flood Control

The SBCFCD may conduct the Plunge/ Elder Creek Restoration Project, which is a reasonably foreseeable project and a Covered Activity. This project would be located within an area that remediation of lead and other metals is planned for by BLM on a parcel that was once used as a shooting range. The HCP provides coverage for impacts to species associated with ground disturbing activities required for remediation. This coverage is considered permissive or conditional and would also require the preparation of a lead remediation plan acceptable to the resource agencies. The BLM is currently planning to clean up the former shooting facility. The anticipated take from temporary disturbance and the needed conservation to offset the take is included in the HCP. The area would become part of the BLM's ACEC and the HCP Preserve when the cleanup is complete. With implementation of this cleanup, metal elements including lead, arsenic, antimony, and nickel, would be removed from the soils and alleviate the potential to leach into groundwater and surface runoff. The cleanup would be completed prior to implementing the Elder/ Plunge Creek Restoration-Reasonably Foreseeable Project, a Covered Activity. With Mitigation Measure HAZ-1 (MM HAZ-1), impacts associated with the temporary impacts of the transportation, use, or disposal of hazardous materials and exposure to the public or environment would be less than significant.

Operations and Maintenance of SBCFCD facilities within the Plan Area would occur and shall consist of activities such as in-stream maintenance, access road maintenance, levee maintenance, and stockpiling. These activities would not result in the routine transport, use, or disposal of hazardous materials and would not pose a significant risk associated with such to the environment or the public. All State, local, and Federal regulation for remediation, containment, and reporting requirements for the accidental release of potentially hazardous materials would continue to be followed.

The City of Highland shall also construct operations and maintenance activities of their flood control facilities within the Plan Area including Weaver Street Channel, Greenspot Road drain outlets, and Church Street Channel. These activities would not result in the routine transport, use, or disposal of hazardous materials and would not pose a significant risk to the environment or the public.

The SBCFCD has a stockpiling facility within 0.25 mile south of Beattie Middle School. Maintenance of stockpile locations includes placement of material (i.e., debris and sediment) at specific locations for use in repairs and temporary storage. Stockpiles are often treated to avoid the spread of invasive plants. The specific stockpile location is an existing sediment stockpile area so no new impacts are anticipated. Impacts related to hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste to Beattie Middle School would be less than significant. All other flood control activities included as part of the Plan HCP are not located within 0.25 mile of an existing or proposed school. Less than significant impacts would occur.

Maintenance activities for SBCFCD facilities would continue in similar practice as is currently existing and would not pose significant risks of loss, injury, or death involving wildland fires. No new structures are proposed and flood control facilities lands allow only authorized personnel.

A portion of the Plan Area, near the northeastern project boundary within the City of Highland, is located in Fire Severity Zone II, which is considered areas at high risk for fire. The City of Highland would not allow unauthorized personnel within its flood control facilities and maintenance activities would follow similar practices as is currently existing. No additional risk of loss, injury, or death involving wildland fires would occur as a result of the maintenance activities.

Impacts from flood control activities would not result in a significant risk of loss, injury, or death involving wildland fires.

Trails

The HCP address Covered Species and their habitats associated with the development and operations of a trail system within the Plan Area using primarily existing roads and access easements to minimize impacts. The construction, operation and maintenance of trails is covered by the HCP and is considered a conditionally compatible use, meaning trails are permissible following preparation of a Trail Management Plan (Trail Plan) and its approval by the Wildlife Agencies. Activities associated with trails within the Plan Area would not involve the routine transport, use, or disposal of hazardous materials and would not cause significant impacts with such use.

The City of Highland, as part of the HCP, is seeking a new designation for a recreational trail to be named Greenspot Road Trail. Greenspot Road Trail would be located within 0.25 mile south of Beattie Middle School and Highland Grove Elementary School adjacent to the existing Greenspot Road ROW. The operation and maintenance of this trail would not produce hazardous emissions or require the handling of acutely hazardous materials. Impacts associated with hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste in proximity to Beattie Middle School and Highland Grove Elementary School would be considered less than significant.

Development of trails would be compliant with all State and local fire codes to ensure fire safety remains. Impacts to the risk of loss, injury, or death involving wildland fires would be considered less than significant.

Habitat Enhancement and Monitoring

Habitat restoration and enhancement would generally be temporary and disruptive only in the short term; these activities could involve soil disturbance, removal of undesirable plants, and limited grading. Restoration activities would not result in the routine transportation, use, or disposal of hazardous materials and would not be a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Less than significant impacts would occur.

Restoration activities within the Plan Area would not occur within 0.25 mile of an existing or proposed school. Operations and maintenance included with restoration activities would not involve significant

amounts of hazardous emissions, or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts would be less than significant.

The removal of non-native annual grasses in the Plan Area would help reduce wildlife risk, because during the warmer months of the year they are dry and highly flammable. Removal of non-native vegetation could be completed using four different management treatments including sheep grazing, prescribed fire, the use of herbicides, and mechanical removal. The use of prescribed fire would be coordinated with City of Highland and Redlands fire departments and would only be conducted at times when risk of wildfires is very low, so as not to increase the risk of wildfires in the Plan Area. No new structures are proposed and impacts to people and structures with the risk of loss, injury, or death involving wildland fires is less than significant.

Agriculture

There is one activity in the Plan Area related to agricultural activities and a small recharge demonstration project area at EVWD headquarters. A 6.7-acre citrus grove is operated within the Plan Area. Operation of the grove requires maintenance of access roads and irrigation infrastructure, including a sampling well, as well as, application of herbicide, insecticide, fungicide and fertilizer as needed. Vertebrate grove pests are also managed using procedures designed to avoid impacts on sensitive vertebrate species in adjoining areas. The use of potentially hazardous materials for maintenance of the groves would occur in areas for authorized personnel only and would not pose a significant threat to the public with the routine transportation, use, or disposal of hazardous materials. Amounts of potentially hazardous materials would be small in scale and would not consist of quantities large enough to be a significant hazard to the public through accident conditions involving the release of hazardous materials into the environment. Impacts would be less than significant.

The EVWD has constructed three wetland and demonstration facilities (basins) at their headquarter facility that require maintenance in an area of approximately 1.5 acres. These activities would not cause significant impact with the routine transportation, use, or disposal of hazardous materials.

Agriculture activities within the Plan Area would not occur within 0.25 mile of an existing or proposed school. Operations and maintenance included with agriculture activities would not involve significant amounts of hazardous emissions, or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts would be less than significant.

The EVWD maintenance activities would follow all applicable State and local fire codes to reduce exposure of people and structures to the risks associated with wildland fires. Impacts to the risk of loss, injury, or death involving wildland fires would be less than significant.

HAZ-4: Within Two Miles of a Public or Private Airport

For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, or in the vicinity of a

private airstrip, result in a safety hazard for people residing or working in project area?
Less Than Significant Impact.

The Plan Area's western and central southern boundary is located near the San Bernardino International Airport (SBIA) to the west, and the Redlands Municipal Airport to the south. Currently, the SBIA does not have an Airport Land Use Compatibility Plan (ALUCP) and is absent of an approved ALUCP. The California Airport Land Use Planning Handbook (Handbook) details standard criteria for compatibility zones within an ALUCP and was analyzed in lieu of an adopted ALUCP. The Plan Area is located within the SBX 'Traffic Pattern Zone.' This zone includes all portions of the pattern entry routes and designated traffic pattern. Portions of the Plan Area are also located in the 'Outer Safety Zone', 'Inner Safety Zone', and 'Inner Turning Zone'. The Traffic Pattern Zone allows for residential uses and most nonresidential uses as its zone has an essentially low likelihood of accident occurrence. The Outer Safety Zone area contains a lower altitude than normal traffic patterns as aircraft approaches the area. The Inner Safety Zone area disallows schools, daycare centers, hospitals, nursing homes, hazardous uses, as well as residential uses except on large agricultural parcels. The Inner Turning Zone area contains turning and descending for landing of aircraft or turning and climbing for departure of aircraft.

The Redland Municipal Airport has a 2015 ALUCP that was utilized for analysis of the Plan HCP. The Wash Plan Area's southern boundary is within the Redlands Municipal Airport compatibility Zones 1-6. The Zone 1 is the runway protection zone and prohibits immediately adjacent areas to any other use other than aeronautical functions as it includes the airport's runway and is very high risk. The Zone 2 area is the Inner Approach/Departure Zone contains approaching and departing aircraft and is high risk. Zone 3 is the Inner Turning/Low Traffic Patter Zone, is moderate to high risk, and Zone 4 is the Outer Approach/Departure Zone, is moderate risk. Zone 5 is the Sideline Safety Zone with low to moderate risk and Zone 6 is the Airport Influence Area with low risk.

The Plan Area does not include residences or permanent workplaces. All operations and maintenance activities within the Plan Area would be in compliance with applicable Federal Aviation Regulations (FAR) Part 77 where height limitations are presented. Operations and maintenance activities for the Plan Area are not prohibited in any of the mentioned zones for both airports. Additionally, construction activities to occur within said airport related zones would be required to comply with FAA concurrence with form 7460. Construction, operations, and maintenance activities as included in the Plan Area, would not result in a substantial safety hazard for people working in the Plan Area. Less than significant impacts are anticipated for all Covered Activities/Projects in the Plan Area.

HAZ-5: Emergency Response Plan

Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***Less Than Significant Impact.***

The *City of Redlands General Plan* was utilized for part of this analysis where the Plan Area is located within the City of Redlands' boundaries. Within the *City of Redlands General Plan*, an Emergency Disaster Plan is updated every two years and identifies responses the City will take in emergency situations such as a flood, earthquake, dam failure, terrorists acts, pollution, epidemics, fire, war,

transportation accidents, industrial accidents, storms, civil disturbance, drought, extreme heat, and hazardous spills.

The *City of Highland General Plan* was also utilized for portions of this analysis where the Plan Area is located within the City of Highland's boundaries. The *City of Highland General Plan* maintains emergency preparedness and response programs in emergency situations such as a flood, high winds, earthquake and other geological hazards, hazardous materials accidents, and wildfire.

The City of Redlands as well as the City of Highland follow the *County of San Bernardino General Plan* in relation to evacuation routes that could be used in an emergency. These include State Routes 38, 60, 66, 91, and 210, as well as Interstates 10, 15, and 215.

Each activity covered within the Wash Plan HCP would remain compliant with emergency access and evacuation plans as it applies to local, regional, State, and Federal requirements. With the exception of transportation and trails activities, all other HCP Covered Activities/Projects would not take place within areas that would be accessed or used by the public during an emergency. Temporary construction activities do not pose any long-term impact to an emergency response or evacuation plan. Construction activities would not significantly alter or impair roadways or trails to be utilized in an emergency response or evacuation plan.

Transportation activities to occur as part of the Proposed Projects would improve conditions related to emergency responses and evacuations with the proposed widening and adding lanes for Orange Street within the Plan Area boundary. Transportation activities would allow for better traffic flow and would not significantly alter or impair an emergency response or evacuation plan. Trail activities for the Plan Area would also not significantly alter or impair an emergency response or evacuation plan. Trails would be open for public use, but would not be significantly utilized for evacuation purposes. Interference with an evacuation or emergency plan would not occur with the proposed trail activities.

Overall, all activities to occur under the Plan HCP would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Less than significant impacts would occur.

MITIGATION MEASURES

MM HAZ-1 A lead remediation plan shall be prepared prior to any construction activities for the Elder/ Plunge Creek Restoration-Reasonably Foreseeable Project in accordance with DTSC requirements. The plan shall be acceptable to the resources agencies and further consultation with the USFWS and the CDFW in the development of final design drawings to further minimize species and habitat impacts shall occur.

RESIDUAL IMPACTS AFTER MITIGATION

No residual impacts related to hazards and hazardous materials would occur after implementation of Mitigation Measure MM HAZ-1 for the Proposed Projects. Impacts would be reduced to less than significant.

Determination: Construction and maintenance activities for covered activities would involve temporary use of potentially hazardous materials (such as fuel and lubricants used with construction equipment), however, the amount of hazardous materials would be considered relatively small and use in the Plan Area would be temporary. These activities are required to and would follow all applicable Federal, State, and local regulations related to the use and handling of hazardous materials. Construction and maintenance activities are not expected to increase the potential for aviation hazards or wildlife fire hazards. Alternative B would not result in substantial adverse effects associated with hazards.

4.11.1.3 Alternative C: 2008 Land Management Plan

Alternative C would conserve approximately 312 fewer acres of habitat within the Plan Area than the 2019 HCP (Alternative B) and would result in approximately 88 more acres of permanent impacts as compared to Alternative B. Thus, the differentiation of hazard impacts between Alternative B and Alternative C would be that Alternative C would have greater Covered Activity impact areas and associate use of hazardous materials within the Plan Area. The additional use of hazardous materials would occur, but would follow current practices administered when dealing with materials considered hazardous. Therefore, expanded Covered Activities would not considerably increase hazardous risks to people, structures, or the environment associated with the use of hazardous materials.

Alternative C does not include the development of structures or residences. Workers working in the various operations and maintenance and in the existing and expanded mining activities could be exposed to the risk of wildland fires if fire safety standards are not followed. Much of the maintenance activities (for mining and water conservation) have been part of the existing maintenance practices for the area and would continue. Alternative C would not considerably increase fire hazard risks to people, structures, or the environment.

Determination: Construction and maintenance activities for covered activities would involve temporary use of potentially hazardous materials (such as fuel and lubricants used with construction equipment), however, the amount of hazardous materials would be considered relatively small and use in the Plan Area would be temporary. These activities are required to and would follow all applicable Federal, State, and local regulations related to the use and handling of hazardous materials. Construction and maintenance activities are not expected to increase the potential for aviation hazards or wildlife fire hazards. Alternative C would not result in substantial adverse effects associated with hazards.

4.12 RECREATION

This section discusses the potential effects of the alternatives on recreational uses, i.e., trails, in the Plan Area. The potential impacts on recreational resources are assessed in the context of the goals of the Open Space and Conservation Element of the *City of Redlands General Plan*, *City of Highland General Plan*, and the *County of San Bernardino General Plan* as outlined in Section 3.12, *Recreation*.

It should be noted that the general plans of Redlands, Highland, and the County of San Bernardino are not applicable on Federal lands, and are only applicable to areas outside Federal lands within their respective City or unincorporated County boundaries. There are no other Federal plans prepared that are applicable to the discussion of impacts to trails.

THRESHOLDS AND CRITERIA

The following thresholds of significance are based on Appendix G of the State *CEQA Guidelines* and are consistent with *NEPA implementing regulation Section 1508.27*. An alternative would result in significant impacts to recreation resources including parks and trails if it would cause any of the following to occur:

- REC – 1 Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;
- REC – 2 Include recreational facilities or require the construction or expansion of recreational facilities that have an adverse physical effect on the environment; and/or; result in substantial adverse physical impacts associated with the provision of new or physically altered recreation and park facilities.

4.12.1 DIRECT AND INDIRECT EFFECTS

4.12.1.1 Alternative A: No Action Alternative

Under Alternative A, no changes to current recreational uses would occur. Although there are existing access roads used for mining, water conservation, municipal water utilities, and flood control operations and maintenance, there are currently no existing trails or other recreational facilities specifically developed for the purpose of recreational use by the public within the Plan Area. Public access would continue to be allowed in some areas but restricted to non-motorized recreational vehicles. Passive recreational use (walking, jogging, and bicycling) would continue to be allowed on BLM lands. Although it is not authorized on BLM owned parcels or on surrounding properties owned by private entities (and thus would constitute trespassing), off-road vehicle use (OHV) does occasionally occur in the Plan Area. Passive recreational use (walking, jogging, and bicycling) on privately owned properties in the Plan Area also constitutes trespassing, unless permission is granted by the respective property owner, and in the

case of the Conservation District this is accomplished with a Common Use Agreement. Passive recreational use and a limited amount of OHV trespass on BLM land and private property in the Plan Area is expected to continue to occur under the No Project Alternative. This is expected to result in minor impacts to vegetation and wildlife.

The No Action Alternative does not include construction of new trails or trailheads or management of existing access roads for trail use. The No Action Alternative would not result in direct impacts to the environment from construction of new facilities or indirect impacts from management and use of trails on existing roads. The No Action Alternative would not provide for new recreational opportunities in the Plan Area; therefore, recreational opportunity benefits for surrounding residents in Redlands and Highland and San Bernardino County would not occur. The No Action Alternative would not allow Redlands and Highland to work with the Conservation District to implement HCP compatible elements of their master plan for trails which integrates and provides connection between existing trails in both jurisdictions located outside of the Plan Area to existing access roads/trails within and across the Plan Area.

Determination: Under this alternative the HCP would not be implemented. There would be no new effects from recreational uses because no trails or other recreational facilities would be developed.

4.12.1.2 Alternative B: Proposed Action/Projects

REC-1: Increased Use Existing of Recreational Facilities

*Would the project result in increased use of existing neighborhood and regional parks or other recreational facilities where substantial physical deterioration would occur or be accelerated? **Less Than Significant Impact.***

REC-2: New or Physically Altered Recreation and Park Facilities

*Would the project result in adverse physical impacts associated with the provision of new or physically altered recreation and park facilities or result in substantial adverse physical impacts associated with the provision of new or physically altered recreation and park facilities? **Less Than Significant.***

Aggregate Mining

Activities associated with the operational phase of aggregate mining include the excavation of mineral resources from the land, and do not require new or physically altered recreation and park facilities. However, during the reclamation phase of aggregate mining, it is anticipated that the Silt Pond Quarry would be gradually filled with settled silts, re-vegetated with native plants, and be returned to open space or other potential future uses such as recreational uses. Since the reclamation of the Silt Pond Quarry is part of the reclamation plans for aggregate mining activities, the eventual expansion of this area for potential recreational uses would not have an adverse physical effect on the environment because the reclamation process would return the land more closely to its former and more natural condition. Aggregate mining would not result in the closure or removal of an existing trail or park

available to the public. Therefore, a less than significant impact associated with this issue would occur and no mitigation would be required.

Water Conservation

Activities associated with water conservation within the Plan Area would not provide new or physically alter existing recreation and park facilities. The use of the Borrow Pit for miniature radio controlled aircraft, an existing recreational activity, may continue to occur per the respective annual permit with the Conservation District. Water Conservation Covered Activities in the Borrow Pit include maintenance of existing recharge basins and access roads and is not anticipated affect the miniature radio-controlled aircraft activities. Since the water conservation operations and maintenance activities of the Conservation District would not result in new or physically altered facilities, no impacts related to this issue would occur and no mitigation is required.

Wells and Water Infrastructure

Water production activities consist of pumping water from wells and routing the resulting water to existing distribution systems. Water production activities would not result in the closure or removal of an existing trail or park available to the public. Since water production operations would remain the same with the implementation of the proposed Project, and since water production activities would not result in new or physically altered recreation and park facilities, no impacts related to this issue would occur and no mitigation is required.

Transportation

Implementation of the proposed transportation Projects would result in the designation of additional rights-of-way for Greenspot Road, Alabama Street, and Orange Street-Boulder Avenue. The designation of additional rights-of-way would not result in new or physically altered recreation and park facilities. Rather, the extensions of planned trails along these expanded roadways are proposed. Therefore, no impacts related to this issue would occur and no mitigation is required.

Flood Control

With implementation of the proposed flood control Projects, existing flood control operations would continue to occur and would not change. Flood control activities consist of maintaining existing flood control features such as dikes, basins, and channels and do not involve the provision of new or physically altered recreation and park facilities. Flood control activities would not result in the closure or removal of an existing trail or park available to the public. Since flood control operation and maintenance activities would not result in new or physically altered recreational facilities, no impacts related to this issue would occur and no mitigation is required.

Trails

As outlined above, recreational facilities included in the HCP as Covered Activities/Projects would consist primarily of an interconnecting trails system in the Preserve area that would be available for public access and maintained by the Conservation District. No trailheads or parks are included in the HCP Covered Activities/Projects. The majority of the trails would be located on existing service roads, utility easements, and old railroad beds, minimizing impacts. Except for the placement of trail signs, there would be no construction activities associated with the Preserve trails. The extension of the Santa Ana River Trail (SART) in the southern portion of the Plan Area and the construction of bike paths associated with existing paved roads (Alabama Street widening, Orange Street-Boulder Avenue improvements, and Orange Street improvements) would require new construction and permanent impacts to habitat. However, the SART extension and bike lanes are Covered Activities in the HCP¹ and their impacts are would be minor, an estimated 36.3 acres of permanent impacts, and these impacts are accounted for and included in the mitigation included in Alternative B. In addition, a Trails Plan would be prepared for the Preserve trails and the SART which would include a number of minimization measures in as part of the Trail Plan to be developed). The temporary and permanent impacts resulting from the construction of bike paths and the SART are potentially significant and are evaluated in other sections of this DEIS/SEIR (i.e. potential impacts to sensitive cultural and biological resources).

Alternative B does not include the construction of habitable structures that would increase the population in the area and thereby which could in turn adversely affect existing recreational facilities. No additional jobs would be created as a result of Project implementation. Therefore, since no increase in population is anticipated in the Wash Plan Area, there would be less than significant impacts to existing recreational facilities in the area. Implementation of the HCP would not result in new parks, trailheads or similar recreational facilities. Implementation of the HCP provides for the provisional development of a trail network in the Plan Area. An increase in the trail users within the Plan Area may result in indirect impacts to conservation areas. Impacts would likely be limited to minor damage to soils and vegetation from unauthorized off-trail travel. These impacts are expected to be less than significant impacts with the implementation of minimization measures such as regular patrols, the ability through passage of local ordinances to enforce the requirement to stay on designated trails, and regulatory and educational signage. Boulders or similar barricades may be placed to direct trail users away from habitat conservation, flood control, water conservation, and mining activities. Because the provision of trails would occur on existing service roads, utility easements, and old railroad beds (i.e., previously disturbed areas), there would be minimal adverse physical impacts associated with the designation of additional recreational trail rights-of-way. A Trail Management Plan is required to be prepared and implemented for operation and maintenance of trails within the Plan Area. The Trail Management Plan outlines patrol, enforcement authority, sign plan, access, maintenance, long term funding for operation and maintenance, and the measures to address any impacts to conservation areas. A detailed analysis of

¹ As noted above, the SART extension is considered conditionally compatible and its construction is contingent on the development of a Trail Plan and its approval by the Wildlife Agencies.

potential impacts to sensitive biological resources in the Plan Area from Covered Activities including trail use is outlined in Section 4.4, *Biological Resources*.

Habitat Enhancement and Monitoring

Habitat Enhancement and Monitoring activities would not result in the closure or removal of an existing trail or park available to the public. Habitat Enhancement and Monitoring activities would not result in new or physically altered recreational facilities. No impacts related to this issue would occur and no mitigation is required.

Agriculture

Agriculture activities would not result in the closure or removal of an existing trail or park available to the public. Agriculture activities would not result in new or physically altered recreational facilities. No impacts related to this issue would occur and no mitigation is required.

MITIGATION MEASURES

No mitigation measures are required.

RESIDUAL IMPACTS AFTER MITIGATION

No mitigation measures are required, and therefore, impacts are less than significant.

Determination: Implementation of Alternative B, Proposed Action/Projects would be expected to result in a positive benefit by providing the public with an opportunity to experience the Preserve including visual, wildlife and plant resources. Significant increases in the use of existing parks and other recreational facilities such that physical deterioration of the facilities would occur or be accelerated will not occur; the expansion of existing facilities will not be required; and physical effects to the environment from the designation and construction of new trails would be minor and the impacts will be mitigated.

4.12.1.3 Alternative C: 2008 Land Management Plan

The 2008 Land Management Plan does not include construction of new trailheads or parks. The 2008 Land Management Plan does include designation and management of trails on existing access roads and utility easements in the Plan Area for public use, including on BLM lands that would otherwise be restricted BLM land. The 2008 Land Management Plan included the same proposed trails as in Alternative B, Proposed Action/Projects, with the exception of the extension of the SART. The SART extension was considered “Not a Part” of the 2008 Land Management Plan.

The 2008 Land Management Plan would grant recreational trails right-of-way easements from the Conservation District to Redlands and Highland for trails and the Cities would amend the applicable elements of their respective general plans to show trail alignments consistent with these new trail

alignments, These trails would integrate and provide connections between existing trails in both jurisdictions located outside of the Plan Area to existing access roads/trails within and across the Plan Area, with the exception of the SART extension.

Determination: Implementation of the 2008 Land Management Plan would result in a positive benefit by providing addition recreational trails open to the public in the Plan Area that also provide the ability to view and enjoy existing natural open space and the sensitive plants and wildlife they support. However, because the SART is excluded from the 2008 Land Management Plan, this Alternative would not provide as much of a benefit to recreation as Alternative B, Proposed Action/Projects. Significant increases in the use of existing parks and other recreational facilities such that physical deterioration of the facilities would occur or be accelerated will not occur; the expansion of existing facilities will not be required; and physical effects to the environment from the designation and construction of new trails will be minor and the impacts will be mitigated.

4.13 CUMULATIVE EFFECTS

4.13.1 INTRODUCTION

This section describes the degree of cumulative effects that could occur as a result of implementing any of the alternatives identified in Chapter 2.0.

Guidelines prepared by the CEQ for implementing the National Environmental Policy Act (NEPA broadly define the cumulative effects. The term cumulative effects is generally used to describe the phenomenon of changes in the environment that result from numerous human-induced, small-scale alterations. This effect can result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions (40 Code of Federal Regulation [CFR] 1508.7).

CEQ regulations state that the cumulative effect analysis should include anticipated environmental effects resulting from “the incremental effects of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over time” (40 CFR 1508.7).

Section 15130 of the CEQA *Guidelines* state “An Environmental Impact Report (EIR) shall discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable, as defined in section 15065 (a)(3). 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.

Effects of the No Action Alternative, the Proposed Action/Projects, and the 2008 Land Management Plan presented in this Draft EIS/SEIR were assessed for cumulative effects with other past, present, and reasonably foreseeable future actions in the region, generally western Riverside and San Bernardino Counties.

This analysis considers the effects of these alternatives as evaluated in Section 4.0, Environmental Consequences, when combined with the effects of other past, present, and future actions in the affected region.

4.13.2 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

The proposed authorization of incidental take and implementation of the HCP (Alternative B) or implementation of Alternative C may have an adverse cumulative effect on one or more elements of the environment when combined with other activities in the region. The Proposed Projects are associated with the upper Santa Ana River and its tributaries, Plunge Creek, Mill Creek, and City Creek. Key

elements of the environment in the Plan Area associated with the Santa Ana River and its tributaries are their drainage pattern and hydrology, the relatively natural, undeveloped floodplains, the vegetation, habitats and sensitive species associated with them, their aggregate sources, and source of recharge water for the underlying Bunker Hill basin. Other projects in the region that could affect these same key elements of the environment are evaluated in this cumulative analysis. Actions, such as issuance of a biological opinion or use permit, are those taken by a Federal agency such as USFWS, which are required for projects to move forward.

The past, present and reasonably foreseeable actions identified in this section are those in which USFWS would need to issue a biological opinion for one or more of the same listed species as in the Plan HCP. These include the Lytle Creek Ranch Specific Plan, the Harmony Specific Plan, the San Jacinto River Levee Stage 4 and River Corridor Expansion Project, and the Upper Santa Ana River Habitat Conservation Plan. As the Upper Santa Ana River Watershed Integrated Regional Water Management Plan includes local water supply projects with the objective of greater reliability and additional goals to balance flood management, increase stormwater recharge, improve water quality, and improve habitat and open space and overlaps geographically with the Plan Area, this plan is included as reasonably foreseeable projects by various water providers, flood control districts/departments, and the Conservation District that would affect surface and groundwater. These actions/projects are described in more detail below.

4.13.2.1 Calmat Mining and Industrial Development

The USFWS issued a biological opinion to the Corps of Engineers (USACE) in 1995 and an amendment in 1998 for the impacts of Calmat, now Vulcan Materials, mining operations and planned industrial development in the Cajon Wash Area. The original opinion addressed 24 sensitive species including a number of the Covered and special status species addressed in the HCP, including woolly-star, spineflower (potential habitat), gnatcatcher (potential) and San Bernardino kangaroo rat (SBKR). The proposed project included approximately 575 acres of permanent impacts to Riversidian Alluvial Fan Sage Scrub (RAFSS) outside of the 100-year floodplain resulting from mining and industrial development and 64.9 acres of mining below the 100-year floodplain. The biological opinion also addressed 165 acres of previous mining impacts dating from 1984 that had not previously been addressed. To mitigate for the previous impacts and the proposed impacts a total of 768 acres of RAFSS habitat was conserved through a conservation easement and managed in perpetuity.

Lytle Creek North

Lytle Creek North is a 677-acre master planned community in unincorporated San Bernardino County on the north bank of Lytle Creek (a tributary of the Santa Ana River) just south of the I-15 freeway. It is approximately 13 miles northwest of the Plan Area. The Final Environmental Impact Report for the project was completed in October 2001, and the USFWS issued a biological opinion on November 4, 2003. The project consists of approximately 2,400 residential units on 400 plus acres, 45 acres of commercial development, 66 acres of open space, 20 acres of public facilities, 33 acres of roadways and 59 acres of community parks. It also includes a 213-acre offsite conservation area managed in perpetuity

for the benefit of SBKR. Development of the site has been occurring in phases and it is still not complete, however, the entire site has been graded. The majority of the project site had experienced various levels of disturbance prior to its development, however, portions of it contained RAFSS and Riversidian Upland Sage Scrub (RSS) and were occupied by SBKR. The entire 677-acre development site was designated critical habitat for SBKR and gnatcatcher¹. The 213-acre conservation area was mitigation for impacts to both species and their critical habitat. Portions of the development site were suitable habitat for other Special Status Species found in the Plan Area including Los Angeles Pocket mouse, Plummer's mariposa lily and Parry's spineflower.

Lytle Creek Ranch Specific Plan

The project area includes a 2,397.7-acre main project site and another 28.8 acres of associated offsite improvements. The proposed project consists of residential, commercial, and industrial development; the construction of approximately 7 miles of revetment in the active stream channel of Lytle Creek to protect the development; and the construction of roads and utilities to support the project.

The project area supports the federally endangered woolly-star, least Bell's vireo, and SBKR, and its critical habitat. Although not found in recent surveys, there are occurrence records for the federally endangered spineflower and federally threatened gnatcatcher. A California Species of Concern (CSC), the Los Angeles pocket mouse is also present. There are also records for two sensitive plant species, Plummer's mariposa lily and Parry's spineflower. The Specific Plan area supports the following sensitive plant communities and/or associations: RAFSS; RSS; southern willow scrub; California sycamore alliance; and southern cottonwood willow riparian.

The proposed project would result in fill of waters of the United States totaling approximately 45.50 acres. Temporary fill of another 15.76 acres. The project would result in a total of 1,327.9 acres of permanent impacts and 50 acres of temporary impacts. Of these, there would be 1,190.9 acres of permanent impacts to SBKR critical habitat and 18.7 acres of temporary impacts.

In October on 2017 an Addendum to the Lytle Creek Ranch Specific Plan included modifications to the tract map which did not increase the number of residential units or square footage of non-residential and is consistent with the scope and type of development analyzed in the original EIR. Proposed changes included replacement of a proposed golf course with open space, removal of age restrictions on residential units, and changes to the distribution of units. The USFWS is currently preparing a biological opinion to address the proposed project's effects on federally listed species and their critical habitat.14.13.2.4 Cemex Levee Repair.

There is an in-stream inactive mining pit located between two of the proposed neighborhoods in the Lytle Creek Ranch development. During a high flow event in January 2005, the levee protecting the pit was breached. Cemex is proposing to replace the 25-year facility that was breached with a 100-year

¹ The area was designated critical habitat for CAGN at the time of issuance of the biological opinion. This critical habitat unit was removed from subsequent revisions of the critical habitat rule for CAGN.

facility and to integrate it into the proposed levee for Lytle Creek Ranch. This project would impact a small number of SBKR and their critical habitat.

Upper Santa Ana River Habitat Conservation Plan

Water agencies and the SBCFCD and other stakeholders have begun the process of developing an Upper Santa Ana River Habitat Conservation Plan (Upper SAR HCP). The purpose of the Upper SAR HCP is to enable the water resource agencies to continue to provide and maintain a secure source of water for residents and businesses in the watershed and specify how species and their habitats will be protected and managed in the future and will provide the incidental take permits needed to maintain, operate, and improve water resource infrastructure.

The Study Area of the Upper SAR HCP generally includes the watershed boundary of the tributaries areas for the Upper Santa Ana River from the headwaters in the San Bernardino Mountains down to Prado Dam. The area covered by the HCP is anticipated to be the Upper Santa Ana River Wash down to the Riverside Narrows. The Plan Area is located within the mid-western area of the Upper SAR HCP Study Area.

The Upper SAR HCP draft list of Covered Species includes all of the Covered Species in the HCP and many of the same special status species as well as some additional ones.

Although the total extent of the Covered Activities and the mitigation to offset the effects of those activities have not been determined yet, in order for the HCP to be permitted, impacts to federally listed species have to be mitigated to the maximum extent practicable. To achieve this standard, it is anticipated that impacts to these species will be substantially offset by the mitigation measures. It is anticipated that a number of the non-listed species will be conserved under the umbrella of the conservation measures for listed species, and that additional conservation will be provided for those whose life history requirements are different than for listed species.

4.13.2.2 Upper Santa Ana River Watershed Integrated Regional Water Management Plan

The Upper Santa Ana River Watershed (USARW) Integrated Regional Water Management Plan (IRWMP) is located within the Santa Ana River Watershed, the largest stream system in Southern California. The plan covers 852 square miles of the SAR watershed, primarily located in San Bernardino and Riverside Counties. The IRWMP plan area includes Big Bear in the northeast, Beaumont in the southeast, Riverside in the southwest, and the Cajon Pass and Devore in the northwest.

The primary purpose of the IRWMP is to encourage integrated planning among the agencies in the IRWMP Region and in particular to improve water supply reliability by implementing local supply projects as imported water is increasingly viewed as a less reliable supply. Additional goals of the IRWMP are to: balance flood management and increase storm water recharge, improve water quality, and to improve habitat and open space. The 2015 USARW IRWMP has been finalized and is under

review by the agencies. The Plan Area is generally located within the center of the IRWMP area. The IRWMP would not affect any mining operations.

4.13.2.3 City of Highland Development Projects

Harmony Specific Plan

The Harmony Specific Plan (Specific Plan) is located within the eastern portion of the City of Highland at the foothills of the San Bernardino National Forest approximately 6 miles east of the 210 freeway, 4.5 miles north of the 10 freeway, and north of SR 38. It is directly adjacent to and east of the Plan Area, separated by Greenspot Road. The proposed project includes approximately 1,650 acres of development for residential neighborhoods, parks, recreation areas, neighborhood gathering places, commercial services, and community facilities. Portions of the site were previously mined to provide fill material for the Seven Oaks Dam.

The Specific Plan was approved and the EIR certified by Highland City Council on August 11, 2016. Construction of the project is currently on hold pending the outcome of legal challenges. Buildout is expected to occur in phases and will be dependent on economic conditions and decisions of the landowners or developers. A number of sensitive species occur within the Specific Plan boundaries including at least four federally listed species, SBKR, southwestern willow flycatcher least Bell's vireo, and woolly-star. Woolly-star is also state listed. The federally threatened CAGN may also be present². There are also sensitive plant communities including RAFSS, RSS, southern cottonwood willow riparian forest, and southern willow scrub/ mulefat scrub. SBKR critical habitat occurs on the south and west sides of the Specific Plan area. The proposed project would permanently impact approximately 221 acres of it. Critical habitat for the Santa Ana sucker is located in Mill Creek and the Santa Ana River to the southeast, south and west of the site, however Santa Ana sucker are not present because of the absence of year-round water. The area was designated as critical habitat for Santa Ana River sucker because the Santa Ana River and Mill Creek provide stream and storm waters required to transport coarse sediments that are necessary to maintain their preferred substrate. The upland areas of the Specific Plan, while not designated as critical habitat, provide a source of coarse sediments for transport downstream. Blue line streams which cross the site also provide a means of transport of the coarse sediment. The Draft EIR concluded that impacts related to hydrology to be less than significant with the implementation of mitigation measures. However, the USFWS expressed concern that the development and its impacts to hydrology could result in a loss of coarse sediment in Mill Creek and the Santa Ana River, affecting Santa Ana Sucker downstream.³

Other Highland Projects

In addition to the proposed Harmony development, there are a number of other small to medium size development projects proposed within Highland on the north side of the Plan Area on either side of

² Surveys did not detect gnatcatcher, however, CAGN occur directly adjacent to the project and there may have been a misidentification of an individual CAGN as a black-tailed gnatcatcher (USFWS).

³ Comment letter on DEIR by Palm Springs Fish and Wildlife Office

Greenspot Road. They are summarized in Table 4.13-1. Each of these projects has the potential to impact one or more of the Covered Species and other Special Status Species found in the Plan Area. For example five of the proposed projects have occurrence records for SBKR on or adjacent to the site and seven of them are located in SBKR critical habitat. Those projects which are contiguous to the Plan Area, south of Greenspot Road, have the greatest potential for impacts. Each of the projects has the potential to impact one or more of the Special Status Species not covered under the HCP. Table 4.13-1 indicates the project approximate acreage and its potential impacts to Covered Species in the HCP.

Table 4.13-1 City of Highland Development Projects

Project	Description	Acres	Covered Species Impacts
Tobin/Greenspot Connector	Proposed commercial development south of Greenspot Road between the 210 Freeway and Boulder Avenue	2	SBKR critical habitat, possibly SBKR
Greenspot Village	Proposed retail and up to 800 residential units located north of Greenspot Road between the 210 freeway and Boulder Avenue	76	SBKR critical habitat, possibly SBKR, woolly-star
TREH Partners/SBCFCD	Commercial and residential	16	SBKR critical habitat, SBKR, possibly woolly-star
Goodman and Jerristma	Commercial and residential	11	SBKR critical habitat, possibly SBKR
Wood Bridge	130 residential units	22	SBKR and its critical habitat
East Highlands Ranch	319 residential units	29	SBKR and its critical habitat, possibly woolly-star, spineflower
Development 1 Group	200 residential units	60	SBKR critical habitat, SBKR, possibly woolly-star, spineflower
Housing Project	32 residential units	22	Possibly SBKR, woolly-star, spineflower
Mediterra Residential	197 residential units	181	Possibly SBKR, woolly-star in area south of Greenspot
Walmart Vacant Property	Commercial	20	SBKR critical habitat, possibly SBKR
		Total: 439	

4.13.2.4 City of Redlands Development Projects

There are several development projects within the City of Redlands that have had or have the potential to have impacts to SBKR.

Redlands Sports Park

The Redlands Sports Park project consisted of the construction of active sports fields and other athletic facilities, parking areas and a combination playing field and flood control basin on a 98-acre property adjacent to the Redlands Municipal Airport just south of the Plan Area. 40-acres of the site was dedicated to onsite conservation, with the ultimate goal of transferring the conservation off-site. SBKR were captured in suitable habitat in the development area and relocated to the conservation area.

Diversified Pacific

The Diversified Pacific project consists of 81 residential units, on 30.4 acres which are currently under construction. The project is located north of the intersection of E. San Bernardino Avenue and Judson Street, approximately 0.3 miles south of the Plan Area. The site was largely surrounded by development and having only a tenuous connection to the Plan Area through a narrow undeveloped parcel west of the Redlands Airport. Approximately 14.1 acres of the site were determined to be occupied by SBKR. The project was mitigated by providing long-term funding for the management in perpetuity of 28.2 acres of the Redlands Conservancy Conservation Area. In addition, all SBKR trapped within the 14.1-acre area were relocated to the Cajon Creek Conservation Bank in the Cajon Wash. SBKR have been documented on the site in monitoring events since their release (from 2015 to 2017).

East Branch Extension

This was a water pipeline project which included areas of Redlands and Highland, including the Plan Area and the unincorporated community of Mentone. The 6-mile pipeline connects the SBVMWD's Foothill Pipeline near the intersection of Cone Camp and Greenspot road in the City of Highland with the existing Crafton Hills Pump Station located near Mill Creek Road in the community of Mentone. It affected approximately 180 acres and was completed over a period of about two years. A biological opinion was issued by the USFWS to address effects on SBKR and its critical habitat, woolly-star and gnatcatcher. A number of conservation measures were implemented to minimize impacts and restore the site to useable habitat once the pipe was in place including limits of work, recontouring of the site, placement of suitable uncompacted substrate on the top layer of the pipe trench backfill, weed control. A 32.7 acres conservation area was also established for the benefit of SBKR and gnatcatcher.

San Jacinto River Area

In addition to the projects described below, a number of past projects have significantly affected the hydrogeomorphic processes in the San Jacinto River which are important to the maintenance of SBKR habitat. The past projects include the Bautista Canyon Flood Control Basin, the channelization of Bautista Creek, the Grant Avenue Recharge Basins which capture live storm runoff and a sand mine which captures sediment.

Hemet-San Jacinto Groundwater Recharge Project

The Hemet-San Jacinto Groundwater Recharge project included the construction and operation of a series of recharge basins and associated infrastructure in the San Jacinto River. The project footprint is 35-acres. The habitat within the 35-acre area was heavily occupied by SBKR. Prior to construction, the site was trapped and the captured animals were translocated to a nearby location, however it was estimated that there would be up to 50 percent mortality. The site will largely remain unavailable to SBKR during the life of USACE permit, but it could be restored in the future, assuming the permit is not renewed. Water provided for the ground water recharge is not diverted from the River, it is imported, however, the presence of the 35-acre recharge basins in the floodplain of the river limits river flow

patterns during small to moderate flood events, affecting normal ecological processes which maintain the downstream habitat for SBKR and other species, The recharge basins are expected to erode and collapse during larger than 10-year flood events, thereby rejuvenating downstream habitat.

San Jacinto River Levee Stage 4 and River Corridor Expansion Project

The San Jacinto River Levee Stage 4 and River Corridor Expansion Project is located within central Riverside County in the northern portion of the City of San Jacinto and in unincorporated Riverside County. The City of San Jacinto prepared an EIR for the project which was certified by City Council in June 2015. The project involves the construction and subsequent maintenance of a new levee, approximately five miles long and other improvements such as expanding the existing bridge openings of Sanderson Avenue and State Street. The project will widen the existing San Jacinto River channel, expanding the corridor by approximately 374 acres. The San Jacinto River Levee Stage 4 and River Corridor Expansion Project is located approximately 20 miles southeast of the Wash Plan Area.

The project area supports the following sensitive species: least Bell's vireo, Los Angeles pocket mouse. SBKR has historically been documented in the project area in trace numbers and currently exists upstream of the project area however, no SBKR were found in the most recent intensive trapping effort in 2012. The project area supports sensitive riparian vegetation including: southern willow scrub, mulefat scrub, and mature cottonwood/willow riparian forest. The project is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and the project was found to be consistent with all of the applicable requirements of the MSHCP. The mitigation for impacts to riparian/riverine areas and habitat for least Bell's vireo and Los Angeles pocket mouse was found to be superior preservation as compared to the existing condition.

The project is located along the San Jacinto River. The San Jacinto watershed is a 728-square mile drainage area from the San Jacinto Mountains southwest to Canyon Lake and Lake Elsinore. Due to the design, impacts associated with hydrology and drainages for the project are anticipated to be less than significant with no mitigation measures needed. The project area does not include any mining operations and implementation of the project would not affect mining.

Etiwanda Fan

A number of flood control projects and urban development have occurred on the Etiwanda Fan west of Lytle Creek. These projects have resulted in substantial reduction and fragmentation of RAFSS and RSS habitat and the species associated with it, including some of the HCP Covered Species, i.e., gnatcatcher and SBKR, and many of the special status species found in the Plan Area. SBKR and gnatcatcher have not been detected on the Etiwanda fan for some time and it is believed that they may be extirpated from the area.⁴

⁴ USFWS, Palm Springs Fish and Wildlife Office

4.13.2.5 Unincorporated San Bernardino County

At the time of this writing there are no proposed major development projects within the County of San Bernardino southeast of the Plan Area.

4.13.3 CUMULATIVE EFFECTS BY RESOURCE

4.13.3.1 Air Quality

The Plan Area is located in the non-desert portion of the South Coast Air Basin (Basin), a geographic area that includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin encompasses the coastal plain and connects broad inland valleys and low hills. The geographic context for the cumulative impact analysis of air quality is the Basin.

Greenhouse gases (GHG) are those gases that will contribute to global climate change; therefore, the cumulative impact area for GHG emissions is the earth's atmosphere.

The list of past, present, and reasonably foreseeable projects considered in this analysis of cumulative impacts are those that are anticipated to result in construction and/or operational emissions that would exceed South Coast Air Quality Management District (SCAQMD) thresholds for NO_x, PM₁₀ and/or PM_{2.5} or substantial direct or indirect greenhouse gas emissions:

City of Highland Development Projects: Harmony Specific Plan; Tobin/Greenspot Connector; Greenspot Village; TREH Partners/ SBCFCD; Goodman and Jerristma; Wood Bridge; East Highlands Ranch; Development 1 Group; Housing Project; and Mediterra Residential;

City of Redlands Development Projects: Redlands Sports Park; Diversified Pacific; East Branch Extension.

Alternative A: No Action Alternative

The existing on-site and off-site emissions from ongoing aggregate mining operations exceed SCAQMD Operations thresholds for NO_x, PM₁₀ and PM_{2.5}. Because the No Action Alternative's emissions exceed applicable SCAQMD thresholds during existing aggregate mining operations the No Action Alternative would continue to result in significant and unavoidable cumulative impacts on air quality.

Alternative B: Proposed Action/Projects

Projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable. Based on SCAQMD's regulatory jurisdiction over regional air quality, it is reasonable to rely on its thresholds to determine whether there is a cumulative air quality impact. The emissions of NO_x, PM₁₀, and PM_{2.5} from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State Ambient Air Quality Standards (AAQS). Therefore, the Proposed Action/Projects would have a cumulatively considerable increase in operational emissions NO_x, PM₁₀, and PM_{2.5}. Because the Proposed Action/Projects emissions exceed applicable SCAQMD

thresholds during operation the Proposed Action/Projects would result in significant and unavoidable cumulative impacts on air quality.

The primary GHG generated by the Proposed Action/Projects would be carbon dioxide in the form of vehicle exhaust and equipment exhaust. At buildout in 2030, total unmitigated carbon dioxide equivalents for carbon dioxide, methane, and nitrous oxide (vehicle and equipment exhaust from expanded mining operations) would be 21,000 MT CO₂ Eq. Due to implementation of existing regulations emissions from the fleet of haul trucks and processing equipment used for expanded aggregate mining are anticipated to be less than this estimate which was included in the 2008 EIR. However, this estimate is still considered a substantial amount of GHG emissions annually based upon CEQA guidelines. A project's GHG emissions and the resulting significance of potential impacts are most properly assessed on a cumulative basis. Therefore, the Proposed Action/Project's contribution to GHG emissions would be cumulatively considerable and unavoidable based upon CEQA guidelines.

The Proposed Action/Projects would result in significant and unavoidable cumulative impacts on air quality and GHG emissions based upon CEQA guidelines and a Statement of Overriding Considerations would be required under CEQA.

Alternative C: 2008 Land Management Plan

As outlined above for Alternative B in Section 4.1.1.3, the *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than Alternative B (Proposed Action/Projects). Although the traffic impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Modeled air quality levels were based upon vehicle data and project trip generation included in the *Traffic Study*. Consequently, modeled air quality impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Therefore, potential impacts from implementation of Alternative C would be consistent with the analysis and conclusions outlined above for Alternative B.

Alternative C would result in significant and unavoidable cumulative impacts on air quality and GHG emissions based upon CEQA guidelines and a Statement of Overriding Considerations would be required under CEQA.

4.13.3.2 Geology and Mineral Resources

The geographic context for the cumulative impact analysis of geologic hazards is the Plan Area and surrounding areas. The geographic context for cumulative impact analysis of mineral resources is western Riverside and San Bernardino which includes deposits from along the Santa Ana River and Lytle Creek tributary. The list of past, present, and reasonably foreseeable projects considered in this analysis of cumulative impacts are existing aggregate mining operations in the region and include: Cemex – Lytle Creek; CalPortland – Colton/ San Bernardino; Robertson's – Cabazon; Robertson's – Banning; Robertson's – Rialto; and FST Sand & Gravel – Corona/ Riverside County.

Alternative A: No Action Alternative

Under Alternative A no construction for new Projects would occur, so there would be no cumulative impacts related to geologic hazards. Under Alternative A no expanded aggregate mining would occur and existing permitted Cemex and Robertson's mining would be mined to completion, but no additional mining permitting is presumed. The impacts from the No Action Alternative on the availability of mineral aggregate is not cumulatively considerable.

Alternative B: Proposed Action/Projects

The Proposed Projects (Covered Activities) include construction of infrastructure including, roadways, wells and water pipelines, and storm drains that are susceptible to damage from strong ground shaking or unstable soils (landslides, lateral spreading, subsidence, liquefaction, or collapse). The California Green Building Standards Code (CGBSC); Part 11 of Title 24, California Code of Regulations) provides standards that must be met to safeguard life, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures, and have been specifically tailored for California earthquake conditions. All Proposed Project infrastructure (Covered Activities) would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With compliance with the CGBSC, potential impacts on infrastructure from strong ground shaking or unstable soils that would result in loss, injury or death is reduced to less than significant levels.

The Proposed Action/Projects would result in topography changes caused by new or expanded mining operations. With the increase of mining activities, there would be new cut slopes. However, final inclination would not occur steeper than a 2:1-foot height variance ratio. When mining activities are terminated in a mining pit then reclamation and re-vegetation is then carried out. Impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse within the mining areas is considered less than significant.

Aside from the mining pits, the Plan Area does not have large variations in topography and the risk of impacts from unstable soil is considered less than significant. Construction, operation and maintenance of water conservation facilities, wells and water infrastructure, expansion of roadways, and flood control facilities would be required to adhere to the design and engineering standards and would reduce potential damage from liquefaction, to less than significant levels.

The Proposed Action/Projects would lead to an additional 401.5 acres of aggregate mining activities to occur and an increase in aggregate materials produced from the Plan Area. Therefore, there would be no loss of valuable statewide or regional mineral resources, but an increase in availability.

The effects from Alternative B are not expected to result in seismic events, landslides, or other geologic hazards, or loss of availability of valuable mineral resources and therefore, are not cumulatively considerable.

Alternative C: 2008 Land Management Plan

As with Alternative B, all future infrastructure projects would be required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CGBSC. With compliance with the CGBSC, potential impacts on future infrastructure from strong ground shaking or unstable soils that would result in loss, injury or death is reduced to less than significant levels. Impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse within the mining areas or as a result of mining are considered less than significant.

Alternative C would lead to an additional 433.5 acres of aggregate mining activities to occur and an increase in aggregate materials produced from the Plan Area.

The effects from Alternative B are not expected to result in seismic events, landslides, or other geologic hazards, or loss of availability of valuable mineral resources and therefore, are not cumulatively considerable.

4.13.3.3 Hydrology and Water Quality***Alternative A: No Action Alternative***

Under Alternative A no construction for new Projects would occur. Existing mining operations would continue and existing operation and maintenance of water conservation facilities would also continue. Therefore, there would not be an increase in the potential to adversely affect water quality from construction and maintenance activities within the Plan Area. There would not be an increase in pumping from the groundwater for expanded aggregate processing or for water supply. There would be not be an increase in Projects that could modify the existing drainage pattern or impede or redirect flood flows in a 100-year floodplain. There would be no cumulative impacts related to water quality or hydrology.

Alternative B: Proposed Action/Projects

Although mining activities have the potential to affect surface and groundwater quality in the Wash Plan Area by increasing sediment and other pollutants in stormwater runoff there are multiple regulations that require mining operations to implement best management practices (BMPs) to protect water quality, including the Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) program and the Surface Mining and Reclamation Act (SMARA). With implementation of BMPs outlined in the Stormwater Pollution Prevention Plan (SWPPPs) prepared for compliance with the General Construction Activity and Industrial Stormwater permits, as well as the Mining and Reclamation Plans, the expanded mining operations would not be expected to substantially degrade water quality and the potential to violate water quality standards of water bodies in or downstream of the Plan Area or violate waste discharge requirements would be significantly reduced. The other covered activities including water conservation, water infrastructure, flood control, transportation, trails, and agriculture

would not result in substantial exposure sediments or other pollutants to stormwater runoff, such that water quality standards would be violated or water quality to be degraded.

The closest of the past, present and reasonably foreseeable actions that are located in the same watershed (Santa Ana River Watershed) as the Wash Plan include the Harmony Specific Plan the Upper Santa Ana River Habitat Conservation Plan, the Upper Santa Ana River Watershed Integrated Regional Water Management Plan and the Lytle Creek Ranch Specific Plan. Lytle Creek is tributary to the Santa Ana River but its confluence is further downstream, in the City of San Bernardino. The San Jacinto River Levee Stage 4 and River Corridor Expansion Project is located within the San Jacinto River Watershed which ultimately is tributary to the Santa Ana River, but further downstream near Prado Dam via Lake Elsinore and Temescal Creek.

In larger storm events stormwater runoff from the Harmony and Lytle Creek Specific Plan developments would ultimately be discharged to the Santa Ana River. Construction of these developments would be required to comply with the General Construction Activity permit which requires preparation of a SWPPP and implementation of BMPs that will minimize discharge of sediments offsite and other pollutants associated with construction. These developments will also be required to prepare a Water Quality Management Plan (WQMP) that outlines the post-development site design/Low Impact Development (LID) and treatment control BMPs to reduce the discharge of pollutants to receiving waters. With implementation of BMPs outlined in the SWPPPs and WQMPs for these developments, discharge would not violate water quality standards of water bodies in or downstream of the Wash Plan Area or violate waste discharge requirements or substantially degrade water quality.

The Upper Santa Ana River Watershed Integrated Regional Water Management Plan includes local water supply projects with the objective of greater reliability and additional goals to balance flood management, increase stormwater recharge, improve water quality, and improve habitat and open space. Some of these projects will occur in the Wash Plan Area. The Upper Santa Ana River Habitat Conservation Plan covered activities would include projects that would enable the water resource agencies to continue to provide and maintain a secure source of water for residents and businesses in the watershed. Some of these projects will also occur in the Wash Plan Area. Construction of these projects will be required to comply with the General Construction Activity permit and therefore would not likely adversely affect surface water. These projects would have a beneficial effect on groundwater as they are designed to help manage the local groundwater supplies.

With compliance with state and federal regulations, including the General Construction Activity Permit and Water Quality Management Plans, the Proposed Action's/Project's contribution to cumulative hydrology and water quality impacts are less than significant.

Alternative C: 2008 Land Management Plan

As with Alternative B, proposed projects under Alternative C would also be required to comply with the same State and Federal regulations. With compliance with State and Federal regulations, including the General Construction Activity Permit and Water Quality Management Plans, the 2008 Land

Management Plan's contribution to cumulative hydrology and water quality impacts are less than significant.

4.13.3.4 Biological Resources

Alternative A: No Action Alternative

In the No Action Alternative, the USFWS permit for incidental take of Covered Species would not be issued. Current mining and water conservation would continue.

Individual projects would have limited or no ability to mitigate cumulative effects on the resources because the HCP conservation strategy would not be in place to coordinate mitigation and conservation throughout the Plan Area. Accordingly, the cumulative impacts on biological resources would remain significant.

Of the affected plant communities, the community of most importance to Covered and special status species in the Plan Area are the various seral stages of RAFSS. Within these categories pioneer and intermediate RAFSS with low shrub density are the most frequently utilized by SBKR. Intermediate RAFSS provides wintering and nesting habitat for gnatcatcher. RAFSS with cactus patches and/or yucca (potential nest sites) is the most beneficial to cactus wren. Woolly-star and slender-horned spineflower can be expected to be found in open areas between shrubs within the associated RAFSS habitats. Woolly-star is more likely to be associated with earlier seral stages of RAFSS because it establishes in areas opened up by fluvial process. Spineflower is more likely to be found in older flood terrace areas where active flood scouring rarely occurs but where there is sheet flow of water in major storm events.

The development projects located outside of the Plan Area, including the Lytle Creek Ranch Specific Plan, the Harmony Specific Plan, and various development projects in the City of Highland (specifically along the northern boundary of the Plan Area), would result in loss of RAFSS habitat that supports sensitive species. The cumulative affects to sensitive species and loss of RAFSS habitat under the No Action Alternative is significant and unavoidable.

Alternative B: Proposed Action/Projects

The Santa Ana River Wash's biodiversity has diminished as urban growth has caused the river to become more constrained and its habitat to become more fragmented. Tributaries of the River have been isolated from each and the have been forming isolated blocks of land and causing endangered species conflicts.

The federally listed endangered SBKR, and threatened gnatcatcher are known to occur within the Plan Area. The USFWS has designated portions of the Plan Area as critical habitat for SBKR. There is an urgent need to preserve remaining biodiversity without halting urban development, aggregate mining, water conservation and other uses. Implementation of Alternative B would reconfigure the ownership of lands that are best suited for preserving unique habitat for plants and wildlife with those that are more appropriate for mining.

It is estimated that there will be 495.1 acres of permanent impacts and 80.0 acres of temporary impacts to RAFSS from Covered Activities under Alternative B, and that 1,529.8 acres will be managed and conserved in the HCP Preserve. The majority of permanently impacted areas are associated with new or resumed aggregate mining activities and will occur in areas contiguous with existing mining operations, which leaves the vegetation communities and Covered Species habitat largely intact with a high level of connectivity within and among habitat types.

With implementation of the HCP conservation measures impacts to SBKR and its critical habitat, gnatcatcher, cactus wren, spineflower, and woolly-star are fully compensated and impacts are reduced to less than significant levels. Additional mitigation is not required. Covered Activities will result in approximately 553.2 acres of permanent impacts to plant communities, portions of which could be occupied by special status plant species or live in or foraging habitat for various special status reptile, amphibian, small mammal, and bird species. These impacts will be mitigated for by the conservation and management of 1,569.1 acres of habitat containing the same communities.

Considering the limits on take set by the HCP, the regional scale of the conservation strategy designed to address cumulative impacts on covered species and natural communities, the long term management and monitoring of conservation lands and the HCP conservation strategy's contribution to species recovery, Alternative B would not result in cumulatively considerable contribution to cumulative effects on the affected biological resources. Alternative B provides a robust conservation plan for SBKR which is anticipated to mitigate the direct and indirect effects of Alternative B to less than significant.

Alternative C: 2008 Land Management Plan

If adopted, Alternative C would conserve approximately 312 fewer acres of habitat (much of it RAFSS) than would be conserved by implementation of the 2019 HCP under Alternative B, and it would result in approximately 88 more acres of permanent impacts than Alternative B. In addition, Alternative C provides few specifics on how RAFSS and other habitat would be maintained. By contrast Alternative B includes a robust, permanently funded habitat monitoring and management plan. Implementation of the Alternative C would not provide adequate conservation to address the cumulative impacts to RAFSS from implementation of the plan. Therefore, implementation of Alternative C would contribute adverse impacts to covered and other special status species and their habitats, including RAFSS, that are cumulatively considerable and significant.

4.13.3.5 Land Use

Alternative A: No Action Alternative

The No Action Alternative would not result in incompatible or conflicting land uses/projects with existing land use plans including the General Plans of the Cities of Redlands and Highland and San Bernardino County. Impacts related to land use from the No Action Alternative are less than significant. There would be no cumulative impacts related to land use.

Alternative B: Proposed Action/Projects

The Proposed Action/Projects would not result in adverse impacts associated with land use. Rather, the Proposed Action/Projects would result in beneficial impacts associated with land use in the Plan Area as compared to the existing condition. There would be no cumulative impacts related to land use from Alternative B.

Alternative C: 2008 Land Management Plan

The 2008 Land Management Plan would not result in adverse impacts associated with land use. Rather, the 2008 Land Management Plan would result in beneficial impacts associated with land use in the Plan Area as compared to the existing condition and there would be no cumulative impacts related to land use from Alternative C.

4.13.3.6 Socioeconomics, Population and Housing, and Environmental Justice***Alternative A: No Action Alternative***

Under Alternative A, aggregate mining operations would continue producing an average of 4.0 to 4.5 million tons per year (MTPY) of aggregate materials. The total average MTPY is the average production numbers of both Cemex and Robertson's operations within the Plan Area. The existing permitted mining would be mined to completion, but no additional mining permits would be expected to be issued.

With implementation of the No Action Alternative, the beneficial social and economic impacts of mining (jobs and industry transactions) would decline overtime as the aggregate resources are depleted under the current permits and leases, adversely affecting these commercial entities and their employees. However, this loss is not expected to have a significant impact on the local economy, and therefore potential impacts are less than significant.

No environmental justice impacts would occur with implementation of Alternative A, since current mining operations would continue as they normally do. No direct or indirect growth inducement would occur, and no displacement of people or existing housing would occur. Therefore, there are no impacts related to socioeconomics, environmental justice, or population and housing that are cumulatively considerable.

Alternative B: Proposed Action/Projects

From an economic standpoint, implementation of the Proposed Action/Projects would be cumulatively beneficial to individuals, families, and populations within the region. In conjunction with other mining activities in the region, mining activities in the Plan Area are expected to persist over a longer period of time and would provide economic gain in the region. Therefore, the Proposed Action/Projects would contribute a positive incremental cumulative effect on socioeconomics.

The Proposed Action/Projects do not propose construction of any homes or businesses; therefore, this alternative would not directly induce any population growth. Although an increase in employment is expected with expansion of the existing aggregate mining activities in the Plan Area, it is not expected to indirectly induce substantial population growth. Due to the unemployment rate of approximately 8.8 percent in San Bernardino County, it is anticipated that at least the majority, if not all, of the new jobs would be filled with individuals that already reside in the region.

As the Proposed Action/Projects would not result in adverse impacts related to socioeconomics, population and housing, or environmental justice it will not result in a cumulatively considerable contribution to impacts associated with these topics.

Alternative C: 2008 Land Management Plan

From an economic standpoint, implementation of the 2008 Land Management Plan would also be cumulatively beneficial to individuals, families, and populations within the region. In conjunction with other mining activities in the region, mining activities in the Plan Area are expected to persist over a longer period of time and would provide economic gain in the region. Implementation of the 2008 Land Management Plan would allow for expansion of aggregate mining on approximately 32 more acres than Alternative B: Proposed Action/Projects. Thus, implementation of the 2008 Land Management Plan would result in a larger increase in aggregate materials produced from the Plan Area. Therefore, the 2008 Land Management Plan would contribute a positive incremental cumulative effect on socioeconomics.

The 2008 Land Management Plan does not propose construction of any homes or businesses; therefore, this alternative would not directly induce any population growth. Although an increase in employment is expected with expansion of the existing aggregate mining activities in the Plan Area, it is not expected to indirectly induce substantial population growth. Due to the unemployment rate of approximately 8.8 percent in San Bernardino County, it is anticipated that at least the majority, if not all, of the new jobs would be filled with individuals that already reside in the region.

As the 2008 Land Management Plan would not result in adverse impacts related to socioeconomics, population and housing, or environmental justice it would not result in a cumulatively considerable contribution to impacts associated with these topics.

4.13.3.7 Transportation Systems and Traffic

Alternative A: No Action Alternative

Under Alternative A, no expanded mining would occur, and no other projects would be implemented. There would be no cumulative impact.

Alternative B: Proposed Action/Projects

The Proposed Action/Projects traffic impact assessment was based on an analysis of opening day (2008) and future year (2030) scenarios, which provide an assessment of potential impacts in the near-term and long-term horizons as they already consider related traffic impacts from past, present, and probable future projects. Traffic impact analyses are conducted by reviewing a list of cumulative projects and their impacts within the area. The impacts of these cumulative projects are then added the estimated impact of the Proposed Action/Projects to determine the total cumulative impacts that may be present. For impacts related to the future conditions such as in year 2030, the impacts of the listed projects are included as projections and combined with the projected year 2030 impacts of the Proposed Action/Projects to determine future cumulative impacts. Therefore, the analysis related to each of the thresholds discussed above contains a cumulative analysis of the area projects.

For analysis purposes, the cumulative projects were grouped into two areas that would be expected to have the same distribution at the study intersections. Trip generation for each of the cumulative projects was developed using rates from the Institute of Transportation Engineers (ITE) Trip Generation (7th Edition). For more information on traffic analysis methodology.

Of all the activities associated with the Proposed Action/Projects, only one activity, expanded aggregate mining and processing, was determined to have a potentially cumulative impact relative to Impact TRA-2 (conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways). Specifically, significant and unavoidable impacts resulting from the Proposed Action/Projects would occur in both Year 2008 and Year 2030 With Project conditions for freeway segments, as discussed in Impact TRA-2 above. These significant and unavoidable impacts would contribute to transportation system and traffic cumulative impacts in the Plan Area as well.

Other cumulative projects in the area (City of Highland, Redlands, and Yucaipa) that would contribute vehicle trips on the I-210 and major roadways (Alabama Street, Orange Street, Greenspot Road) in the Plan Area include: Harmony Specific Plan (residential, commercial, parks); Tobin/Greenspot Connector (commercial); Greenspot Village (residential and commercial); TREH Partners/SBCFCD (residential and commercial); Goodman and Jerritsma (commercial and residential); Wood Bridge (residential); East Highlands Ranch (residential); Development 1 Group (residential); Mediterra (residential); Walmart Vacant Property (commercial); Redlands Sports Park (recreation); Diversified Pacific (residential); and East Branch Extension (water pipeline).

Cumulatively, the aggregate mining activities would contribute to impacts that would require mitigation. As stated earlier in this section, cumulative impacts are evaluated as a part of the Proposed Action/Project's impacts for traffic. As such any cumulative impacts would require the implementation of the mitigation measures recommended for the Proposed Action/Projects. The significant impacts are forecast to occur with or without implementation of the project and are therefore cumulative in nature.

Because several of the improvements to the affected freeway ramp intersections would be included in yet-to-be determined improvement projects sponsored by Caltrans or SANBAG, the Project proponent has no control over the specific timing of when the improvements would be constructed. As a result, these cumulative impacts remain significant and unavoidable until such time as the improvements are constructed.

Alternative C: 2008 Land Management Plan

As outlined above for Alternative B, the *Traffic Study* analyzed expanded mining as proposed in the 2008 Land Management Plan (Alternative C) which included 32 more acres of expanded mining than Alternative B (Proposed Action/Projects). Although the traffic impacts may be slightly overestimated for Alternative B, they represent anticipated impacts from expanded mining of Alternative C. Therefore, potential cumulative impacts from implementation of Alternative C would be consistent with the analysis and conclusions outlined above for Alternative B.

4.13.3.8 Visual Resources

The geographic context for the cumulative impact analysis of visual resources is the Plan Area and the viewshed from the Plan Area which includes the immediate areas surrounding the Plan Area boundary in Redlands and Highland and San Bernardino County. Past, present, and reasonably foreseeable projects considered in this analysis of cumulative impacts include City of Highland Development Projects: Harmony Specific Plan; Tobin/Greenspot Connector; Greenspot Village; TREH Partners/ SBCFCD; Goodman and Jerristma; Wood Bridge; East Highlands Ranch; Development 1 Group; Housing Project; and Mediterra Residential; City of Redlands Development Projects: Redlands Sports Park; Diversified Pacific; and East Branch Extension.

Of these projects, those that are east of Orange Street and Boulder Avenue, i.e., Wood Bridge, East Highlands Ranch and Development 1 Group, and those farther to the east, Mediterra Residential and Harmony Specific Plan are prominently in the viewshed of the Plan Area. These projects could potentially impact the visual character of the area and will need to be evaluated individually for cumulative impacts.

Under Alternative A no new Projects would occur, so there would be no cumulative impacts related to visual resources. Visual impacts from Alternatives B and C range from beneficial to moderate (negative) and they are considered significant for mining; however, they are not anticipated to dominate the landscape. Therefore, the impacts from the Proposed Action/Projects are negligible.

4.13.3.9 Cultural Resources

Alternative A: No Action Alternative

Under Alternative A no new projects would be constructed. Therefore, there would not be a cumulatively considerable impact to cultural resources.

Alternative B: Proposed Action/Projects

P-36-5526 (a historic orchard complex) that was determined eligible for the National and California Registers is located between proposed SBVMWD recharge basins (Covered Activity VD.01) and could be adversely affected by construction of this Covered Activity/project.

P-36-6062, a multiple-episode deposit of historic-period debris, was previously recorded as a historic-period domestic debris deposit composed of five loci on either side of a dirt road and is recommended as potentially eligible for the National and California Registers due to its potential significance. **P-36-6062** is located within proposed SBVMWD recharge basins (Covered Activity VD.01) and would be adversely affected by construction of this Covered Activity/project.

However, with implementation of Mitigation Measure CR-1 potential adverse impacts to these resources (**P-36-5526** and **P-36-6062**) would be reduced to less than significant levels. Other historic-period resources documented within the APE, including P-36-6068, P-36-6072, P-36-6074, and P-36-6078, are located in areas that would not be impacted by Covered Activities/projects and would be left in place. Therefore, Alternative B would not result in cumulatively considerable impacts to cultural resources.

The limited incremental effects of the Proposed Action/Projects when added to potential effects or surrounding reasonable foreseeable development and constructions projects, listed above, would not significantly contribute to a cumulative effect.

Alternative C: 2008 Land Management Plan

As with Alternative B, **P-36-5526** is located between proposed SBVMWD recharge basins and could be adversely affected by construction. **P-36-6062** is located within proposed SBVMWD recharge basins and would be adversely affected by construction. However, with implementation of Mitigation Measure CR-1 potential adverse impacts to these resources would be reduced to less than significant levels. Other historic-period resources documented within the APE, including P-36-6068, P-36-6072, P-36-6074, and P-36-6078, are located in areas that would not be impacted by Covered Activities/projects and would be left in place. Therefore, Alternative C would not result in cumulatively considerable impacts to cultural resources.

4.13.3.10 Noise***Alternative A: No Action Alternative***

Under Alternative A, no expanded mining would occur, and no other projects would be implemented. There would be no cumulative noise impact.

Alternative B: Proposed Action/Projects

The Proposed Action/Projects would not expose people working in the Plan Area to excessive noise levels from a private airstrip or public airport. Therefore, the Proposed Action/Projects in conjunction with other projects would not have a cumulative impact on the exposure of people to noise from a private airstrip or public airport.

Construction noise and groundborne vibration from aggregate mining would not exceed standards at nearby sensitive receptors. Water conservation, wells and water infrastructure, transportation, and flood control construction projects are not anticipated to result in substantial increases in ambient noise or significant groundborne vibration and implementation of Mitigation Measure NOI-1 would ensure potential impacts from construction on sensitive receptors are less than significant. Therefore, the Proposed Action/Projects in conjunction with other projects would not have a cumulative noise or groundborne vibration impact on nearby sensitive receptors.

Aggregate mining operations would not generate noise from mobile or stationary sources that would exceed standards and impacts on sensitive receptors are less than significant. Operation and maintenance of water conservation, water infrastructure, roads, and flood control facilities, and trails, habitat, agriculture would not generate noise from mobile or stationary sources that would exceed standards and potential impacts on sensitive receptors are less than significant. Therefore, the Proposed Action/Projects in conjunction with other projects would not generate noise from mobile or stationary sources that would be cumulatively considerable.

Alternative C: 2008 Land Management Plan

The 2008 Land Management Plan would not expose people working in the Plan Area to excessive noise levels from a private airstrip or public airport. Therefore, the 2008 Land Management Plan in conjunction with other projects would not have a cumulative impact on the exposure of people to noise from a private airstrip or public airport.

Construction noise and groundborne vibration from aggregate mining would not exceed standards at nearby sensitive receptors. Water conservation, wells and water infrastructure, transportation, and flood control construction projects are not anticipated to result in substantial increases in ambient noise or significant groundborne vibration and implementation of Mitigation Measure NOI-1 would ensure potential impacts from construction on sensitive receptors are less than significant. Therefore, the 2008 Land Management Plan in conjunction with other projects would not have a cumulative noise or groundborne vibration impact on nearby sensitive receptors.

Aggregate mining operations would not generate noise from mobile or stationary sources that would exceed standards and impacts on sensitive receptors are less than significant. Operation and maintenance of water conservation, water infrastructure, roads, and flood control facilities, and trails, habitat, agriculture would not generate noise from mobile or stationary sources that would exceed standards and potential impacts on sensitive receptors are less than significant. Therefore, the 2008

Land Management Plan in conjunction with other projects would not generate noise from mobile or stationary sources that would be cumulatively considerable.

4.13.3.11 Hazards

Alternative A: No Action Alternative

As no projects would be implemented under Alternative A, there would be no direct or indirect effects related to hazards or use or spill of hazardous materials. As Alternative A would not result in adverse impacts related to hazards they would not result in a cumulatively considerable contribution to impacts associated with this topic.

Alternative B: Proposed Action/Projects

The Proposed Action/Projects are not anticipated to result in substantial direct or indirect effects involved with hazards or hazardous materials. Mining activities would continue and would be expanded over time in areas adjacent to existing mining activities. The additional use of hazardous materials would occur for expanded mining activities but would follow current practices administered when dealing with materials considered hazardous. Therefore, expanded mining activities would not considerably increase hazardous risks to people, structures, or the environment associated with the use of hazardous materials.

Construction, operation and maintenance of water conservation facilities, flood control facilities, wells and water infrastructure and expansion of roadways would involve temporary use of potentially hazardous materials (such as fuel and lubricants used with construction equipment), however, the amount of hazardous materials would be considered relatively small and use in the Plan Area would be temporary. Ongoing operations and maintenance of these facilities as well as the citrus grove may use small amounts of potentially hazardous materials, but no considerable amounts of hazardous materials would be involved in day-to-day activities. The designation and construction of trails and habitat restoration and maintenance activities would not use considerable amounts of hazardous materials. Compliance with Federal, State, and local regulations associated with the routine transport, use, or disposal of hazardous materials would not cause a significant impact to the public or environment.

As the Proposed Action/Projects would not result in adverse impacts related to hazards they would not result in a cumulatively considerable contribution of impacts associated with hazards.

Alternative C: 2008 Land Management Plan

Under Alternative C, implementation of the 2008 Land Management Plan is not anticipated to result in substantial direct or indirect effects involved with hazards or hazardous materials. Therefore, Alternative C would not result in a cumulatively considerable contribution of impacts associated with hazards.

4.13.3.12 Recreation

Past and present projects have resulted in an increase in recreational facilities in the area. These projects have provided a beneficial cumulative effect because of the continued operation and management of available park lands and recreational opportunities to the public.

Alternative A: No Action Alternative

Under Alternative A no new trails or other recreational facilities would be developed. There would be no cumulative impacts.

Alternative B: Proposed Action/Projects

Cumulatively, Alternative B would potentially increase the number of recreational facilities through the development of trails in the area. This would allow Cities of Redlands and Highland to complete the portions of their respective master plans for trails that were compatible with trails approved through implementation of the HCP. Implementation of Alternative B would result in a positive benefit to recreation by providing additional recreational trails open to the public and an opportunity to enjoy and appreciate the natural area around them.

The establishment of new trails in the Plan Area could result in increased use of adjacent park facilities if alternative parking is not provided in the form of the establishment of new trailheads adjacent to the Plan Area to serve the new trails. This increase in use is not expected to be significant. Planned residential development projects outside of the Plan Area may result in additional use of recreational facilities; however, development projects are required to pay development impact fees and/or construct parks or other recreational amenities to offset individual project impacts.

The future development of trailheads adjacent to the Plan Area to serve the proposed trails and other regional trails is reasonably foreseeable and could result in small amounts of additional permanent impacts to Covered Species' habitat. Parks in planned residential developments are expected to have adverse effects on the environment. However, the anticipated impacts from the trails planned under Alternative B do not constitute and cumulatively considerable incremental contribution to the impact of recreational facilities on the environment. In sum, the development of trails within the Plan Area, in conjunction with other projects in the area, are not significant.

Alternative C: 2008 Land Management Plan

Cumulatively, Alternative C would potentially increase the number of recreational facilities through the development of trails in the Plan Area. However, trail development would not include the extension of the SART. Like Alternative B, Alternative C would allow Cities of Redlands and Highland to complete the portions of their respective master plans for trails that were compatible with trails approved through implementation of the HCP. Implementation of Alternative C would result in a positive benefit to recreation by providing additional recreational trails open to the public and an opportunity to enjoy and appreciate the natural area around them.

The establishment of new trails in the Plan Area under Alternative C could result in increased use of adjacent park facilities, if alternative parking is not provided in the form of the establishment of new trailheads adjacent to the Plan Area to serve the new trails. This increase in use is not expected to be significant. Planned residential development projects outside of the Plan Area may result in additional use of recreational facilities; however, development projects are required to pay development impact fees and/or construct parks or other recreational amenities to offset individual project impacts.

The future development of trailheads adjacent to the Plan Area to serve the proposed trails and other regional trails is reasonably foreseeable and could result in small amounts of additional permanent impacts to Covered Species' habitat. Parks in planned residential developments are expected to have adverse effects on the environment. However, the anticipated impacts from the trails planned under Alternative C do not constitute and cumulatively considerable incremental contribution to the impact of recreational facilities on the environment. In sum, the proposed development of trails within the Plan Area, in conjunction with other projects in the area, is not significant.

4.13.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible commitments of resources are those resources that cannot be reversed or are lost for an extremely long period of time. Irretrievable commitments of resources are those that are lost for a short period of time (usually for the time period for which the resources are used) and that would be restored over time. This includes the use of nonrenewable resources such as metal, wood, fuel, mineral resources, and other natural or cultural resources.

4.13.4.1 Air Quality and Greenhouse Gases

The Plan Area is located within a portion of the Basin that is designated as nonattainment for PM₁₀ by the state, as well as nonattainment for ozone (O₃), and PM_{2.5} under both the state and federal standards (see Section 3.1, **Table 3.1-1**). The control measures and related emission reduction estimates included in the AQMP are based upon emissions projections for a future development scenario derived from land use, population, and employment estimates defined in consultation with local governments. Accordingly, if a project demonstrates compliance with local land use plans and/or population projections, then the AQMP would have taken into account such uses when it was developed, and the Proposed Projects would not conflict with implementation of the plan.

The Proposed Action/Projects would be consistent with the AQMP and would not obstruct implementation of its programs. Total short-term construction emissions that would result from grading activities and from equipment exhaust for the mining haul road and other proposed small projects do not exceed regional daily SCAQMD thresholds. The emissions of NO_x, PM₁₀, and PM_{2.5} from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS and thus, long-term regional impacts remain significant and unavoidable. SCAQMD considers the thresholds for project-specific impacts and cumulative impacts to be the same. Therefore, projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively

considerable. Thus, as operational emissions of NO_x, PM₁₀, and PM_{2.5} would exceed the SCAQMD thresholds, even after implementation of mitigation measures, and would have a cumulatively considerable net increase in these emissions and potential for irreversible and/or irretrievable commitments of good air quality.

4.13.4.2 Geology and Mineral Resources

There will be an irreversible and irretrievable commitment of aggregate resources with implementation of the Proposed Action/Projects. The expanded mining activities would continue to extract aggregate from the Plan Area. This aggregate is used for construction throughout the region and is not retrievable. Although the natural alluvial processes of the Santa Ana River would result in the transport of aggregate resources from upstream areas into the Plan Area the time it would take to replenish the aggregate being removed is so much greater than the rate of extraction that the expanded mining activities are also considered an irreversible commitment of resources.

4.13.4.3 Hydrology and Water Quality

The modification to the Santa Ana River, Plunge Creek and City Creek washes, floodplains and associated habitats from expansion of mining activities are considered an irretrievable commitment of resources as they are lost for a short period of time. The hydrology of riverine areas in the Wash Plan support habitat for federally listed threatened or endangered species. Although implementation of the Mining and Reclamation Plans will help restore some of the riverine hydraulic function and values of quarried areas, the mining activities are considered an irreversible commitment of resources as the riverine hydraulic functions and values for habitat are lost for an extremely long period of time. Filling the quarries with aggregate through the natural hydrology of the alluvial process would be required to fully restore the riverine hydraulic functions and values of the quarried areas, which could take hundreds of years.

Although the construction activities (wells, new recharge basins, mining haul route, roadway expansions) will not affect large areas they will result in the permanent alteration of natural hydraulic functions by removal of any vegetation, compaction of the soils or installation of pavement, concrete and/or rip-rap. The conversion of these areas from natural or disturbed-natural to developed is considered an irretrievable and irreversible commitment of natural hydraulic functions.

4.13.4.4 Biological Environment

The modification to the Santa Ana River, Plunge Creek and City Creek washes, floodplains and associated habitats from expansion of mining activities are considered an irretrievable commitment of resources as they are lost for a short period of time. The riverine areas in the Plan Area support habitat for federally listed threatened or endangered species. Although implementation of the Mining and Reclamation Plans will help restore some of the riverine function and values of quarried areas, the mining activities are considered an irreversible commitment of resources as the riverine functions and values are lost for an extremely long period of time. Filling the quarries with aggregate through the natural alluvial process

would be required to fully restore the riverine functions and values of the quarried areas, which could take hundreds of years.

Although the construction activities (wells, new recharge basins, mining haul route, roadway expansions) will not affect large areas they will result in the permanent alteration by removal of any vegetation, compaction of the soils or installation of pavement, concrete and/or rip-rap. The conversion of these areas from natural or disturbed-natural to developed is considered an irretrievable and irreversible commitment of habitat.

4.13.4.5 Land Use

The following land uses currently take place in the Plan Area: mining, flood control, water conservation, habitat conservation, water utilities, and open space. These land uses will continue to take place in the Plan Area should the Proposed Action/Projects be implemented; the changes are the locations and amount of land devoted to each use. Habitat restoration and recreation (trails) are new proposed uses within the Plan Area.

4.13.4.6 Visual Resources

The expansion of mining activities and construction of various projects (wells, new haul road, expanded roadways, recharge basins) in the Plan Area would primarily affect near views, which are considered to be points of view that are observed at close range. Prime views, those that are considered to be scenic views of the mountains, would not be affected by the proposed covered activities. As the covered activities are consistent with the existing uses and facilities located in the Plan Area they would not result in an irreversible or irretrievable commitment of visual resources.

4.13.4.7 Cultural Resources

The expansion of mining activities and construction of various projects (wells, new haul road, expanded roadways, recharge basins) in the Wash Plan Area could have the potential for irreversible and/or irretrievable commitments of resources. The APE consists of the horizontal and vertical limits of Proposed Projects and includes the area within which significant impacts or adverse effects to “historic property” under Section 106 of the NHPA and a “historical resource” under CEQA could occur. Proposed Projects such as aggregate mining, new recharge basins, well and pipeline infrastructure, would include grading or excavation. Thus, the vertical APE includes all subsurface areas where archaeological deposits could be affected. Implemented mitigation measures would greatly reduce the potential for irreversible and/or irretrievable commitments of resources.

4.13.5 SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY OF THE ENVIRONMENT

4.13.5.1 Air Quality and Greenhouse Gases

Short-term use includes temporary construction and grading activities and the continued and expanded mining activities to extract aggregate from the Wash Plan Area. Long-term impacts are usually associated with build-out conditions and long-term operations of a project. The emissions of NO_x, PM₁₀, and PM_{2.5} from expanded mining operations are expected to exceed the SCAQMD thresholds and are expected to exceed State AAQS. While there are control measures regulating emissions of heavy-duty vehicles, there is no way to quantify the reduction of these emissions. Long-term regional impacts remain significant and unavoidable.

4.13.5.2 Geology and Mineral Resources

Short-term use includes the continued and expanded mining activities to extract aggregate from the Wash Plan Area. This aggregate is used for construction throughout the region. The mining activity contributes to the local economy as a source of employment and sales tax. Although the natural alluvial processes of the Santa Ana River would result in the transport of aggregate resources from upstream areas into the Wash Plan Area it would take a very long time, anticipated to be hundreds of years, to replenish the aggregate being removed. Therefore, implementation of the Proposed Action/Projects would allow for the short-term extraction of aggregate for use in the region which will reduce the amount of this resource locally available in the long-term.

4.13.5.3 Hydrology and Water Quality

Short-term disturbances to surface water runoff within portions of the Wash Plan Area would result from construction and grading activities. Construction and grading activities would be short-term and considered less than significant impacts with the required implementation of mitigation measures. Mining operations could have a potential for long-term impacts, but those impacts would be less than significant due to mandated compliance with mining permits and other applicable regulations. As identified in the Cemex and Robertson's Mining and Reclamation Plans, mining would be restricted to no less than 20 feet above ground water, with no operations allowed in standing groundwater. Existing monitoring wells would be used to monitor groundwater levels and to determine the depth to groundwater.

4.13.5.4 Biological Environment

The purpose of the HCP is for conservation of species and habitat in the Plan Area. The HCP will provide the conservation of federally- and state-listed Santa Ana River woolly-star, slender-horned spineflower, and the federally-listed California gnatcatcher and San Bernardino kangaroo rat, as well as the State Species of Special Concern-listed coastal cactus wren. The federally-listed endangered SBKR and

California gnatcatcher are known to occur within the Wash Plan Area and the Service has designated portions of the Wash Plan Area as critical habitat for SBKR.

Southern California's biodiversity has diminished as urban growth has caused wildlife habitat to become more fragmented, forming isolated small blocks of land and causing endangered species conflicts. Although the covered activities will result in short-term take of federally- and state-listed plant and wildlife species it will significantly contribute to the long-term productivity of the environment to continue to support these species. Implementation of the Plan helps accomplish the urgent need to preserve remaining biodiversity in Southern California without halting aggregate mining, water conservation and other uses.

4.13.5.5 Land Use

Land use within the Wash Plan Area combines a diverse arrangement of projects and land uses, of which predominantly involves new development of aggregate mining and new habitat conservation of federally- and state-listed habitats. Thus, long-term productivity of the land uses within the Wash Plan Area is considered a best-case scenario to balance the uses and demands of highly valuable aggregate land, such as habitat conservation, aggregate mining, water conservation, flood control, recreation, transportation and other uses. Long-term productivity of the environment would be deemed most beneficial.

4.13.5.6 Socioeconomics, Population and Housing, and Environmental Justice

Short-term construction and grading activities could result in employment that would benefit the local labor supply, such as with construction equipment and materials suppliers and service businesses that directly support construction workers. This increase in employment and economic gains, although beneficial, would not be of great enough magnitude to substantially alter existing population patterns, housing demand, or subsequently, socioeconomic conditions within or surrounding the Plan Area. However, long-term productivity of the environment would translate to an overall beneficial socioeconomic impact.

4.13.5.7 Transportation Systems and Traffic

While not significant, short-term construction and grading activities would result in some increase in traffic that would be temporary in nature. With mitigation measures implemented, the long-term operations and maintenance activities would have a minor benefit for the productivity of the local environment. However, mining and operations would result in potentially significant long-term impacts to freeway segments that traverse the region in year 2030. Because improvements to the freeway segments are under the authority of Caltrans, there is no mechanism for development Project proponents to pay fees or make fair-share contributions toward improving mainline freeway lanes. Long-term productivity related to transportation is minorly beneficial to the local systems, but potentially adverse to freeway segments for the region.

4.13.5.8 Visual Resources

Construction and grading activities would have short-term visual impacts within the Wash Plan Area. While not significant, mining activities would create the greatest impact to visual resources. Over the long-term impacts to visual resources would range from beneficial to moderate(negative) and are considered significant for mining; however, they are not anticipated to dominate the landscape.

4.13.5.9 Cultural Resources

Short-term construction and grading activities could have potential adverse or beneficial impacts related to cultural resources as these resources could be uncovered during construction and grading activities. Cultural resources being uncovered during these activities could cause damage to the resource but could also educate people about the cultural resources in the area. Long-term productivity of cultural resources for the area is difficult to estimate. It could be beneficial and/or could be adverse, but would not be significantly adverse.

4.13.6 GROWTH INDUCING IMPACTS

Section 15126 of the *CEQA Guidelines* requires that an EIR discuss a Project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The *CEQA Guidelines* also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section of the EIR analyzes such potential growth-inducing impacts, based on criteria suggested in the *CEQA Guidelines*.

In general terms, a Project may foster spatial, economic, or population growth in a geographic area if it meets any one of the following criteria:

1. Remove an impediment to growth (e.g., establish an essential public service or provide new access to an area);
2. Foster economic expansion or growth (e.g., change revenue base, expand employment, etc.);
3. Foster population growth (e.g., construct additional housing), either directly or indirectly;
4. Establish a precedent-setting action (e.g., an innovation, a change in zoning, or a general plan amendment approval); or
5. Develop or encroach on an isolated or adjacent area of open space (distinct from an "infill" type of Project).

Should a Project meet any one of the above-listed criteria, it may be considered growth inducing. The potential growth-inducing impacts of the proposed Project are evaluated against these five criteria in this section.

Section 15126.2(d) of the *CEQA Guidelines* requires that an EIR “discuss the ways” a Project could be growth inducing and to “discuss the characteristics of some Projects that may encourage activities that could significantly affect the environment”. However, the *CEQA Guidelines* do not require that an EIR predict (or speculate), specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages (see *CEQA Guidelines* §15145).

4.13.6.1 Alternative A: No Action Alternative

The No Action Alternative does not include the construction of housing that would directly increase the population in the Plan Area or surrounding areas.

Existing mining operations, as allowed under the current permits and leases, would not have a substantial increase in jobs that would foster economic or population growth to indirectly increase the need for the construction of additional housing in the area.

The No Action Alternative is not anticipated to foster substantial economic or residential growth in the region; potential impacts from growth inducement are less than significant. No further analysis is included in this DEIS/SEIR.

4.13.6.2 Alternative B: Proposed Action/Projects

Section 15126.2(d) of the *CEQA Guidelines* identifies a project to be growth inducing if it fosters economic or population growth, or the construction of additional housing either directly or indirectly, in the surrounding environment.

The Proposed Action/Projects do not include the construction of housing that would directly increase the population in the Plan Area or surrounding areas.

The Proposed Action/Projects would allow for expanded mining production and associated new jobs. However, the expanded mining is not expected to have a substantial increase in jobs that would foster economic growth and indirectly foster population growth. The Plan Area is located in a region of southern California with a poor jobs-to-housing ratio. Thus, it is anticipated that any new jobs generated by the Proposed Action/Projects would likely be filled by existing residents in the region.

The other Proposed Projects (construction of new wells, flood control, street improvement, and drainage facilities and maintenance of these types of facilities) are not expected to generate substantial new jobs, as much of this work is anticipated to be completed by individuals already living in the region

and employed by the Conservation District, the Cities of Redlands and Highland, the County of San Bernardino or construction companies that complete contract work from these agencies.

The approval of development type projects (i.e. residential, commercial or industrial development) does not fall under the jurisdiction of the Conservation District, USFWS. Any development type projects, if proposed, would fall under jurisdiction of the local governmental entity in which they are located. Within the Plan Area the local governmental entities with jurisdiction over land uses are of the City of Highland, City of Redlands and the County of San Bernardino. Future development within the Cities of Redlands and Highland and the County of San Bernardino are guided by their respective General Plans. The expanded mining would support growth in the region by providing locally available aggregate for construction of development projects. The expansion of aggregate mining is in response to the demand for aggregate products created by existing population growth in the region.

The Proposed Action/Projects are not anticipated to foster substantial economic or residential growth in the region; potential impacts from growth inducement are less than significant. No further analysis is included in this DEIS/SEIR.

4.13.6.3 Alternative C: 2008 Land Management Plan

The 2008 Land Management Plan does not include the construction of housing that would directly increase the population in the Plan Area or surrounding areas.

The 2008 Land Management Plan would have allowed for 32 more acres of new mining as compared to the 2019 HCP. However, consistent with the Proposed Action/Projects, the expanded mining is not expected to have a substantial increase in jobs that would foster economic growth and indirectly foster population growth. The Plan Area is located in a region of southern California with a poor jobs-to-housing ratio. Thus, it is anticipated that any new jobs generated by the Proposed Action/Projects would likely be filled by existing residents in the region.

The other Proposed Projects (construction of new wells, flood control, street improvement, and drainage facilities and maintenance of these types of facilities) are not expected to generate substantial new jobs, as much of this work is anticipated to be completed by individuals already living in the region and employed by the Conservation District, the Cities of Redlands and Highland, the County of San Bernardino or construction companies that complete contract work from these agencies.

The 2008 Land Management Plan is not anticipated to foster substantial economic or residential growth in the region; potential impacts from growth inducement are less than significant. No further analysis is included in this DEIS/SEIR.

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5.0 PUBLIC INVOLVEMENT AND SCOPING

Public participation in this DEIS/SEIR is a dynamic process that continues throughout the DEIS/SEIR process. In addition to formal public participation, informal contact has occurred with public land users and interested parties.

The planning process was initiated on March 3, 2015, with the publication of a NOI by the BLM and USFWS in the *Federal Register* (Volume 69, Number 80, Document Number E9-17574). Additionally, a NOP was sent to the State Clearinghouse (SCH Number 2015031022) and to local agencies and interested parties by the Conservation District on March 5, 2015 and March 6, 2015, respectively. On March 18, 2015, the BLM, USFWS, and the Conservation District hosted two public scoping meetings to provide information and a forum for public input into the process at the Conservation District's offices in Redlands, California (Table 5.0-1, *Scoping Meetings*). Additionally, the NOI provided supplementary project information, BLM and the USFWS contact information for comments, and a list of the predominant issues.

Table 5.0-1 Scoping Meetings

Location of Scoping Meeting	Date
San Bernardino Valley Water Conservation District 1630 W. Redlands Blvd. Suite A	March 18, 2015 @ 2PM March 18, 2015 @ 6PM

The scoping and comment period lasted 60 days, ending on May 4, 2015. A total of nine written communications regarding the NOI and NOP were received during the scoping and comment period. Public comments and concerns are summarized in Table 5.0-2, *Index of Comments*. Additionally, the comments are on file at the Conservation District's office and are included In Appendix A of this document and as part of the Administrative Record. As shown in Table 5.0-2, *Index of Comments*, the predominant issues identified during public scoping included: threatened, endangered, and other special status species; mineral resources; water resources; recreation; noise; visual resources; cultural resources; land management; and traffic management. In response to feedback received during the scoping meeting an additional meeting, open to the public, and focused on habitat and biological issues was held at the Conservation District on April 7, 2015. Public involvement in planning for the Final EIS/SEIR is ongoing and various opportunities for public involvement will continue to be available.

Table 5.0-2 Index of Comments

Comments Received During Public Scoping Period				
Date of Correspondence	Name/Title of Correspondent	Organization Represented	Primary Issue(s) of Concern	Sections Addressed
Unknown	James Malcolm	N/A	Biological Resources – Recommend that the HCP include more than just currently listed species, but other species that are declining. Management is required to maintain biodiversity. Land Exchange – the land around the mining pits should be federally owned.	Chapters 1.0 <i>Introduction</i> and 2.0 <i>Proposed Action and Alternatives</i> Chapters 3.4 and 4.4, <i>Biological Resources</i>
March 4, 2015	Ileene Anderson, Senior Scientist	Center for Biological Diversity	Biological Resources – complete surveys for rare, sensitive, threatened, and endangered species should be used for basis of impact analysis. Evaluate all direct, indirect, and cumulative impacts to sensitive habitats and wildlife movement. DEIS/SEIR should include specific, measurable, feasible and enforceable mitigation measures for impacts. Air Quality/GHG – DEIS/SEIR must consider the project's potential to impair attainment goals for the Air Basin and contribution to greenhouse gas emissions. Water Quality/ Water Supply – DEIS/SEIR must include the project's water quality impacts and the project's water supply. DEIS/EIR should consider a range of alternatives that reduce or avoid the project's impacts and the environmental analysis should not simply be set on the existing environmental conditions. Request to be added to the distribution list to receive future notices related to the DEIS/SEIR.	Chapters 1.0 <i>Introduction</i> and 2.0 <i>Proposed Action and Alternatives</i> Chapters 3.4 and 4.4, <i>Biological Resources</i> Chapters 3.3 and 4.3, <i>Hydrology and Water Quality</i> Chapter 13, <i>Cumulative Effects</i>
March 23, 2015	Katy Sanchez Associate Government Program Analyst	Native American Heritage Commission	Cultural Resources – Consultation with Native American Tribes.	Chapters 3.9 and 4.9, <i>Cultural Resources</i>

April 1, 2015	David Samson, Chief State Water Projects Operations Support Office	CA Department of Water Resources	DWR's ability to perform existing and future operation and maintenance of the Mentone Pipeline. Provide DWR with a copy of the subsequent environmental documentation and keep DWR informed of any future actions.	N/A
April 2, 2015	Leslie MacNair, Acting Regional Manager	CA Department of Fish and Wildlife	CDFW is a Trustee Agency and Responsible Agency under CEQA. The EIR should include a detailed project description and an alternatives analysis. Direct, indirect, and cumulative impacts to sensitive biological resources, avoidance minimization and mitigation for impacts, California Endangered Species Act Individual Take Permit for impacts to state-listed species, analyze potential impacts to Fully Protected Species, avoidance and minimization of nesting birds and compliance with the Migratory Bird Treaty Act, analyze impacts to wildlife movement, compliance with the Lake and Streambed Alteration Program.	Chapters 1.0 <i>Introduction</i> and 2.0 <i>Proposed Action and Alternatives</i> Chapters 3.4 and 4.4, <i>Biological Resources</i> Chapter 13, <i>Cumulative Effects</i>
April 28, 2015	Nidham Aram Alrayes, Public Works Engineer	County of San Bernardino	No comments.	N/A
April 29, 2015	Debbie Drenzer, Principal	Metropolitan Water District of Southern California	Impacts to Metropolitan's facilities or restrictions to access and right-of-ways.	Chapters 1.0 <i>Introduction</i> and 2.0 <i>Proposed Action and Alternatives</i>

Table 5.0-3 List of Preparers

Organization	Title	Name
Conservation District	General Manager	Daniel Cozad
Conservation District	Assistant General Manager/Land Resources Manager	Betsy Miller
Conservation District	Program Manager	Jeff Beehler
Conservation District	Assistant Engineer	Katelyn Scholte
Conservation District	GIS Analyst	Erin Berger
Conservation District	GIS Analyst	Jennifer Zhou
USFWS	Fish and Wildlife Biologist	Geary Hund
USFWS	Fish and Wildlife Biologist	Chris Gregory
USFWS	Division Chief	Karin Cleary-Rose
USFWS	Fish and Wildlife Biologist	John Robles
BLM	Realty Specialist BLM	Brandon Anderson
BLM	Biologist BLM	Joyce Schlachter
BLM	Realty Specialist BLM	Victoria Hernandez
BLM	Planning and Environmental Coordinator BLM	John Dalton
RVA Corp	RVA Corp	Ruth Villalobos
RVA Corp	RVA Corp	Seve Villalobos
RVA Corp	RVA Corp	Sonya Hooker
Baker International	Baker International	Christine Jacobs-Donoghue



DECEMBER 2019