INITIAL STUDY/
ENVIRONMENTAL ASSESSMENT

FOR

City of Moreno Valley
Edgemont Water Master Plan Update

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September, 2009

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INTRODUCTION AND PROJECT DESCRIPTION

1. INTRODUCTION AND SUMMARY

The Edgemont Water Master Plan Update (EWMPU) includes the Water Infrastructure Analysis Study (WIAS). The objective of the Water Infrastructure Analysis Study is to analyze the existing Box Springs Mutual Water Company (BSMWC) water system and determine the adequacy of the existing system, determine any necessary system improvements and the associated costs of the improvements to comply with the current City of Moreno Valley General Plan and Land Use designations (ultimate development). Presently, the BSMWC facilities cannot meet the City of Moreno Valley minimum fire flow requirements and therefore does not provide adequate fire protection for the approximately 600 existing residential customers and businesses. Further, the water system is aging and deteriorated and in need of replacement and rehabilitation.

Two Alternatives for improvements, plus the no action (or no project) alternative, were analyzed to meet the water supply and fire suppression needs of the ultimate development based on water storage facilities, pipeline facilities, pumping facilities and water supply.

Alternative No. 1 consists of maintaining the current system operational scheme, with additional water supply from additional groundwater extraction, and upgrading all existing BSMWC facilities (pipelines, reservoir, and hydropneumatic booster station). Alternative No. 2 consists of connecting to the Western Municipal Water District (WMWD) water system for both water supply and fire suppression needs (see **Project Description** below for a more detailed description). The no project alternative would not adopt or implement the EWMPU and the WIAS would not be utilized to address the inadequacy of the existing system.

The proposed improvements are located within the BSMWC service area on the western most end of the City of Moreno Valley and encompasses approximately 430 acres in the Edgemont area (refer to **Figure 1, Vicinity Map** and **Figure 2, Aerial Photograph**). Potable water for this portion of the City of Moreno Valley has been provided to residents through the BSMWC. BSMWC is a private shareholder company that was incorporated on June 9th 1920 by landowners to provide water to their lands. Water service for the remaining portion of the City of Moreno Valley is provided by Eastern Municipal Water District (EMWD). Primary water supply is provided via a groundwater well. BSMWC is located within the sphere of influence of WMWD and part of WMWD's Improvement District "B" as a result of the 1964 agreement to supplement water.

This initial study/environmental assessment (IS/EA) has been prepared to assess the potential for any significant environmental effects associated with BSMWC Water Infrastructure Analysis Study. The Lead Agency for this project is the City of Moreno Valley, as BSMWC cannot serve in that capacity pursuant to CEQA. This IS/EA has been prepared pursuant to the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000 et seq.), and the State CEQA Guidelines (California Code of Regulations Sections 15000 et seq.). Federal funding for the EWMPU and its associated environmental documentation is provided, in part, by The U.S. Environmental Protection Agency, thus this IS/EA also complies with the National Environmental Policy Act (NEPA). Please note that under CEQA, the proposed master plan of infrastructure facilities is referred to as a "project" and under NEPA it is referred to as an "action." For purposes of simplification, in this document, the proposed master plan will be referred to as a "project."

The City of Moreno Valley's Initial Study Checklist (Checklist), below, is used for purposes of evaluating the environmental impacts/effects of the project under both NEPA and CEQA. For the most part, the environmental issue areas analyzed in the Checklist are the same for NEPA and CEQA. For NEPA issues not addressed in the CEQA Checklist, a discussion of the proposed project's potential impacts related to those issues is provided at the end of the Checklist.

2. PURPOSE AND NEED FOR PROJECT

Currently, BSMWC water system facilities are hydraulically incapable of supplying the necessary fire flow demand to support existing property development conditions. Additionally, the water system is aging and deteriorated and in need of replacement and rehabilitation. The City of Moreno Valley has also recently adopted a General Plan Update which updated land use and zoning in the BSMWC service area. In order to meet the water and fire flow demand conditions for

the ultimate development, additional water supply must be acquired, and existing BSMWC water infrastructure, including storage, pipeline and pumping facilities, require improvements. Presently, the existing BSMWC water system is not up to City fire protection standards and codes. Furthermore, due to age and deterioration of the existing system, there is a potential for pipeline failure; thus, leading to a shutdown of the entire system and water will not be delivered to the public. Additionally, the BSMWC well water has nitrate levels exceeding the Maximum Contaminant Level (MCL) for drinking water standards and requires blending prior to delivery. Thus, the completed project will provide safe and clean drinking water to the residents in the City of Moreno Valley.

3. PROJECT DESCRIPTION

The Water Infrastructure Analysis Study proposes two water system alternatives based on the additional water supply and improvements to water system facilities including storage, pipeline and pumping. NEPA also requires analysis of the No Project Alternative. Thus, in addition to the two project alternatives, this IS/EA addresses environmental impacts associated with the No Project Alternative. The primary difference in the two project alternatives is the source of the water and the need for the storage reservoir/tank and pumps. Thus, unless specifically discussing impacts caused exclusively by the reservoir/tank or pumps (Alternative 1, only) or as otherwise noted, analysis of potential adverse environmental impacts in the following Checklist refers to both Alternative 1 and Alternative 2.

Alternative 1

Storage – The existing BSMWC storage capacity is 0.8 MG, provided by two (2) 0.4 MG storage tanks. The ultimate required storage is 3.11 MG. Therefore, the construction of an additional 2.3 MG storage tank is proposed to meet ultimate water demand conditions. The proposed 2.3 MG tank will be located within the current property where BSMWC has existing tanks, booster station and pumps (see **Figure 3, Alternative 1 Proposed Water Facilities**), north of Dracaea Avenue and east of Edgemont Street. The new tank will be located adjacent to the two existing storage tanks (refer to **Figure 4, Tank Area Site Plan**). The Storage Tank portion of the project will consist of construction of one new 2.3 MG above-ground reservoir, the installation of additional on-site pipeline to connect to existing water system and on-site drainage facilities including drainage and overflow pipeline to drain to existing Riverside County Flood Control storm drain channel to provide drainage of on- and off-site stormwater, and for reservoir overflow protection.

Activities related to reservoir construction include site clearing and grading, and drainage improvements. Equipment such as valves, controls and appurtenances, and overflow drain pipeline and other drainage related erosion control features will be constructed.

Pipeline – The WIAS proposes approximately 10 miles of water pipeline within BSMWC (refer to **Figure 3, Alternative 1 Proposed Water Facilities**). The distribution system consists of very old and undersized water mains. BSMWC has been upgrading waterlines and replacing these old and undersized pipelines, however the depth at which the lines were placed will most likely require reconstruction.

The majority of the pipelines will be installed utilizing traditional trenching techniques within existing paved roads and road right-of-way(s). The following table displays the total length of pipeline, by pipeline diameter needed to implement the Master Water Plan.

Table 1 – Alternative 1 Master Water Plan Proposed Pipeline

Pipeline	Quantity	Unit
8" Ø Waterline	8,500	L.F.
12” Ø Waterline	44,400	L.F.
16” Ø Waterline	410	L.F.

Additionally, the existing 4-inch metered connection with WMWD will be upsized to an 8-inch compound meter to be capable of providing the necessary flows. A proposed 12-inch diameter water pipeline will connect the proposed meter directly to the two (2) 0.4 MG storage tanks. The booster station and hydropneumatic tank will draw water from the two (2) 0.4 MG storage tanks and pump it to the distribution system. The discharge piping will be a 16-inch diameter water pipeline until its connection at Dracaea Avenue for a length of approximately 410 L.F. The proposed pipeline diameters are shown in **Figure 3** for this alternative.

Pumping – Pump stations, also known as booster stations, are facilities used to lift water conveyed in pipelines from one pressure zone to another. Pump stations are made up of piping, mechanical, and electrical components housed in an above ground pre-fabricated metal building. The buildings are typically between 20 x 30 to 20 x 40 feet in size and 10-12 feet tall. Pump stations are typically surrounded by a chain link fence or block wall. Pump station facilities may require an area of up to 150 x 100 feet or approximately 1/3 of an acre in size. The proposed pump station is located at the existing pump station site on the BSMWC tank property northeast of the intersection of Dracaea Avenue and Edgemont Street (refer to **Figure 4)**.

Since the maximum fire flow is 4,000 gpm and the maximum day demand is 1,491 gpm, the existing pumps have to be replaced with three higher capacity pumps under this alternative.

Water Supply – Current primary water supply is provided via one well (No. 17) located within the BSMWC service area. Additional water supply would be provided through a second well proposed to be within BSMWC service area and supplemental water would continue to be supplied by WMWD as necessary for blending. The location of the proposed well site has not been determined. Therefore, this IS/EA will not include evaluation of the well site. However, the study will include investigation of the sustainability of additional groundwater extractions from the study area.

Alternative 2

Storage – No additional storage capacity is required for this alternative as BSMWC water system floats off WMWD water system. The existing storage tanks will only be used for blending the high-nitrate water from Well No. 17.

Pipeline – The WIAS proposes approximately 10 miles of water pipeline within BSMWC (refer to **Figure 5, Alternative 2 Proposed Water Facilities**). The distribution system consists of very old and undersized water mains. The BSMWC has been upgrading waterlines and replacing these old and undersized pipelines, however the depth at which the lines were placed will most likely require reconstruction.

The majority of the pipelines will be installed utilizing traditional trenching techniques within existing paved roads and road right-of-way(s). The following table displays the total length of pipeline, by pipeline diameter needed to implement the Master Water Plan.

Table 2 – Alternative 2 Master Water Plan Proposed Pipeline

Pipeline	Quantity	Unit
8" Ø Waterline	8,500	L.F.
12” Ø Waterline	44,170	L.F.
16” Ø Waterline	630	L.F.

Additionally, the existing 4-inch metered connection with WMWD will be upsized to a 12-inch compound meter. A proposed 16-inch and 12-inch diameter water pipeline will connect the proposed meter to the two (2) existing 0.4 MG storage tanks as well as the system. The booster station and hydropneumatic tank will continue to draw water from the two (2) 0.4 MG storage tanks and pump it to the distribution system. The proposed pipe diameters are shown in **Figure 5** for this alternative.

Pumping – Since the ultimate maximum daily demand of 1,491 gpm and the fire flow of 4,000 gpm will be supplied from WMWD, no additional pump improvements are required.

Water Supply – WMWD will supply the water needed to supplement Well No. 17.

No Project Alternative

Under a No Project Alternative, the EWMPU would not be adopted or implemented. All construction-related potential adverse environmental impacts would not occur. Thus, potential impacts to water quality, air quality, noise, traffic, safety, and all other construction impacts, which, due to implementation of mitigation measures, adherence to regulations, and/or best management construction practices are less than significant, would be eliminated. However, under this alternative, the Water Infrastructure Analysis Study would not be utilized to address the inadequacy of the existing system to bring it up to current City of Moreno Valley minimum fire flow requirements and therefore adequate fire protection would not be provided for the approximately 600 existing residential customers and businesses in the area. Further, the water system is aging and deteriorated and in need of replacement and rehabilitation which might be rectified over time, but not to standards that would support the City of Moreno Valley General Plan land uses for the area.

4. REQUIRED PERMITS AND APPROVALS

City of Moreno Valley will serve as the lead agency under the California Environmental Quality Act. Approval by City of Moreno Valley's City Council will be necessary for the project to proceed. According to the California Government Code Section 53091 (d) "building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy," and (e) "zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water..." Therefore, the construction of the proposed water facilities is exempt from zoning designations. Standard permitting requirements are expected to apply to the proposed well, tanks, pumps, and pipelines. These include:

- Compliance with California Regional Water Quality Control Board, Santa Ana Order No. R8-2003-0061 and NPDES Permit No. CAG98001, which establishes waste discharge requirements for discharges to surface waters which pose an insignificant (De Minimus) threat to water quality. Compliance would be required for the discharge of wash-water associated with pipeline flushing and blow-off water associated with pump maintenance of the proposed well.

- Compliance with California Department of Public Health, Title 22 California Code of Regulations for Drinking Water.

- Compliance with the South Coast Air Quality Management District Rule 1301 for operation of emergency diesel generators.

- Compliance with the South Coast Air Quality Management District Form 400, Application to obtain a Permit to Construct and Operate prior to installing and operating equipment.

- Compliance with the South Coast Air Quality Management District Rule 403 requirements controlling construction related fugitive dust emissions.

- Compliance with Riverside County Ordinance 682.3 in accordance with the California Water Well Standards (Department of Water Resources Bulletins 74-81 and 74-90).

- Compliance with the City of Moreno Valley Department of Public Works for encroachment permits to construct the pipeline within City roadways.
- Compliance with the City of Riverside Department of Public Works for encroachment permits to construct the pipeline within City roadways.
- Compliance with the County of Riverside Transportation and Land Management Department for encroachment permits to construct the pipeline within City roadways.
- Compliance with the Riverside County Flood Control and Water Conservation District for an encroachment permit if connection to storm drain facilities is required.

CITY OF MORENO VALLEY

EDGEMONT WATER MASTER PLAN UPDATE

BOX SPRINGS MUTUAL WATER COMPANY

VICINITY MAP

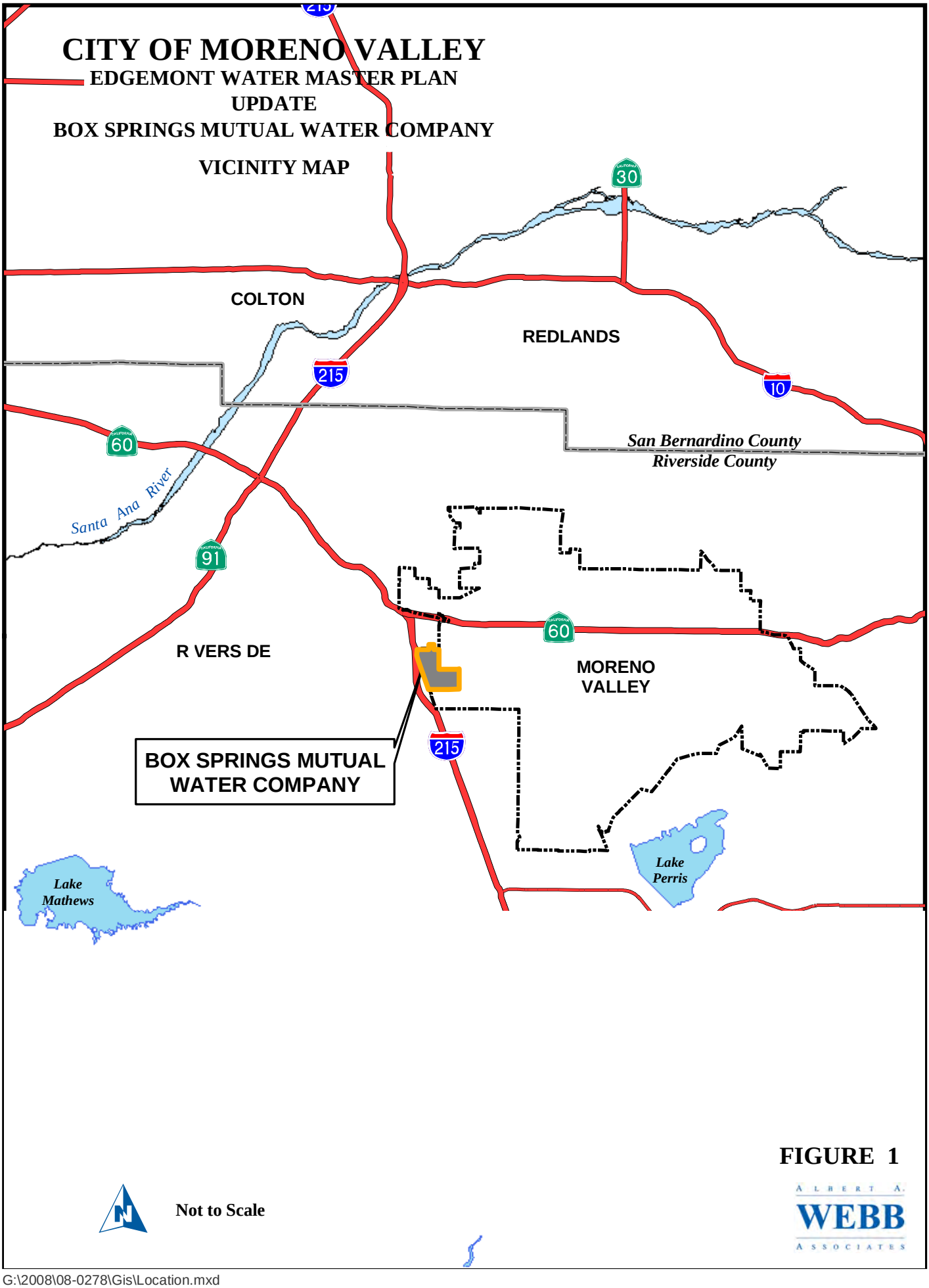

FIGURE 1

Not to Scale

ALBERT A. WEBB ASSOCIATES

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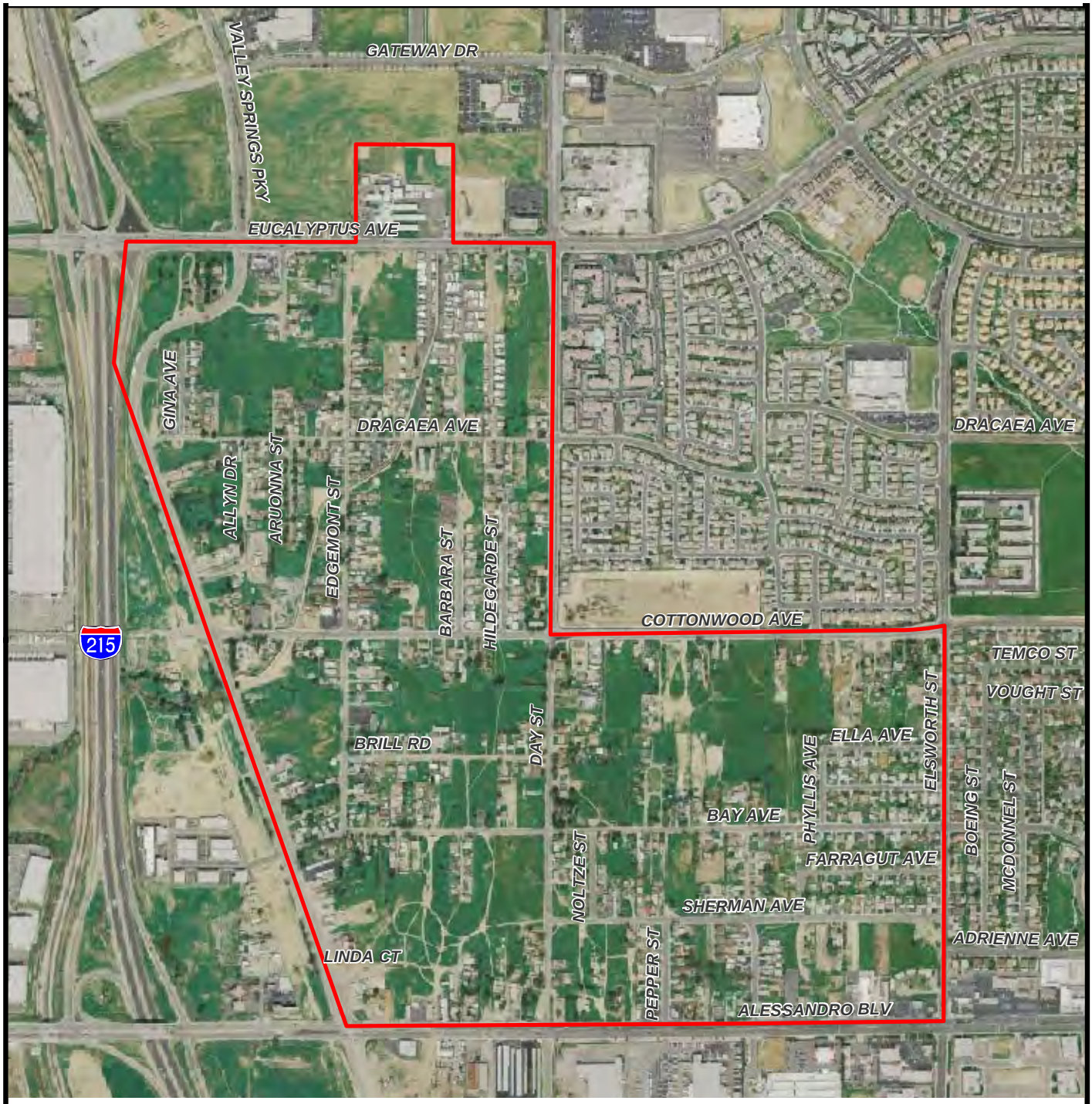
CITY OF MORENO VALLEY

EDGEMONT WATER MASTER PLAN UPDATE

BOX SPRINGS MUTUAL WATER COMPANY

AERIAL PHOTOGRAPH



0 500 1,000 2,000

Feet

FIGURE 2

Imagery by Digital Globe, March 2008.

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CITY OF MORENO VALLEY

EDGEMONT WATER MASTER PLAN UPDATE

BOX SPRINGS MUTUAL WATER COMPANY

ALTERNATIVE 1
PROPOSED WATER FACILITIES

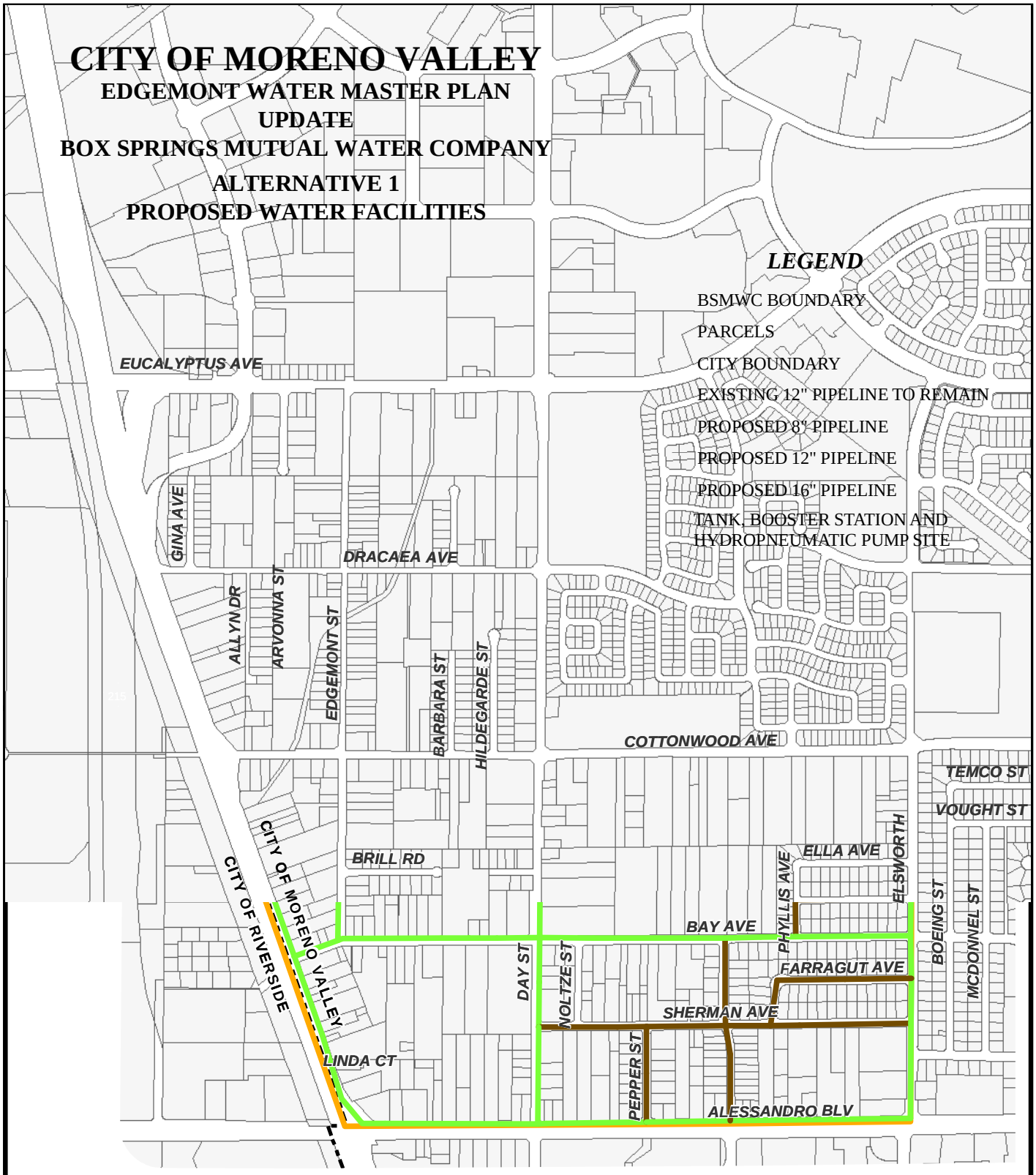

FIGURE 3

0 1,000 2,000

Feet

Base source: Riverside County 2009

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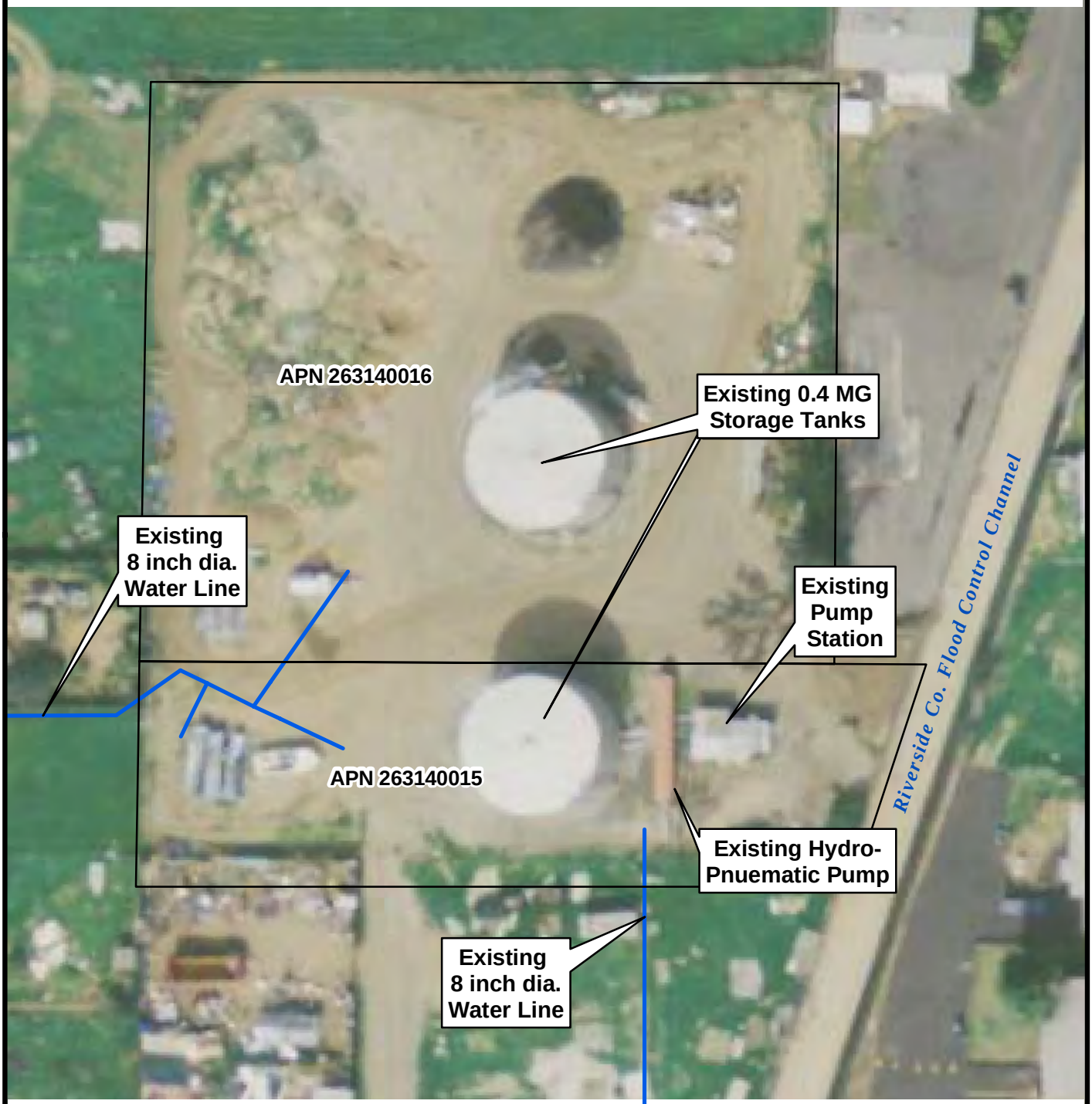
CITY OF MORENO VALLEY

EDGEMONT WATER MASTER PLAN UPDATE

BOX SPRINGS MUTUAL WATER COMPANY

TANK AREA SITE PLAN



0 25 50 100

Feet

FIGURE 4

ALBERT A. WEBB ASSOCIATES

Imagery by Digital Globe, March 2008.

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CITY OF MORENO VALLEY

EDGEMONT WATER MASTER PLAN UPDATE

BOX SPRINGS MUTUAL WATER COMPANY

ALTERNATIVE 2
PROPOSED WATER FACILITIES

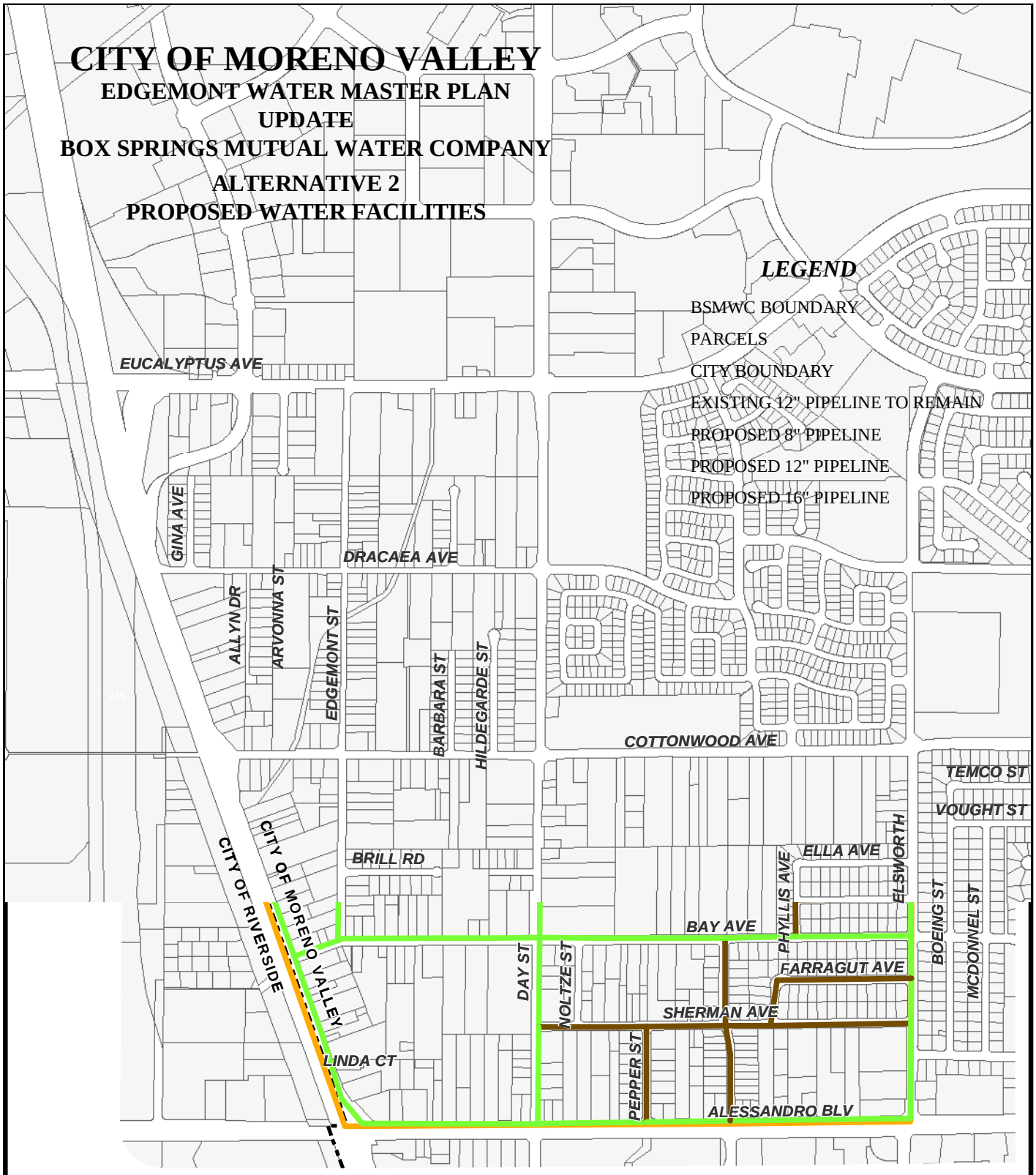

FIGURE 5

0 1,000 2,000
Feet

Base source: Riverside County 2009

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
ENVIRONMENTAL CHECKLIST FORM
CITY OF MORENO VALLEY/
U.S. ENVIRONMENTAL PROTECTION AGENCY

1. Project Title:
Edgemont Water Master Plan Update

2. Lead Agency Name and Address:
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92552-0805

Contact Person and Phone Number:
Chris Ormsby
Community Development Department – Planning Division
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92552-0805
(951) 413-3229

3. Cooperating Agency
U.S. Environmental Protection Agency (EPA)
Region 9
Southern California Field Office
600 Wilshire Blvd., Suite 1460
Los Angeles, CA 90017

Grant Manager and Phone Number:
Howard Kahan
Environmental Scientist
(213) 244-1819
Email: kahan.howard@epa.gov

Federal Project Number: XP-96972201-3

4. Project Location:
The project is located within the Box Springs Mutual Water Company (BSMWC) boundary on the western most end of the City of Moreno Valley and encompasses approximately 430 acres in the Edgemont area, generally located north of Alessandro Blvd, east of I-215, south of Eucalyptus Avenue, and west of Elsworth Street.

5. Project Sponsor's Name and Address:
City of Moreno Valley
Public Works, Mike Myers
14177 Frederick Street
Moreno Valley, CA 92552-0805

6. General Plan, Zoning, and Specific Plan Designations:
The proposed project pipelines would be constructed within road right-of-way(s), while the storage tank and booster station upgrade would be located on BSMWC property (APN 263-140-016 and 263-140-015). The land use designations under City of Moreno Valley's 2007 General Plan for the project area are a variety of residential, commercial, public facilities, and open space recreational. The current zoning over the project area is a mixture of residential, industrial, office, and commercial.

7. Description of the Project:
See Project Description.

8. Surrounding Land Uses and Setting:
The project area is within the City of Moreno Valley. The dominant existing development and land uses in the area include single-family homes on large lots, multi-family residential, and small residential subdivisions interspersed with undeveloped lots, and some business/commercial near major roads. To the north of the project area is the Box Springs Mountain Park, west of the site is the 215 Freeway and the City of Riverside. East of the site is mostly residential, together with commercial, office, and open space land uses within the City of Moreno Valley. About one mile to the south of the site is March Air Reserve Base.

9. Other public agencies whose approval is required:
See page 4, above.

10. Total Cost of Project/Action and EPA and City Portions
The WIAS indicates the project cost[1] for Alternative 1 is $15,161,440; the project cost for Alternative 2 is $14,957,250. The water system facilities identified in Alternative 1 and Alternative 2 are Master Plan facilities and are not funded at this time.

The cost of the first phase of the EWMPU and WIAS is $437,455, which will be funded by the EPA grant and the City of Moreno Valley as shown below.

EPA Portion	55%:	$240,600
City Portion	45%:	$196,855
Project/Action Total Cost	100%:	$437,455

11. Construction Dates

Construction of the reservoir (Alternative 1 only) is expected to begin in mid July 2010 and take approximately 4 months to complete.

Construction of the water pipeline is expected to begin within the next two years.

[1] Project cost is 1.4 times construction cost. Project cost includes construction costs, construction contingencies, design engineering (including preparation of plans and specifications) design and construction surveying and mapping, geotechnical evaluation and report, engineering contract administration, and field inspections.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below(■) would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Hazards & Hazardous Materials		Public Services
	Agricultural Resources		Hydrology/Water Quality		Recreation
	Air Quality		Land Use/Planning		Transportation/Traffic
	Biological Resources		Mineral Resources		Utilities/Service Systems
	Cultural Resources		Noise		Mandatory Findings of Significance
	Geology/Soils		Population/Housing		

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	■
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potential significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Chris Ormsby — 9/22/09

Signature — Date

Chris Ormsby, AICP, Senior Planner

Printed Name — For

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, "Earlier Analysis," may be cross-referenced).

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (d). In this case, a brief discussion should identify the following:

   (a) Earlier Analysis Used. Identify and state where they are available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The analysis of each issue should identify: (a) the significance criteria or threshold used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significant.

10) Each Alternative, including the No Project Alternative was discussed and analyzed per the NEPA policies for implementing NEPA.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

1. AESTHETICS.
The following determinations were made utilizing the following resources: WIAS, MVGP, MVGP EIR

Would the project:

a) Have a substantial adverse effect on a scenic vista?		■			

Substantiation:

Alternative 1:
Underground pipeline improvements of the City of Moreno Valley WIAS will not permanently alter views of or from, local mountains or other scenic vistas. Small buildings associated with the future booster stations and hydropneumatic tank will range from approximately 10 x 12 feet to 20 x 40 feet in size and up to 10–12 feet tall. These proposed structures will be located on the same site where such existing facilities are located. Structures associated with proposed booster stations and hydropneumatic tank due to their small size, will not significantly impact scenic vistas.

The proposed tank site currently has two 0.4 MG tanks which are located above ground. The proposed new 2.3 MG tank will also be above ground and located immediately adjacent to the existing 0.4 MG tanks. The proposed tank in Alternative 1 is planned to have a height of 30 feet and a diameter of 120 feet.

The tank site is surrounded by residences on the south and west, a vacant lot on the north, and the Riverside Flood Control Channel on the east. The existing tanks do not block any views from public streets to the mountains and the proposed tank would similarly not disrupt views.

The existing tanks are painted a light green color which does not stand out or create glare. To assure the proposed tank does not create glare or an unsightly situation, it should be painted a similarly muted, non-glare color. Other above-ground facilities including booster station and pumps will be housed inside buildings, so no unsightly areas will be visible from adjacent areas. In order to reduce the level of impact to less than significant, the proposed tank exposed surfaces shall be painted to complement the existing tanks and to blend into the environment. Therefore, implementation of **MM Aes 1** will reduce the potential aesthetic impacts to a less than significant level.

> **MM Aes 1:** To assure the proposed tank(s) does/do not create glare or an unsightly situation, the construction specifications for the proposed tank(s) shall require that the proposed tanks be painted to complement the existing tanks and to blend into the environment. (Applicable to Alternative 1, only.)

Alternative 2:
Underground pipeline improvements of the City of Moreno Valley Water WIAS will not permanently alter views of or views from local mountains or other scenic vistas as the pipeline project shall be installed below ground. Therefore, impacts are considered less than significant and no mitigation is required.

No Project Alternative:
No action shall be taken under the No Project Alternative; no impacts are anticipated.

b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?					■

Substantiation:

Alternative 1:
See response to item 1. a). The pipeline portion of the project will take place within the road right-of-way; as such, will not damage scenic resources such as trees, rock outcroppings, or historic buildings. Gilman Springs Road, State Route 60, and Moreno Beach Drive are designated as local scenic roads by Policy 7.7.3 of the City of Moreno Valley General Plan; however, the closest scenic route to the project site is State Route 60, which is approximately 0.7 miles to the north. State Route 60 will not be impacted in any way. There are no State Scenic Highways within the project area. Therefore, no impacts to scenic resources will occur.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?				■	

Substantiation:

Alternative 1:
See response to item 1. a) & b). Construction activities will create a temporary aesthetic nuisance for motorists and local residents. Exposed surfaces, construction debris, and construction equipment may temporarily impact the aesthetic quality of the immediate area. Construction impacts will be short term and will cease upon project completion and, therefore, are considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative; therefore, no impacts are anticipated.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				■	

Substantiation:

Alternative 1:
As the pipeline facilities will be underground, there will be no new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The site is not located within the Mt. Palomar Observatory area of concern for night lighting. Structures associated with the proposed tank will have a motion sensor security light at the site. This type of light will not be a significant adverse source of day or nighttime light because it will only turn on in the event that motion is detected at the tank site. This motion-sensitive lighting will be directed at the tanks and will not be pointed toward the surrounding areas, or any residence. The structures will not have glass or other reflective exterior walls; glare will not impact day or nighttime views around the structures. Impacts from light and glare are considered to be less than significant.

Alternative 2:
As the pipeline facilities will be underground, there will be no new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, no impacts are anticipated.

No Project Alternative:
No action shall be taken under the No Project Alternative; therefore, no impacts are anticipated.

e) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

2. **AGRICULTURE RESOURCES**
The following determinations were made utilizing the following resources: GISMV, MVGP, MVGP EIR

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project?

a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?					■

Substantiation:

Alternative 1:
According to the City of Moreno Valley General Plan EIR Figure 5.8-1 Important Farmlands, the entire proposed project area is located in an area designated as Urban and Built-Up Land. The pipeline segments will be constructed within the road right-of-way (ROW) and are not expected to interfere with any existing agricultural production. The water facilities proposed at BSMWC's current tank site including tank, booster station and hydropneumatic pump will not affect agriculture or land potentially utilized for agricultural activity; therefore, Alternative 1 will have no impact with regard to converting farmland to non-agricultural use.

Alternative 2:
According to the City of Moreno Valley General Plan EIR Figure 5.8-1 Important Farmlands, the entire proposed project area is located in an area designated as Urban and Built-Up Land. The pipeline segments will be constructed within the road ROW and are not expected to interfere with any existing agricultural production. Therefore, Alternative 2 will have no impact with regard to converting farmland to non-agricultural use.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated to agricultural resources.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?					■

Substantiation:

Alternative 1:
Zoning designations within the project area do not include agricultural zoning. According to the City of Moreno Valley General Plan, no land within the planning area is currently under a Williamson Act contract; therefore, Alternative 1 will not impact existing agricultural zoning or land under a Williamson Act contract.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?					■

Substantiation:

Alternative 1:
See response to items 2.a) and 2.b) above.

Alternative 2:
See response to items 2.a) and 2.b) above.

No Project Alternative:
No action shall be taken under the No Project Alternative; therefore, no impacts are anticipated.

d) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

3. **AIR QUALITY:**
The following determinations were made utilizing the following resources: SCAQMD, WEBB, MVGP EIR, MVGP

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?				■	

Substantiation:

Alternative 1:
The proposed project site is within the South Coast Air Basin (SCAB) which is in the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD establishes the Air Quality Management Plan (AQMP) for the SCAB, which sets forth a comprehensive program that will lead the SCAB into compliance with all federal and state air quality standards. To achieve compliance with these standards, the AQMP establishes control measures and emission reductions based upon future development scenarios derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, a project's conformance with the AQMP is determined by demonstrating that it is consistent with the local land use plans and/or population projections that were used in the AQMP.

Construction of the proposed project in and of itself will not alter land use plans throughout the project area, as the facilities will be located underground or be located at BSMWC property where existing facilities are located. The Water Infrastructure Analysis Study proposes improvements to BSMWC's existing water system based on the additional needs brought about by increased water demands due to the City of Moreno Valley's planned redevelopment of the

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

area consistent with the General Plan. BSMWC does not have land use authority; however, the planned redevelopment is part of the local land use plan, and possible air quality impacts brought about by any increased population due to the redevelopment, has already been considered and analyzed in the City of Moreno Valley General Plan EIR. Therefore, the project is consistent with the local land use plans and does not conflict with or obstruct the implementation of the AQMP. The impact is considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				■	

Substantiation:

Alternative 1:
Air quality impacts can be described in short-term and long-term perspectives. Short-term impacts will occur during site grading and project construction. Long-term air quality impacts will occur once the project is in operation.

Short-term emissions consist of fugitive dust and other particulate matter, as well as, exhaust emissions generated by construction-related vehicles. Short-term impacts will also include emissions generated during construction as a result of operation of personal vehicles by construction workers, asphalt degassing and architectural coating (painting) operations during construction.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as, application of water or chemical stabilizers to disturbed soils; covering haul vehicles; restricting vehicle speeds on unpaved roads to 15 mph; sweeping loose dirt from paved site access roadways; cessation of construction activity when winds exceed 25 mph; and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day, are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the project (disturbs a total of approximately 4.32 acres), a Fugitive Dust Control Plan or Large Operation Notification would not be required.

Regional Significance Threshold Analysis

The thresholds contained in the SCAQMD CEQA Air Quality Handbook are considered regional thresholds and are shown in **Table 3**. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

Table 3, SCAQMD CEQA Regional Significance Thresholds

Emission Threshold	Units	VOC	NO_X	CO	SO_X	PM-10	PM-2.5
Daily Threshold – Construction	lbs/day	75	100	550	150	150	55
Daily Threshold – Operations	lbs/day	55	55	550	150	150	55

Short-term emissions were evaluated using the URBEMIS 2007 for Windows version 9.2.4 for Windows computer program (CARB 2007). The model evaluated emissions resulting from site grading and project construction. The default parameters within URBEMIS were used and these default values reflect a worst-case scenario which means that the actual project emissions are expected to be equal to or less than the estimated construction emissions.

Exact phasing of construction is unknown; however, the water infrastructure improvements are expected to commence construction within the next two years. The entire Water Master Plan system would not be constructed simultaneously, but rather, in a phased manner. To estimate the "worst-case" scenario construction emissions for the purpose of this analysis, the largest project would be the construction of the 2.3 MG reservoir together with the longest section of water

pipeline along Cottonwood Avenue between Old 215 Frontage Road and Ellsworth Street. Any other construction scenarios that could occur during the project will have construction emissions equal to, or less than, the emissions modeled in the aforementioned scenario.

Short-Term Impacts
In addition to the default values used, several assumptions relevant to model input for short-term construction emission estimates had to be made to run the model. These assumptions are:

- Pipeline construction will take place within the road right-of ways, with no structures present; therefore, no demolition of structures will be necessary.
- The construction of the reservoir is expected to begin mid July 2010 and take approximately 4 months to complete.
- The construction of the water pipeline is assumed to begin mid- 2010 and take approximately 2.5 months to complete.
- Construction of 4,936 linear feet of 12-inch diameter water pipeline will include trenching and paving.
- It is estimated that a maximum of 0.83 acres could be disturbed in one day for the pipeline and reservoir.
- Re-paving within the road rights-of-way will occur during the last month of construction.

The construction equipment estimated to be used is shown in **Appendix A,** Air Quality Analysis Supporting Information, February 16, 2009. **Table 4,** below, summarizes the estimated construction emissions.

Table 4, Estimated Daily Construction Emissions for Alternative 1

Activity/Year	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Construction Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Grading/Excavation/ Construction for Pipeline	4.81	33.95	18.86	0.00	10.45	3.50
Paving[1]	2.98	17.01	11.25	0.00	1.44	1.32
Maximum for Construction of Pipeline[2]	**4.81**	**33.95**	**18.86**	**0.00**	**10.45**	**3.50**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Grading/Excavation for Reservoir	3.04	25.05	13.50	0.00	3.85	1.70
Construction of Reservoir[3]	50.09	23.09	16.45	0.01	1.72	1.55
Maximum for Construction of Reservoir[2]	**50.09**	**25.05**	**16.45**	**0.01**	**3.85**	**1.70**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: See Appendix A for model output report.
[1] Paving occurs after grading/excavation/construction of pipelines.
[2] Maximum corresponds to the highest emissions for each construction phase.
[3] Includes paving and painting.

Evaluation of the data in **Table 4** indicates that the short-term criteria pollutant emissions from the construction of this project are below the SCAQMD daily regional thresholds for all criteria pollutants.

Long-Term Impacts
Long-term air quality impacts occur once the project is in operation. The only source of operational emissions from water pipelines and/or reservoir would be infrequent vehicle trips by maintenance personnel. Because the BSMWC employs fewer than five employees, any associated emissions would be negligible; therefore, no long-term impacts were estimated.

Regional Analysis Conclusion
Emissions of criteria pollutants both during the construction and operation of the project are below SCAQMD regional thresholds; therefore, the impact is considered less than significant.

Greenhouse Gas Emissions

The recently updated URBEMIS model calculates carbon dioxide emissions from fuel usage by construction equipment and construction-related activities, like worker trips, for the project in tons per year (one ton equals 2,000 pounds). The URBEMIS estimate does not analyze emissions from construction related electricity or natural gas. Construction related electricity and natural gas emissions vary based on the amount of electric power used during construction and other unknown factors which make them too speculative to quantify. Life-cycle emissions associated with the manufacture of building materials are also not quantified in this analysis although they undoubtedly exist. Quantification was not attempted because of the large spatio-temporal variation in sources for building products used to construct the project and the consequent large uncertainty associated with the resulting emissions. For this reason, to attempt to quantify life-cycle emissions of materials would be speculative. This conclusion is consistent with recent guidance on quantification of emissions for commercial projects presented by the California Air Pollution Control Officer's Association (CAPCOA) guidance on CEQA and Climate Change.

Table 5 summarizes the output results and presents the emissions estimates in metric tonnes (Mt) of CO_2 (one metric tonne equals approximately 2,205 pounds) from construction of the reservoir and associated pipelines (Alternative 1).

Table 5, Project Construction Equipment CO_2 Emissions for Alternative 1

Year/Description	Total tons CO_2	Maximum Mt CO_2/year
2010/ Water Pipelines	81.36	73.81
2010/ Reservoir	70.68	64.12

[1] calculations based on URBEMIS output.

Evaluation of the data in **Table 5**, above indicates an estimated maximum of 73.81 $MtCO_2$ /year will occur from project construction equipment. The draft Greenhouse Gas (GHG) threshold from CARB has yet to identify a performance standard for construction-related emissions for industrial or commercial projects. When compared to the draft SCAQMD thresholds, construction is below the recommended threshold of 3,000 $MtCO_2$ /year for residential/commercial projects (SCAQMD 2008).

Since Alternative 1 will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, or contribute substantially to an increase in GHG emissions, impacts will be less than significant in this regard.

Alternative 2:
Alternative 2 entails the installation of pipelines only and does not include construction of the reservoir. Daily construction emissions for Alternative 2 are presented in Table 6, below.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Table 6, Estimated Daily Construction Emissions for Alternative 2

Activity/Year	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Construction Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Grading/Excavation/ Construction for Pipeline	4.81	33.95	18.86	0.00	10.45	3.50
Paving[1]	2.98	17.01	11.25	0.00	1.44	1.32
Maximum for Construction of Pipeline[2]	**4.81**	**33.95**	**18.86**	**0.00**	**10.45**	**3.50**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: See Appendix A for model output report.
[1] Paving occurs after grading/excavation/construction of pipelines.
[2] Maximum corresponds to the highest emissions for each construction phase.
[3] Includes paving and painting.

As indicated in **Table 6** above; the short term criteria pollutant emissions for the construction of Alternative 2 are below the SCAQMD daily regional thresholds for all criteria pollutants.

Table 7 summarizes the output results and presents the emissions estimates from construction of the Alternative 2 pipelines in Mt of CO_2

Table 7, Project Construction Equipment CO_2 Emissions for Alternative 2

Year/Description	Total tons CO_2	Maximum Mt CO_2/year
2010/ Water Pipelines	81.36	73.81

[1] calculations based on URBEMIS output.

Evaluation of the data in **Table 7**, above indicates an estimated maximum of 73.81 $MtCO_2$ /year will occur from project construction equipment. When compared to the draft SCAQMD GHG thresholds, construction is below the recommended threshold of 3,000 $MtCO_2$ /year for residential/commercial projects (SCAQMD 2008).

Since Alternative 2 will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, or contribute substantially to an increase in GHG emissions, impacts will be less than significant in this regard.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				■	

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
Implementation of the proposed project will create short-term temporary emissions as discussed in the response to items 3.a) and 3.b) above. After construction, the project will not contribute to a cumulatively considerable net increase in criteria pollutants. Therefore, Alternative 1 will have a less than significant cumulative impact on air quality.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Expose sensitive receptors to substantial pollutant concentrations?				■	

Substantiation:

Alternative 1:
Project-related short-term construction emissions and contributions to GHG are discussed in the responses to items 3.b) and 3.c), above. Additional information regarding exposure of sensitive receptors is presented in the following paragraphs.

Localized Significance Threshold Analysis

Background
As part of the SCAQMD's Environmental Justice Program, attention has been focused on localized effects of air quality which can directly affect sensitive receptors. Staff at SCAQMD has developed localized significance threshold (LST) methodology that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short-term and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA).

Methodology
The emissions analyzed under the LST methodology are NO_2, CO, PM-10, and PM-2.5. For attainment pollutants, nitrogen dioxide (NO_2) and CO, the LSTs are derived using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. LSTs for NO_2 and CO are derived by adding the incremental emission impacts from the project activity to the peak background NO_2 and CO concentrations and comparing the total concentration to the most stringent ambient air quality standards. The most stringent standard for NO_2 is the 1-hour state standard of 18 parts per hundred million and for CO it is the 1-hour and 8-hour state standards of 9 parts per million (ppm) and 20 ppm, respectively. For PM-10 and PM-2.5, which the SCAB is non-attainment, the construction LST is derived using an air quality dispersion model to back-calculate the emissions necessary to make an existing violation in the specific source receptor area worse, using the allowable change in concentration thresholds approved by the SCAQMD. For PM-10 and PM-2.5, the allowable change in concentration threshold is 10.4 $\mu g/m^3$.

Short-Term Analysis
For short-term construction emissions, it is estimated that the maximum area to be disturbed for the previously analyzed pipeline alignment and reservoir construction would be 0.83 acres a day. Under the LST analysis methodology, only the on-site emissions need to be considered. SCAQMD has developed a series of worksheets for use by projects in order to determine the on-site emissions for LST analysis purposes. SCAQMD has provided LST lookup tables to allow users to readily determine if the daily emissions for proposed construction activities could result in significant localized air quality impacts for projects 5 acres or smaller. It is anticipated that an area no larger than 1 acre would be disturbed at any one time during construction. Therefore, the LST lookup tables (http://www.aqmd.gov/ceqa/handbook/LST/LST.html) and worksheets shown in the lookup tables for the 1-acre site were used to estimate construction emissions.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

The nearest sensitive receptors to the analyzed pipeline alignment and tank, and the remainder of the pipeline alignments, are existing residences located adjacent to the project roadways or the tank site. In order to ensure a worst-case analysis, the receptor distance of 25 meters (82 feet) was used. Results are not totaled because the various construction activities do not occur simultaneously. The results are summarized in **Table 8, LST Results for Construction Emissions.**

Table 8, LST Results for Daily Construction Emissions

Pollutant	CO (lbs/day)	NO_X (lbs/day)	PM-10 (lbs/day)	PM-2.5 (lbs/day)
LST Threshold (1 acre)	**418**	**144**	**4**	**3**
Grading/Trenching	18.6	35.7	2.3	1.9
Construction	11.4	25.6	1.4	1.3
Architectural Coating and Paving	10.3	18.0	1.3	1.2
Exceeds Threshold?	**No**	**No**	**No**	**No**

Short-term construction emissions of CO, NO_X, PM-10, and PM-2.5 do not exceed the SCAQMD established localized thresholds of significance.

Long-Term Analysis
According to the SCAQMD's LST methodology, the operational emissions to be analyzed are from on-site stationary sources and on-site mobile source emissions. Off-site mobile source emissions should not be included in the analysis. Long-term air quality impacts occur once the project is in operation. The only ongoing source of operational emissions from the water pipeline and/or reservoir would be infrequent vehicle trips by maintenance personnel. Any associated emissions would be negligible; therefore, no long-term impacts were estimated.

LST Conclusion
Based on the LST analysis of the proposed project, the short-term construction will not exceed the thresholds at the nearest sensitive receptor for NO_X, CO, PM-10, or PM-2.5. Therefore, neither localized air quality impacts from the short-term construction nor long-term operations will result in any exceedance of the localized significance thresholds.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) Create objectionable odors affecting a substantial number of people?				■	

Substantiation:

Alternative 1:
The major potential for objectionable odors is limited to the construction period when diesel powered construction equipment is in use. These odors are temporary and mobile; therefore, are not considered potentially significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
f) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

4. **BIOLOGICAL RESOURCES**
The following determinations were made utilizing the following resources: ESI, RCGP, MVGP, MVGP EIR, USGS, and MSHCP.

Would the project:

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

Substantiation:

Alternative 1:
Results of the General Biological Resource Evaluation (ESI) indicate that no special-status plant species were detected on site during the reconnaissance survey and none are expected due to lack of suitable habitat located within the proposed Edgemont Water Master Plan alignments. The site is not located within the Western Riverside County Multi-species Habitat Conservation Plan (MSHCP) narrow Endemic Plant Species Survey Area.

No special-status wildlife species were observed during the ESI survey and none are expected directly within the alignment due to lack of suitable habitat along the paved and road shoulder, and on the tank site. However, several wildlife species have potential to occur within the larger vacant parcels located throughout the project area adjacent to project locations/alignments. Construction adjacent to these vacant parcels/habitats could result in indirect impacts.

Special-status habitat types are vegetation communities that support concentrations of sensitive plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Special-status habitats known from the site vicinity include Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub. However, no special-status habitats were recorded by ESI on the proposed alignments within the tank site boundary.

The western Burrowing Owl (WBO) is considered a MSHCP Group 3 species, California Species of Special Concern, and Federal species of Concern. No direct burrowing owl observations or sign (pellets, fecal material, or prey remains) were recorded during the November/December ESA 2008 MSHCP WBO habitat assessment. No potential nesting sites (i.e. ground squirrel burrows) for burrowing owls were recorded directly along the alignment due to substrate disturbances from recurring anthropogenic activities (i.e., human influences on nature). Additionally, no ground squirrels (an important indicator species) were observed directly along the alignment. Therefore, no suitable habitat is

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

present within the roadway and shoulder areas. However, suitable habitat is present in some vacant areas adjacent to the alignment and the tank site.

Construction activities would not be expected to directly impact federal- or state-listed threatened or endangered species, jeopardize the continued existence of listed species (or special-status species), nor directly impact designated critical habitat. Site development would also not be expected to substantially alter the diversity of plants or wildlife in the area because of current degraded site conditions. The mostly temporary loss of degraded habitats would not be expected to substantially affect special-status resources or cause a population of plant or wildlife species to drop below self-sustaining levels. The project would also be considered consistent with MSHCP conservation objectives for the survey area. Accordingly, preliminary survey results suggest that impacts to special-status biological resources are considered less than significant as a result of project-related activities.

However, the WBO and many other native bird species are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and California Department of Fish and Game (CDFG) Code section 3503, 3503.5, and 3800 which prohibit take, possession, or destruction of birds, their nests or eggs. If active nests of any special-status or native species would be lost or indirectly impacted as a result of grading and/or construction activities, adverse impacts could result and the project would be in conflict with these regulations. In order to avoid violation of the MBTA or CDFG Code sections, guidelines suggest that project-related disturbances at active nesting territories be reduced or eliminated during the nesting cycle (February 1 to August 31). Mitigation measure **MM Bio 1**, below, will avoid violation of these regulations and any potential impacts to WBO and other migratory native bird species protected by the MBTA.

> **MM Bio 1**: Construction activities involving heavy equipment should avoid the avian breeding season (February 1 – August 31). If construction occurs outside this timeframe, no further action is required. If construction-related activities involving heavy equipment are proposed during the avian breeding season, a pre-activity survey conducted in areas potentially affected (directly or indirectly) by project implementation is required prior to development to determine if active nests of protected species are present in the construction zone or within an appropriate buffer area as part of project approval. Preconstruction surveys within suitable habitat should be conducted within 30 days of construction activities to determine if active nests protected by the MBTA or CDFG are present in the construction zone for CEQA compliance. If ground-disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site should be resurveyed if suitable habitat is present. Results of a pre-activity nesting survey would determine the appropriate measures (if necessary) to reduce potentially adverse impacts to those species that may be found to breed in the area. Unless otherwise specified in the preconstruction survey, if active nests are located, no grading or heavy equipment activity should take place within at least 300 feet of an active raptor nest and 100 feet of most common songbird nests.

Alternative 2:
Impacts and mitigation are the same as Alternative 1 above. Mitigation measure **MM Bio 1** applies to Alternative 2.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Have a substantially adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish (CDFG) and Game or U. S. Fish and Wildlife Service?				■	

Substantiation:

Alternative 1:
The ESI survey evaluated resources for their potential to be considered jurisdictional, although no formal delineation for either state or federal wetland jurisdiction was conducted. Two detention basins have terminated what may have once been natural flows through the project area. One concrete-lined box channel traverses the project area and eventually flows into Sycamore Canyon Creek as it conveys flows toward a concrete culvert beneath Old 395 frontage and I-215.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Riparian vegetation (off site) is present on the west side of the Old 395 frontage road and I-215. Sycamore Canyon Creek is ultimately tributary to the Santa Ana River. Therefore, the concrete channel may qualify as waters of the U.S. and streambeds because of its downstream connection. Currently, no riparian habitat is present within the drainage. Permitting from regulatory agencies (e.g. CDFG, U.S. Army Corp of Engineers (USACE), Regional Water Quality Control Board (RWQCB) may be required if impacts to the drainage were proposed.

The project pipeline alignments cross the drainage channel alignment several times through the study area and drainage from the tank site will continue, as it currently does, into the channel. It is envisioned that the pipelines would be installed via boring techniques under the channel which would avoid impacts to the channel.

MSHCP Section 6.1.2 was reviewed for consistency with the proposed project. No evidence of any natural stream courses, riparian areas, or vernal pools was recorded on site by ESI.

As stated above, all of the pipeline replacements will take place within previously disturbed road rights-of-way. There is no riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service within the construction footprint for the pipeline improvements; therefore, the potential impact is considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) 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?					■

Substantiation:

Alternative 1:
Ecological Sciences Inc., General Biological Resources Evaluation for the City of Moreno Valley Edgemont Master Water Plan states that no evidence of any natural stream courses, riparian areas, vernal pools or federally protected wetlands was recorded within the proposed facilities site or pipeline alignments. No impacts to wetlands defied under Section 404 of the Clean Water Act are expected.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?					■

Substantiation:

Alternative 1:
The proposed project site is surrounded by existing development, and therefore, it is highly unlikely that the subject site occupies an important location relative to regional wildlife corridors. As such, project implementation would not be expected to have any substantial effect on local or regional wildlife movement.

Alternative 2:
Impacts are the same as Alternative 1 above.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				■	

Substantiation:

Alternative 1:
The pipeline replacements will take place within previously disturbed road rights-of-way. There is no suitable habitat for sensitive biological resources within the road rights-of-way or within the project footprint. Additionally, the new tank and other water facilities proposed are to be located within disturbed area with existing water facilities including tanks, booster station and hydropneumatic pump.

In Chapter 9 of the Moreno Valley General Plan, Objective 7.4 is to "maintain, protect, and preserve biologically significant habitats where practical, including San Jacinto Wildlife Area, riparian area, habitats of rare and endangered species, and other areas of natural significance." The project area is not located near the San Jacinto Wildlife Area.

Policy 7.4.1 requires all development, including roads, proposed to be adjacent to riparian and other biologically sensitive habitats, to provide adequate buffers to mitigate impacts to such areas. The project does not conflict with this policy, as all of the pipeline replacements will take place within previously disturbed road rights-of-way. There is no riparian habitat or other sensitive natural community adjacent to or within the construction footprint for the pipeline alignments.

Policy 7.4.2 limits the removal of natural vegetation in hillside areas when retaining natural habitat does not pose threats to public safety. The project area is not located on any hillside areas.

Policy 7.4.3 preserves natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvements, such as, concrete channels. The project area does not contain natural drainage courses.

Policy 7.4.4 incorporates significant rock formations into the design of hillside developments. The project area is within previously disturbed road rights-of-way, and not located near any significant rock formations or hillsides.

Policy 7.4.5 states that the City shall fulfill its obligations set forth within any agreement(s) and permit(s) that the City may enter into for the purpose of implementing the Western Riverside County Multispecies Habitat Conservation Plan. The proposed project will not conflict with the Western Riverside County MSHCP. See IV. f) below for a more detailed discussion.

The project does not conflict with any local policies or ordinances protecting biological resources; therefore, the potential impact is considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?				■	

Substantiation:

Alternative 1:
The project area is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) area. Specifically, the site is located within the boundaries of the Reche Canyon / Badlands Area of the MSHCP. However, the subject site is not located within a proposed criteria area, cell, or subunit, and is considered an independent cell group.

The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because the water pipeline replacements and water facility improvements will take place within previously disturbed road rights-of-ways and previously disturbed areas, and 1) there are no riparian habitats/wetlands (including open water and marsh) within the project area; 2) there is no Coastal Sage Scrub/ Riversidean Alluvial Fan Sage Scrub within the project alignment; the project area is surrounded by built-up, urban land uses and vegetation adjacent to the project area which consists of Residential/Urban/Exotic and non-native grassland which are not considered sensitive natural communities; 3) there are no suitable raptor foraging/ wintering habitats; and 4) the project area is not located within or near any MSHCP cores or linkages and is south of the Box Springs Mountain Reserve. Interstate 60 runs between the Reserve and the project area and acts as a barrier to any significant migratory wildlife. Therefore, impacts are considered less than significant. See also responses to items 4.a) through 4.e), above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

g) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

5. **CULTURAL RESOURCES**
The following determinations were made utilizing the following resources: CRM, MVGP EIR

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				■	

Substantiation:

Alternative 1:
The results of the historical records search performed by CRM Tech indicated five historic-period buildings, designated as Sites 33-6915 through 33-6919 and built between 1920 and 1947, were previously recorded along the project route. Per the Historical Resources Survey Report, it was ascertained that since they are located outside the project boundaries, the proposed project has no potential to affect these buildings, either directly or indirectly. No other potential "historical resources," as defined by Section 15064.5 of the State CEQA Guidelines, were encountered during the course of this study. In addition, the subsurface sediments within the project area appear to be relatively low in sensitivity for potentially significant archaeological deposits. Therefore, less than significant impacts are anticipated.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		■			

Substantiation:

Alternative 1:
According to the Moreno Valley General Plan EIR Cultural Resources Section, the majority of the prehistoric archeological locations in the City of Moreno Valley consist of “slicks” which are generally found around valley edges where suitable rock outcrops occur. The project area is not located near any rock outcrops. Nor is the project area within the vicinity of any of the “complexes” referred to in Figure 5.10-2, Locations of Prehistoric Sites.

In addition, according to the Historical/Archaeological Resources Survey Report prepared by Ecological Sciences, Inc., 33 historical/archaeological sites and two isolates were recorded within a one-mile radius outside the project boundaries. However, none of these sites were found in the immediate vicinity of the project area.

This project consists of construction and installation of replacement water pipelines and water facilities. The project facilities will be constructed within the disturbed areas of existing roadways and BSMWC property. The exact depth of new pipelines may vary in depth from the original pipeline installations. To prevent potential impacts to archeological resources and in the unlikely event that archeological material is discovered during any earth-moving operations, **MM Cultural 1** shall be implemented. Considering the disturbed nature (urban use) of the project site and the area surrounding the proposed pipeline alignments and that construction will occur within the roadways, impacts to archeological resources are anticipated to be less than significant with mitigation measure **MM Cultural 1**.

> **MM Cultural 1:** To prevent potential impacts to archeological resources and in the unlikely event that archeological material is discovered during any earth-moving operations, the construction specifications for grading and construction activities shall include the requirement that should any archeological resources be inadvertently discovered during grading or construction, construction activities shall be moved to other parts of the project site and a qualified archeologist shall be contacted to determine the significance of these resources. If the find is determined to be a historical or unique archeological resource, as defined in Section 15064.5 of the CEQA Guidelines, avoidance or other appropriate measures shall be implemented.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Alternative 2:
Impacts and mitigation are the same as Alternative 1 above. Mitigation measure **MM Cultural 1** applies to Alternative 2.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		■			

Substantiation:

Alternative 1:
According to the RCGP Figure OS-8, Paleontological Sensitivity, the project area lies within High B (Hb), which indicates that fossils are likely to be encountered at or below 4 feet of depth, and may be impacted during excavation during construction activities. The project facilities will be constructed within the disturbed areas of existing roadways and BSMWC property. However, the pipelines may vary in depth greater than 4 feet from the original pipeline installation.

The City of Moreno Valley General Plan EIR shows that according to Figure 5.10-3, Paleontologic Resource Sensitive Areas, the project area is within an area of low paleontologic sensitivity. These two local sources of information conflict, so mitigation may be warranted. Therefore, with implementation of mitigation measure **MM Cultural 2**, this impact is considered less than significant.

> **MM Cultural 2:** To prevent potential impacts to paleontological resources and in the unlikely event that paleontological material is discovered during any earth-moving operations, the construction specifications for grading and construction activities shall include the requirement that should any paleontological resources be inadvertently discovered during grading or construction, construction activities shall be moved to other parts of the project site and a qualified paleontologist shall be contacted to determine the significance of these resources. If the find is determined to be of paleontological significance, monitoring and/or removal, or other appropriate measures, shall be implemented.

Alternative 2:
Impacts are the same as Alternative 1 above. Mitigation measure **MM Cultural 2** applies to Alternative 2.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Disturb any human remains, including those interred outside of formal cemeteries?				■	

Substantiation:

Alternative 1:
Considering that the proposed construction area is previously disturbed and that there are no known formal cemeteries or informal family burial plots, the project is not expected to disturb any human remains. The City of Moreno Valley's existing regulations and practices, County of Riverside regulations, and California state laws require interruption of work and consultation with the county coroner and Native American tribes regarding human remains in the unlikely event that unknown human remains are uncovered during construction activities. (*Health and Safety Code Section 7052 and 7050.5.* Section 7052 of the California Health and Safety Code.) Therefore, potential impacts will be less than significant through implementation of existing regulations.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
e) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

6. **GEOLOGY AND SOILS**
The following determinations were made utilizing the following resources: GEO, GIS, RCGP, MVGP, MVGP EIR, RCBLAP, and NRCS.

Would the project:

a) 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? Refer to Division of Mines and Geology Special Publication 42.				■	

Substantiation:

Alternative 1:
Within the approximately ¾ square mile project area, there are no County Fault Zones or Alquist-Priolo Earthquake Fault Zones as mapped in the Riverside County General Plan. There are no known faults transecting the project area, and according to the City of Moreno Valley General Plan EIR, the closest fault line is the San Jacinto Fault approximately 4½ miles east of the project area. Therefore, rupture of earthquake faults is anticipated to have a less than significant impact on the proposed project.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

(ii) Strong seismic ground shaking?		■			

Substantiation:

Alternative 1:
The project is located within Riverside County very high and moderate ground shaking zones for seismic activity. The proposed project consists of water facilities which must be designed in compliance with applicable codes adopted by the City of Moreno Valley and California Building Code (CBC) which address seismic activity.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Many of the water facilities, such as pipelines, booster stations and pumps will be located underground and/or low to the ground with small associated structures. Pipeline design will include valves and blow-offs that can isolate damage and limit loss of water during earthquake-induced breaks in the pipeline. Design of water facilities will follow standard seismic design criteria, including those outlined by the American Water Works Association (AWWA). Therefore, potential impacts to people and structures from rupture of a known earthquake fault are less than significant.

Tanks, due to their large water holding capacity and general location, at higher elevations than surrounding development, could expose people and/or structures to flooding hazards if ruptured by an earthquake. A mitigation measure is required to ensure that any potential adverse impacts to people or structures remain less than significant.

> **MM Geo 1:** Geotechnical investigations shall be conducted prior to approval of any proposed water reservoir (tank) in the Water Infrastructure Analysis Study. The geotechnical investigation recommendations, required to reduce potential impacts to less than significant levels, shall be incorporated into preliminary and final design of the proposed reservoir. (Applicable to Alternative 1, only.)

Alternative 2:
Alternative 2 does not propose any aboveground facilities. The pipelines will be located underground and will include valves and blow-offs that can isolate damage and limit loss of water during earthquake-induced breaks in the pipeline. Pipeline design will follow standard seismic design criteria, including those outlined by the AWWA. Therefore, potential impacts to people and structures from rupture of a known earthquake fault are less than significant and no mitigation is required for Alternative 2.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

(iii) Seismic-related ground failure, including liquefaction?				■	

Substantiation:

Alternative 1:
The proposed project site is located in seismically active Southern California; therefore, moderate to severe seismic shaking could occur in the project area. No evidence of faulting, deep-seated landsliding, or rockfall hazard on or immediately adjacent to the site, was observed during the site investigation by a Geotechnical Engineer (GEO). The proposed project will be constructed to meet current CBC seismic standards. Therefore, impacts from seismically-induced ground failure are considered less than significant.

Liquefaction is a process by which water-saturated materials lose strength and fail during strong ground shaking. Typically, liquefaction is a concern in areas of shallow groundwater. Liquefaction occurs primarily in saturated, loose, and fine to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the surface. According to the RCIP Reche Canyon/Badlands Area Plan, the project area has very high and moderate liquefaction susceptibility for shallow groundwater susceptible sediments and low liquefaction susceptibility for deep groundwater susceptible sediments. According to Figure 6-3 of the Moreno Valley General Plan, the project area is just north of a potential liquefaction zone. The groundwater depth level in the project area ranges from 100 to 150 feet below ground surface. Therefore, impacts from seismically-induced liquefaction are considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

(iv) Landslides?					■

Substantiation:

Alternative 1:

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

The term "landslide," describes a wide variety of processes that result in the downward and outward movement of slope-forming materials including rock, soil, artificial fill, or a combination of these. The materials may move down slopes by falling, toppling, sliding, spreading, or flowing.

According to the RCIP Reche Canyon Area Plan, the project area is not located within any steep slope areas, or areas of slope instability; therefore, there is no potential impact to the site from landslides.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Result in substantial soil erosion or the loss of topsoil?		■			

Substantiation:

Alternative 1:

Pursuant to existing regulatory requirements, the City (entity constructing the facilities) will obtain coverage under the National Pollutant Elimination System (NPDES) general construction permit from the State Water Resources Control Board and prepare a Storm Water Pollution Prevention Plan (SWPPP) prior to the start of construction activities that disturb an area of one acre or more. The SWPPP will incorporate applicable Best Management Practices (BMPs) to reduce loss of topsoil or substantial erosion. Implementation of the BMPs identified in the SWPPPs prepared for individual projects will assure that potential erosion impacts from proposed facility construction remain less than significant.

Upon completion of pipelines, existing roads will be returned to pre-existing conditions, i.e., returned to grade and repaved. Upon completion of proposed storage tank and pump station facilities, the area surrounding the improved site will be returned to pre-existing conditions. Within the facility site improvements such as paving, soil stabilization, and on- and off-site drainage improvements, will be incorporated as necessary. Due to their relatively small footprint and implementation of site improvements, substantial soil erosion and loss of topsoil is not anticipated from these proposed facilities.

The reservoir proposed in Alternative 1 may require some site preparation and grading. Implementation of **MM Geo 1** will assist in characterizing localized soil conditions which will assist in the development of appropriate erosion control measures in the SWPPP.

Alternative 2:
Upon completion of pipelines, existing roads will be returned to pre-existing conditions, i.e., returned to grade and repaved. Upon completion of proposed storage tank and pump station facilities, the area surrounding the improved site will be returned to pre-existing conditions. Within the facility site improvements such as paving, soil stabilization, and on- and off-site drainage improvements, will be incorporated as necessary. Due to their relatively small footprint and implementation of site improvements, substantial soil erosion and loss of topsoil is not anticipated from the pipelines proposed in Alternative 2; impacts would be less than significant and no mitigation is required.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) 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?		■			

Substantiation:

Alternative 1:
There are no known fault lines that cross through the project area. According to the Moreno Valley General Plan EIR,

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

the project site is located on top of Perris Bedrock and Quaternary Alluvium. The soil survey shows that the project area contains approximately 19.9% Cieneba rocky sandy loam, and 80.1% Monserate sandy loam. The materials within the valley area are characterized by Pliocene - Pleistocene alluvium ranging from relatively thin (20 feet to 200 feet) to intermediate thickness (up to 2,000 feet), overlaying the primarily granitic bedrock. Monserate soil association is found adjacent to and within the eastern half of the March Air Reserve Base. It consists of well-drained soils that developed in alluvium from predominantly granitic materials. Soil stability is considered fair to good with minimal erosion potential. Cieneba soil association is found on uplands located in the Box Springs Mountains area, and extends east to Reche Canyon, and into the Mount Russell area. Soil stability is generally considered fair with marginal potential for erosion. Because the project does not include the construction of habitable structures, and **MM Geo 1** will be implemented prior to construction of tank, the potential hazards to the project from soil instability are considered less than significant.

Lateral spreading refers to landslides that commonly form on gentle slopes, and that have rapid fluid-like flow movement, like water. Lateral spreads are distinctive because they usually occur on very gentle slopes or flat terrain. The dominant mode of movement is lateral extension accompanied by shear or tensile fractures. The failure in a lateral spread event is caused by liquefaction, the process whereby saturated, loose, and cohesionless sediments (usually sands and silts) are transformed from a solid into a liquefied state. Failure is usually triggered by rapid ground motion, such as that experienced during an earthquake, but can also be artificially induced. Lateral spreading is not expected because site conditions are not suitable for liquefaction to occur. In addition, **MM Geo 1** will be implemented, so the potential hazards to the tank from lateral spreading are considered less than significant.

According to the Riverside County General Plan Figure S-7, the project area is within a subsidence susceptible area, but no subsidence has been documented within the project area. However, with the implementation of **MM Geo 1**, the potential hazards to the tank from lateral spreading, subsidence, liquefaction or collapse are considered less than significant.

See responses to items 6.a)(iii) and 6.a)(iv), above.

Some of the soils listed above in the MVGP have poor to fair stability and are considered to be potentially expansive. Soils prone to collapse are commonly associated with wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. However, with the implementation of **MM Geo 1**, the potential hazards to the tank from collapse and expansive soils are considered less than significant.

The pipelines will be located underground and will include valves and blow-offs that can isolate damage and limit loss of water in the event of a break in the pipeline. Pipeline design will follow standard seismic design criteria, including those outlined by the AWWA; therefore, potential impacts lateral spreading, subsidence, liquefaction or collapse are considered less than significant.

Alternative 2:
Alternative 2 does not propose any aboveground facilities. The pipelines will be located underground and will include valves and blow-offs that can isolate damage and limit loss of water in the event of a break in the pipeline. Pipeline design will follow standard seismic design criteria, including those outlined by the AWWA. Therefore, potential impacts from lateral spreading, subsidence, liquefaction or collapse are considered less than significant, and no mitigation is required for Alternative 2.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Be located on expansive soil, as defined in Table 18-a-B of the Uniform Building Code (1994), creating substantial risks to life or property?		■			

Substantiation:

Alternative 1:
Soils within the project area consist of Cieneba and Monserate soils (see VI (c)). Monserate soil association is found adjacent to and within the eastern half of the March Air Reserve Base. It consists of well-drained soils that developed in

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

alluvium from predominantly granitic materials. Soil stability is considered fair to good with minimal erosion potential. Cieneba soil association is found on uplands located in the Box Springs Mountains area, and extends east to Reche Canyon, and into the Mount Russell area. Soil stability is generally considered fair.

However, where expansive soils could potentially be observed, with the implementation of **MM Geo 1**, the potential hazard to the tank from expansive soils is considered less than significant.

The pipelines will be located underground and will include valves and blow-offs that can isolate damage and limit loss of water in the event of a break in the pipeline. Pipeline design will follow standard seismic design criteria, including those outlined by the AWWA; therefore, potential impacts from expansive soils are considered less than significant.

Alternative 2:
Alternative 2 does not propose any aboveground facilities. The pipelines will be installed below ground and will include valves and blow-offs that can isolate damage and limit loss of water in the event of a break in the pipeline. Additionally, pipeline design will follow standard seismic design criteria, including those outlined by the AWWA. Therefore, potential impacts associated with expansive soils are less than significant and no mitigation is required.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) 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?					■

Substantiation:

Alternative 1:
The proposed project does not involve the construction of septic tanks or any other alternative wastewater disposal systems. The project will improve the situation and will not cause any adverse significant effects.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

f) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

7. **HAZARDS AND HAZARDOUS MATERIALS**
The following determinations were made utilizing the following resources: WEBB, EDR, MVGP EIR

Would the project?

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?					■

Substantiation:

Alternative 1:
The City's WIAS proposes improvements to BSMWC's existing water facilities based on the additional needs brought about by increased water demands due to the City of Moreno Valley's planned redevelopment of the area served by BSMWC, and will not create a significant hazard through routine transport, use, or disposal of hazardous materials. No impacts are anticipated.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?					■

Substantiation:

Alternative 1:
Potentially hazardous materials associated with construction equipment such as fuels, lubricants, and solvents may be present in relatively small amounts during facility construction. The potential for accidental release of any hazardous contaminants is minimal as quantities sufficient to cause a significant hazard to the public or environment will not be used on site. See discussion in response to time 7a), above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				■	

Substantiation:

Alternative 1:
See response to item 7a) above.

The closest existing school to the project area is Edgemont Elementary School located on Eucalyptus Avenue just adjacent to the northern project boundary. Therefore, if this school is occupied during construction of the pipelines, there is a potential for dust from excavation, exhaust fumes and the accidental release of petroleum products from construction vehicles, which might pose a hazard to the school children. However, construction emissions (including fugitive dust) were evaluated in the air section of this document and found to be less than significant. Therefore, because the project does not involve transport or storage of hazardous materials, and the air quality impacts from fugitive dust (PM10) and other construction-related pollutants were found to be less than significant, less than significant impacts to the school are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result would it create a significant hazard to the public or the environment?		■			

Substantiation:

Alternative 1:
A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR) for documented hazardous material sites, like those referred to in Government Code Section 65962.5, in the project area. Hazardous material sites identified on the CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System), CAL-SITES (source: California Department of Toxic Substance Control), and LUST (Leaking Underground Storage Tank Incident Reports from the State Water Resources Control Board) that are located within a quarter mile of project alignments were evaluated for their potential to be encountered and/or unearthed during future construction activities. Based on the EDR report, there are three LUST sites and one National Priority List (NPL) site, or Superfund site, within one quarter mile of the proposed alignments.

Table 9, Hazardous Material Sites Within ¼ mile of Project

Site Address	Database Lists	Description	Water Pipeline in Vicinity
March Air Reserve Base at 610 Meyer Drive, Bldg 24	NPL, CERCLIS, RCRA-LQG, US ENG CONTROLS, US INST CONTROL, DOD, ROD, FINDS	This site is listed as a superfund site. The U.S. Air Force, due to its primary mission in national defense, has long been engaged in a wide variety of operations that involve the use, storage, and disposal of hazardous waste. In 1980, the Installation Restoration Program (IRP) was developed by the Department of Defense (DOD) to locate and clean up hazardous waste sites. At March AFB, aircraft maintenance, fuel storage operations, fire-training exercises, and base operations have generated a variety of hazardous wastes. Consequently, several areas of soil and groundwater on base have been contaminated. In September 1983 the IRP process began. The results were records indicating 30 potentially contaminated sites which required further investigation. A second study, completed in March 1987, indicated that 5 of the 30 sites required even further investigation to determine	Nearest project is the Alessandro Pipeline project approximately 5,750 feet northwest of this site.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

		the type and extent of contamination in the soil and groundwater. In June 1987, further investigation was done, indicating that additional work was required to better define the extent of contamination and to research possible off-base migration of TCE in groundwater. In November 1989, March AFB was added to the National Priorities List (NPL) primarily due to the contamination of groundwater on base. In September 1990, a Federal Facilities Agreement (FFA) was signed by the Air Force, U.S. Environmental Protection Agency (EPA), and the State of California.	
Charles Bois Liquors at 21840 Alessandro Blvd	LUST, Cortese, HIST US	This site is listed as a leaking underground storage tank and was discovered on 9/26/86 by the owner who discovered gasoline on the ground. The leak was caused by corroded pipes. Drinking water aquifer was affected. Plan: to excavate and dispose of contaminated soil. Facility status: Pollution Characterization.	Nearest project is the Alessandro Pipeline project to be located within the right-of-way directly adjacent to this site.
Flite Chief at 22144 Alessandro Blvd	LUST, Cortese, CA FID UST, SWEEPS UST, HAZNET	This site is listed as a leaking underground storage tank and was discovered on 5/28/91 by inventory control. The leak source was piping. Soil only was affected. Plan: to excavate and dispose of contaminated soil. Close date: 2/16/93.	Nearest project is the Alessandro Pipeline project to be located within the right-of-way directly adjacent to this site.
Gas 4 Less at 22144 Alessandro Blvd	LUST, Cortese, CA FID UST, SWEEPS UST, HAZNET	This site is listed as a leaking underground storage tank and was discovered on 9/13/99 by tank closure. The leak source is unknown. Soil only was affected. Plan: to excavate and dispose of the contaminated soil. Facility status: Leak being confirmed.	Nearest project is the Alessandro Pipeline project to be located within the right-of-way directly adjacent to this site.

Federal Records: National Priority List (NPL), Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), Resource Conservation and Recovery Act – Small or Large Quantity Generators (RCRA-S or LQG), Record of Decision (ROD), Facility Index System (FINDS).

State and Local Records: Leaking Underground Storage Tank incident reports (LUST), Underground Storage Tank database (UST), California Facility Inventory Database (CAL FID UST), California Water Resources Control Board – Waste Discharge System (WDS), CORTESE (source – Environmental Protection Agency/Office of Emergency Information), Historical UST Registered Database (HIST UST), Statewide Environmental Evaluation and Planning System (SWEEPS), Hazardous waste manifests (HAZNET).

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Table 7 lists the sites identified in the EDR report as having the most likely potential of having impacted soil and groundwater. When future Water Master Plan facilities are proposed, and therefore constructed, precautions must be made to protect construction workers, as well as the project pipelines themselves from exposure to hazardous materials. Therefore, in order to protect future workers and facilities from being located on or near a contaminated property, the following mitigation measure is required. With this implemented, impacts related to hazardous waste sites are considered less than significant.

> **MM Haz 1:** In order to protect future workers and facilities from being located on or near a contaminated property, the construction specifications for grading and construction activities shall include the requirement that if during construction of any Water Master Plan facilities, soil and/or groundwater contamination is accidentally discovered or suspected, construction in the area shall cease, and appropriate Health and Safety measures shall be implemented. The contractors hired by the City (or entity constructing the facilities) shall contact the City of Moreno Valley Fire Department and/or State Department of Toxic Substance Control to obtain the necessary information on appropriate remediation measures, oversight responsibility, and their implementation.

Alternative 2:
Impacts are the same as Alternative 1 above. Mitigation measure **MM Haz 1** also applies to Alternative 2.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				■	

Substantiation:

Alternative 1:
The project area is located within the March Air Reserve Base's adopted airport land use plans. The project does not involve housing, but will temporarily place workers in outdoor locations where they may be subject to noise related to the airport's use. However, the project area is within the MARB influence area and within Safety Zone Area II, and would only subject persons working there to safety hazard for the short-term duration of construction. Therefore, the short-term exposure of workers to the safety hazard from airport activity will have a less than significant impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
The Perris Valley Airstrip is approximately 11 miles southeast of the project area and too far away to expose those working in the area to a safety hazard; therefore, there is no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

g) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?				■	

Substantiation:

Alternative 1:
The project when operational will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed facilities will not permanently alter existing public roads. Temporary construction equipment activity and excavation associated with facility construction could present the potential for temporary safety hazards. However, standard construction practices and conditions of local agency permits require implementation of traffic signaling and control measures during construction to minimize potential hazards. Therefore, impacts are considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

h) 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?					■

Substantiation:

Alternative 1:
Normal operating conditions of the proposed facilities do not present any potential risk of damage caused by fire, as they will be located underneath the ground surface. In addition, the proposed water facilities are to ensure that there is adequate fire flow capacity. According to the Reche Canyon/Badlands Area Plan and City of Moreno Valley General Plan EIR Figure 5.5-2, the project area is not located in a wildfire zone; therefore, there is no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

i) Exceed an applicable LRDP or Program EIR standard of significance?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

8. **HYDROLOGY AND WATER QUALITY**
The following determinations were made utilizing the following resources: GEOSCIENCE, WEBB, MVGP EIR, and USGS

Would the project:

a) Violate any water quality standards or waste discharge requirements?				■	

Substantiation:

Alternative 1:
The proposed projects will comply with established programs requiring control of erosion and sedimentation at construction sites (State General NPDES permit and Regional Board Order 99-08 for construction-period stormwater discharges). The program will require the development of a Stormwater Pollution Prevention Plan (SWPPP), which requires installation of erosion control and sedimentation control devices throughout the project area for the entire construction phase. This will serve to protect most water resources throughout the project area from pollution caused by project construction. With adherence to the SWPPP, the impact is considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) 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)?				■	

Substantiation:

Alternative 1:
According to the Ground Water Basin Assessment prepared by Geoscience Support Services, Inc. for BSMWC, ground water has been rising in the BSMWC service area since 1975 and within the study area as a whole since the early 1990's. Based on the investigation and analysis performed by Geoscience, additional ground water can be extracted by constructing an additional well within the boundaries of the BSMWC service area. Therefore, impacts are considered to be less than significant.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

See also, response to item 16d), below, for more detailed information regarding ground water supplies.

Alternative 2:
Water supply to supplement BSMWC ultimate demand would be provided by WMWD. Table 13 of WMWD's Urban Water Management Plan-2005, lists Sales to Other Agencies in acre feet per year. Sales to Box Springs Mutual Water Company are listed as shown below:

Year	Acre Feet/Year
2000	121
2005	132
2010–2030	448

Thus, from 2010 through 2030, WMWD has already accounted for the need to sell approximately an additional 316 acre-feet per year to BSMWC. Thus, Alternative 2, which assumes no additional groundwater development, would require an additional 88 acre-ft/year. Table 15 of WMWD's Urban Water Management Plan-2005 indicates that Total Water Use is projected to be 122,099 acre-ft/year. Alternative 2's 88 acre-feet/year represents a miniscule amount of the overall water demand and poses less than significant negative environmental impacts associated with water supply.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) 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?				■	

Substantiation:

Alternative 1:
Construction of the proposed replacement water pipelines will not alter the existing drainage pattern within the project area as they will be underground and are within road rights-of-way or within previously disturbed BSMWC property. The water facilities proposed at the existing BSMWC site does not directly affect streams or a river. The improved site will contain an on-site storm water collection system that will collect site surface drainage, as well as intercepted off-site drainage, and direct it to an existing off-site storm drain channel. No new connections to this channel are anticipated. However, if a new connection is required, review and approval by Riverside County Flood Control and Water Conservation District, State Regional Water Quality Control Board, CDFG, or U.S. Army Corp of Engineers may be required. Construction of these facilities will not substantially alter the existing drainage of the site. Impacts are considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) 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 surface runoff in a manner which would result in flooding on- or off site?				■	

Substantiation:

Alternative 1:
The proposed replacement water pipelines are located within existing paved roads and will not create new impervious surfaces that would increase runoff. The proposed water facilities including tank, and pumps will be located at the existing improved BSMWC tank site. Construction of these facilities will not alter the existing drainage pattern within

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

the project area and will not contribute any significant amount of additional surface runoff. Therefore, the proposed development would not result in flooding and will have a less than significant impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				■	

Substantiation:

Alternative 1:
The proposed project involves minimal alteration of the existing surface conditions. All pipelines will be constructed underground in existing road rights-of-way. Following construction, surface conditions will be restored. Therefore, the impact will be less than significant.

Additionally, the proposed project would not contribute runoff water that would exceed storm water drainage systems. Because the District will comply with NPDES general construction permit requirements, no substantial sources of polluted runoff will be generated from project construction or operations. Potential impacts are less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

f) Otherwise substantially degrade water quality?				■	

Substantiation:

Alternative 1:
See response to item 8.a) above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

g) Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?					■

Substantiation:

Alternative 1:
The proposed project does not include the construction of housing; therefore, there is no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?					■

Substantiation:

Alternative 1:
Based on the City of Moreno Valley General Plan EIR Figure 5.5-2, there are portions of the replacement pipeline project area that are located within the 100-year flood plain. However, the proposed pipeline replacement project does not involve any above ground structures; therefore, there is no impact.

The water facilities proposed located at the BSMWC site are not located within a 100-year flood hazard zone; therefore, there is no impact.

Alternative 2:
As discussed in the response to item 8h), there are portions of the replacement pipeline project area that are located within the 100-year flood plain. However, because the proposed pipeline replacement project does not involve any above ground structures; there is no impact in this regard.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

i) 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?					■

Substantiation:

Alternative 1:
The project area is not located within a dam inundation area; therefore, there is no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

j) Inundation by seiche, tsunami, or mudflow?					■

Substantiation:

Alternative 1:
The closest significant water body capable of generating a seiche (a standing wave in an enclosed or partially enclosed body of water) is at least 6 miles to the southeast of the project vicinity (Lake Perris), and any seiche generated by seismic activity would be unlikely to reach the project area which is upstream from the lake.

A tsunami is a series of waves created when a body of water, such as an ocean, is rapidly displaced. The site is located over 100 miles from the ocean with intervening mountains. No impacts from tsunami could reach the site.

The project area is relatively flat, and the closest area with elevation to create any kind of mudflow is the Box Springs Mountains. Therefore, the physical conditions associated with these phenomena are not present in the project vicinity, and there is no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
k) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

9. **LAND USE AND PLANNING**
The following determinations were made utilizing the following resources: Project, GISMV, MVGP, MVGP EIR, CAL CODES

Would the project:

a) Physically divide an established community?					■

Substantiation:

Alternative 1:
The WIAS proposes improvements to the BSMWC's existing water facilities based on the additional needs brought about by increased water demands due to the City of Moreno Valley's planned redevelopment of the area served by BSMWC. All of the proposed pipeline replacements will be underground and the tank, and pump facilities are located on improved property owned by BSMWC; therefore, this project cannot divide a community. Construction of these facilities will not divide the established community.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Conflict with an 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?					■

Substantiation:

Alternative 1:
The proposed pipelines will be utilized by approved developments throughout the area of BSMWC. According to the MVGP (Figure 2-2, Land Use Map) Upon completion of pipelines, existing roads will be returned to pre-existing conditions, i.e., returned to grade and repaved. Upon completion of proposed storage tank and pump station facilities, the area surrounding the improved site will be returned to pre-existing conditions. Within the facility site improvements such as paving, soil stabilization, and on- and off-site drainage improvements, will be incorporated as necessary. Due to their relatively small footprint and implementation of site improvements, substantial soil erosion and loss of topsoil is not anticipated from the pipelines proposed in Alternative 2; impacts would be less than significant and no mitigation is required.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Land use for the project area is designated as Residential/Office, Business Park/Light Industrial, Commercial, and Residential: Max 5 du/ac. The project zoning is: Office, Business Park/Light Industrial, Commercial, Office Commercial, and Residential: Max 5 du/ac, Max 10 du/ac, Max 15 du/ac. According to the California Government Code Section 53091 (d) “building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy,” and (e) "zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water...”. Therefore, the construction of the proposed water facilities is exempt from zoning designations, and there is no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
One purpose of the project is to improve fire flows to the area to allow for development of General Plan land uses. The No Project Alternative would not support development under the MVGP; and would therefore impede implementation of certain General Plan Policies
.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				■	

Substantiation:

Alternative 1:
The project area is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Fee Area. BSMWC is not a Permittee under the MSHCP, and as such, is not subject to it; however, the City of Moreno Valley is a permittee and the project will be subject to MSHCP compliance. The project is not a part of any Cell, Cell Group or Sub-Units of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). See response to item 4. f), above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

10. **MINERAL RESOURCES**
The following determinations were made utilizing the following resources: MVGP, MVGP EIR.

Would the project:

a) 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?					■

Substantiation:

Alternative 1:
According to the MVGP and MVGP EIR, mineral resources known to be located within the study area are common material such as sand, gravel, and rock. These deposits are not considered to be of significant economic value and therefore are not listed as deposits of statewide or regional significance. The construction of the pipelines will occur within road rights-of way, and the project is not expected to impact any significant mineral resources.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) 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?					■

Substantiation:

Alternative 1:
See response to item 10a) above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

11. **NOISE**
The following determinations were made utilizing the following resources: Project, MVGP, MVGP EIR Ord. No. 11.80.030.

Would the project result in:

a) 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?				■	

Substantiation:

Alternative 1:
Adoption of the EWMPU will not result in noise impacts as the proposed noise-generating (pumps) facilities are replacements of existing facilities at BSMWC site and pipeline improvements are underground. Therefore, the proposed project is not expected to be a significant source of new noise. However, construction of the water facilities and pipeline will involve the use of heavy equipment such as backhoes, trenchers, and bulldozers that could exceed noise levels of 65 decibels on a short term basis.

City of Moreno Valley Municipal Code, Chapter 11.80.030, D7, limits the hours of construction. "No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee." Construction will comply with this ordinance to minimize potential noise impacts related to project construction activities on nearby residences. Therefore, construction noise impacts are considered less than significant.

Alternative 2:
The pipeline improvements proposed in Alternative 2 will be located underground; therefore, the proposed project is not expected to be a significant source of new permanent noise. Construction of the pipelines will involve the use of heavy equipment such as backhoes, trenchers, and bulldozers that could exceed noise levels of 65 decibels on a short term basis. However, since construction will comply with Chapter 11.80.030, D7 of the City of Moreno Valley Municipal Code, noise impacts are considered less than significant.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				■	

Substantiation:

Alternative 1:
The level of groundborne noise and/or vibrations is not expected to be excessive based on the short-term duration of construction, and will be intermittent in nature. Therefore the impact is considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				■	

Substantiation:

Alternative 1:
As the project consists of the installation of replacement water facilities and water pipelines, it will not be a source of

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

substantial operational noise (permanent noise). Therefore, impacts are considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) A substantially temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				■	

Substantiation:

Alternative 1:
See response to items 11.a) and 11.c). There is the potential for temporary increases in the ambient noise levels during construction. Although construction-generated noise is temporary it will take place within road rights-of-way, adjacent to sensitive receptors (i.e. houses, schools). However, due to the temporary nature of the impact and adherence to Municipal Code, Chapter 11.80.030, D7, the impact will be less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				■	

Substantiation:

Alternative 1:
The project does not involve the construction of any dwelling units. Also, the project area is located within the March Air Reserve Base's adopted airport land use plans. The project does not involve housing but will temporarily place workers in outdoor locations where they may be subject to noise related to the airport's use. However, the project area is within the MARB influence area, specifically within the 60 and 65 Community Noise Equivalent Level (CNEL) contour and Accident Potential Zone (APZ) Area II, and would only subject persons working there to airport noise for the short-term duration of construction. Therefore, due to short-term duration of exposure to airport noise, there is a less than significant impact to workers' exposure to airport noise.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?					■

Substantiation:

Alternative 1:
The Perris Valley Airstrip is approximately 11 miles southeast of the project area and too far away to expose those working in the area to excessive private airstrip noise levels; therefore, there is no impact.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

g) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

12. **POPULATION AND HOUSING**
The following determinations were made utilizing the following resources: MVGP, and Project Proposal.

Would the project:

a) 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)?				■	

Substantiation:

Alternative 1:
The Water Master Plan proposes improvements to BSMWC's existing water system based on the additional needs brought about by increased water demand due to the City of Moreno Valley's planned redevelopment of the area served by BSMWC which is to be consistent with adopted General Plan land use designations. The population growth has already been accounted for in the Housing Element of the MVGP and MVGP EIR, and the water improvements are in response to the planned increased demand; therefore, the impact is considered less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				■	

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
The proposed water pipeline replacements and other water facilities will be constructed (i) within existing road rights-of-way or (ii) on the same site as BSMWC's existing tank and pumping facilities (Figures 3 and 4), and as such will not displace existing housing. Therefore, impacts are considered to be less than significant in this regard.

Alternative 2:
The proposed water pipeline replacements will be constructed within existing road rights-of-way (Figure 5) and as such will not displace existing hoursing. Therefore, Impacts are considered to be less than significant.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				■	

Substantiation:

Alternative 1:
See response to item 12.b) above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no Long Range Development Plan (LRDP) or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

13. **PUBLIC SERVICES**
The following determinations were made utilizing the following resources: MVGP EIR and MVGP.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
The proposed project would not impact fire protection or fire service ratios. The project creates no new homes or businesses and the proposed pipelines are underground. Additionally, the proposed water facilities will provide additional fire flow and emergency storage, thereby improving fire services and facilities.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
The No Project Alternative would not provide improved fire flows thus continuing an existing adverse safety condition.

b) Police protection?					■

Substantiation:

Alternative 1:
The proposed project would not impact police protection or police service ratios. The project creates no new homes or businesses; therefore, having no direct impact on police services or facilities.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Schools?					■

Substantiation:

Alternative 1:
The proposed project creates no new homes; therefore, in and of itself, it will not generate additional students. Therefore, it has no direct impact to schools.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Parks?					■

Substantiation:

Alternative 1:
The proposed project creates no new homes; and therefore, in and of itself, will not generate additional need for park or recreational facilities. Therefore, it has no direct impact to parks.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) Other public facilities?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
The proposed project creates no new homes or businesses; and therefore, does not create a need for expanded utilities such as gas, electricity, phone, or cable services, and will have no direct impact on these public facilities/services.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

f) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no LRDP or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

14. **RECREATION**
The following determinations were made utilizing the following resources: MVGP.

a) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?					■

Substantiation:

Alternative 1:
The project will provide improved water facilities to the BSMWC service area and would not result in the need to use, nor increase the use, of existing neighborhood and regional parks or other recreational facilities. Therefore, the project will have no impact.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
The proposed project will provide improved water facilities to the BSMWC service area and is not required to include recreational facilities in their design, or require the construction or expansion of recreational facilities. Thus, the project will have no impact related to this issue.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no LRDP or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

15. **TRANSPORTATION/TRAFFIC**
The following determinations were made utilizing the following resources: MVGP and Project Proposal.

Would the project:

a) Cause an increase in the traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				■	

Substantiation:

Alternative 1:
Construction activities will temporarily increase traffic volumes in the immediate project area associated with construction and worker commute vehicles. This traffic increase will not be substantial in relation to existing traffic and is temporary in nature. Impacts are less than significant for these reasons.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion				■	

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
management agency for designated roads or highways?					

Substantiation:

Alternative 1:
See response to item 15. a).

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) 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?					■

Substantiation:

Alternative 1:
The project area is located within the airport influence area for March Air Force Reserve Base but the nature of proposed water pipeline improvements and water facilities will not create a change in air traffic levels.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?					■

Substantiation:

Alternative 1:
The proposed facilities will not permanently alter existing public roads. Temporary construction equipment activity and excavation associated with facility construction could present the potential for temporary safety hazards. However, standard construction practices and conditions of local agency permits require implementation of traffic control plans or traffic signaling and control measures during construction to minimize potential hazards.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) Result in inadequate emergency access?					■

Substantiation:

Alternative 1:
See response to items 15.a) and 15.d), above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
f) Result in inadequate parking capacity?					■

Substantiation:

Alternative 1:
The project consists of the construction and installation of replacement water pipelines and water facilities and will not have any effect on parking capacity.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

g) Conflict with adopted policies or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?					■

Substantiation:

Alternative 1:
The project consists of the construction and installation of replacement water pipelines and water facilities and will not conflict with adopted policies, plans, or programs supporting alternative transportation.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

h) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no LRDP or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

16. **UTILITIES AND SERVICE SYSTEMS**
The following determinations were made utilizing the following resources: WEBB, MVGP, GEOSCIENCE, WMWD

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
Adoption of the Water Master Plan will not generate wastewater, and would not exceed wastewater treatment requirements of the RWQCB. No impacts are anticipated.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?					■

Substantiation:

Alternative 1:
Construction of the water facilities proposed in the EWMPU will not require the construction of new water or wastewater treatment facilities or expansion of existing facilities. No new water or wastewater treatment facilities are required. Therefore, no impacts are anticipated.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				■	

Substantiation:

Alternative 1:
Construction of the proposed facilities at the existing BSMWC tank site will require the construction of an on-site drainage system to direct all on-site, as well as intercepted off-site drainage, through the on-site storm water collection system. A proposed storm drain will be constructed on-site to convey runoff from the reservoir site to the existing Riverside County Flood Control facility east of the BSMWC site. The construction of the storm drain will occur on-site and within road rights-of-way and will not result in significant environmental effects, and potential impacts are less than significant.

Alternative 2:
Construction of the proposed water pipelines will not require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Therefore, no impacts are anticipated.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				■	

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:

Construction of the proposed water facilities does not require a water supply. However, the purpose of the proposed water facilities is to lay out a plan for the type and location of water facilities needed to serve the properties within BSMWC's boundaries based upon the City of Moreno Valley General Plan land use designations within the BSMWC's service area. Therefore, the availability of water is critical to the need for and viability of the project.

For this reason and in support of Alternative 1, GEOSCIENCE Support Services, Inc. prepared a *Ground Water Basin Assessment for the Box Springs Mutual Water Company Service Area Rezoing (*GEOSCIENCE). This report is summarized here with respect to water supply. During the period from 2000 to 2006, BSMWC extracted an average of 379 acre-feet of ground water per year (acre-ft/year) from the ground water aquifer beneath the service area through one well (Well No. 17). In addition, BSMWC purchases water from WMWD. During this same time period, BSMWC purchased 107 acre-ft/year from WMWD for a total annual average water supply of 486 acre-ft/year. Based on the City of Moreno Valley's long-term General Plan land uses, it is projected that 890 acre-ft/year will be needed in the BSMWC service area. As such, an additional 404 acre-ft/year will be required to meet projected water demand. A portion of the project water demand will be met by additional ground water development, but due to ground water quality issues in the area, it is anticipated that mixing of ground water with water purchased from WMWD will still be necessary to meet the requirements for potable use.

The following summarizes the findings of the GEOSCIENCE study:

- The study area has a surface water catchment area of approximately 14,800 acres. Natural surface run-off likely provides minimum amounts of ground water recharge due to poorly draining surface soils.
- Well No. 17 is the only active well for BSMWC and provides the quantity of water described above.
- The ground water aquifer beneath the study area consists of primarily sand, gravel, boulders, and clay and overlies an eroded bedrock surface. The aquifer is 60 to 500 feet thick beneath the study area and thickens in the buried channels to the south.
- Ground water has been rising in the BSMWC service area since 1975 and within the study area as a whole since the early 1990s.
- Precipitation falling on the catchment area tributary to the study area is anticipated to contribute 660 to 1100 acre-ft/year to the ground water system.

- Based on the potential volume of irrigation water in the study area catchment, and a potential infiltration of about 15%, potential recharge volumes to the study area from landscape irrigation would be 100 to 170 acre-ft/year.
- Subsurface inflow to the BSMWC service area under current high ground water conditions is approximately 1400 acre-ft/year. A portion of this water not currently extracted (379 acre-ft/year) can likely be recovered by use of an additional pumping well within the BSMWC service area.

Perennial yield was estimated using three methodologies. Based on that analysis, the range of maximum perennial yield estimated for the study area is currently 760 to 2600 acre-ft/year. Rising ground water levels in the study area suggests that additional ground water can be extracted by constructing an additional well within the boundaries of the BSMWC service area. Thus, the ground water basin in the vicinity of the study area can sustain additional extractions needed to meet projected land use development. Impacts to water supply are considered less than significant.

Alternative 2:

Alternative 2 would require an additional 404 acre-ft/year to meet projected demand, however, that water would come from WMWD. Table 13 of WMWD's Urban Water Management Plan-2005, lists Sales to Other Agencies in acre feet per year. Sales to Box Springs Mutual Water Company are listed as shown below:

Year	Acre Feet/Year
2000	121
2005	132
2010–2030	448

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

From 2010 through 2030, WMWD has already accounted for the need to sell approximately an additional 316 acre-feet per year to BSMWC. Thus, Alternative 2, which assumes no additional groundwater development, would require an additional 88 acre-ft/year. Table 15 of WMWD's Urban Water Management Plan-2005 indicates that Total Water Use is projected to be 122,099 acre-ft/year. Alternative 2's 88 acre-feet/year represents a miniscule amount of the overall water demand and poses less than significant negative environmental impacts associated with water supply.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?					■

Substantiation:

Alternative 1:
See response to item 16.b), above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				■	

Substantiation:

Alternative 1:
The operations of the proposed water facilities will not generate solid waste. Some solid waste may be generated during the construction of Water Master Plan facilities and potentially from maintenance. Local landfills are anticipated to be able to accommodate the minimal construction and maintenance waste from these facilities. Therefore, impacts are less than significant.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

g) Comply with federal, state, and local statutes and regulations related to solid waste?				■	

Substantiation:

Alternative 1:
See response to item 16.f), above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact
h) Exceed an applicable LRDP or Program EIR standard of significance?					■

Substantiation:

Alternative 1:
There is no LRDP or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

17. **MANDATORY FINDINGS OF SIGNIFICANCE**
The following determinations were made utilizing the following resources: CRM TECH, ESI, EDR, GEO, MVGP, MVGP EIR, WEBB

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened plant or animal, or eliminate important examples of the major periods of California history or prehistory?				■	

Substantiation:

Alternative 1:
The project will involve the installation of pipelines in road rights-of-way and the installation of proposed water facilities within BSMWC property. The proposed project will not substantially degrade the quality of the environment or reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal and the impact is considered less than significant.

Likewise, the project will not eliminate important examples of the major periods of California history or prehistory.

See Sections 4, Biological Resources, and 5, Cultural Resources, above.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.)				■	

Substantiation:

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Alternative 1:

In the relatively short-term, the proposed project may have some environmental impacts associated with the installation of the water pipeline; however, those impacts are considered less than significant and not cumulatively considerable as the pipeline will be underground and is being constructed in response to increased water demands due to the City of Moreno Valley's planned redevelopment of the area served by BSMWC.

In addition, **Table 5** in response to item 3.b), indicates that an estimated maximum 73.81 $MtCO_2$ /year will occur from project construction equipment. The draft GHG threshold from CARB has yet to identify a performance standard for construction-related emissions for industrial or commercial projects. When compared to the draft SCAQMD thresholds, construction is below the recommended threshold of 3,000 $MtCO_2$ /year for residential/commercial projects (SCAQMD 2008). Therefore, the cumulative impact from GHG emissions is also considered less than significant.

The project also includes the installation of a proposed ground water well. However, according to the Ground Water Basin Assessment prepared by Geoscience Support Services, Inc. for BSMWC, ground water has been rising in the BSMWC service area since 1975 and within the study area as a whole since the early 1990's. Based on the investigation and analysis performed by Geoscience, additional ground water can be extracted within the boundaries of the BSMWC and will not have a cumulatively considerable impact. Therefore, impacts are considered to be less than significant.

Alternative 2:
Impacts with respect to GHG are the same as Alternative 1 above. Alternative 2 proposes to install pipeline alignments only; therefore, the discussion and analysis of the water facilities (including well development) within BSMWC property does not apply.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?					■

Substantiation:

Alternative 1:
The construction of proposed water facilities and pipelines will not cause substantial adverse effects on human beings, directly or indirectly. The replacement of older pipelines will lessen potential impacts associated with older pipelines and provide adequate fire flows for the area, thus reducing potential harm to humans.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
No action shall be taken under the No Project Alternative. Therefore, no impacts are anticipated.

d) Exceed an applicable LRDP or Program EIR standard of significance?					■

Issues and Supporting Information	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Impact for which LRDP/ Program EIR is Sufficient	Less Than Significant Impact	No Impact

Substantiation:

Alternative 1:
There is no LRDP or Program EIR for the project or project area. The project is planning for the infrastructure necessary to support development pursuant to the City of Moreno Valley General Plan. Therefore, there are no project impacts related to exceeding any applicable LRDP or Program EIR standard of significance.

Alternative 2:
Impacts are the same as Alternative 1 above.

No Project Alternative:
There is no LRDP or Program EIR for the project or project area. Therefore, the No Project Alternative will not exceed an applicable LRDP or Program EIR standard of significance.

REFERENCES

The following documents were referred to as information sources during preparation of this document. They are available for public review at the locations abbreviated after each listing and spelled out at the end of this section. Some of these documents may also be available at the Riverside City and County Public Library, 3581 Seventh Street, Riverside, CA 92502-0468, and/or at branches of the library.

Cited As:	Source:
CAL CODES	California Codes, Government Code, Section 53091 (d) and (e). (Available at www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=53001-54000&file=53090-53097.5)
CRM TECH	CRM TECH, *Historical/Archaeological Resources Survey Report for Edgemont Water Master Plan Update*, December 18, 2008. (Appendix D)
EDR	Environmental Data Resources Inc., *Edgemont Community Services District EDR Radius Map Report,* June 13, 2008. (Available at the City of Moreno Valley Planning Department.)
ESI	Ecological Sciences, Inc., *General Biological Resources Evaluation for City of Moreno Valley Edgemont Water Master Plan,* January 2, 2009. (Appendix B)
EWMPU	Albert A. Webb Associates, *Edgemont Water Master Plan Update, Water Infrastructure Analysis ,* April 2008. (Available at the City of Moreno Valley Planning Department)
GEO	C.H.J. Incorporated, *Geotechnical Investigation-Proposed Day Street Sewer Line Replacement Project*, December 21, 2007. (Available at the City of Moreno Valley Planning Department)
GEOSCIENCE	GEOSCIENCE Support Services, Inc., *Ground Water Basin Assessment for the Box Springs Mutual Water Company Service Area Rezoning,* January 9, 2009. (Available at the City of Moreno Valley Planning Department.)
GIS	County of Riverside Geographic Information System Database. (Available at www3.tlma.co.riverside .ca.us/pa/rclis/index.html)
GISMV	Moreno Valley GIS Online. (Available at www.moreno-valley.ca.us/city_hall/city_maps.shtml *)*
MVGP	City of Moreno Valley, *Moreno Valley General Plan*, July 11, 2006. (Available at the City of Moreno Valley Planning Department and at www.ci.moreno-valley.ca.us/city_hall/general_plan.shtml)
MVGP EIR	City of Moreno Valley, *Final Environmental Impact Report*, July 2006. (Available at the City of Moreno Valley Planning Department and at www.ci.moreno-valley.ca.us/city_hall/general_plan.shtml)
MSHCP	County of Riverside, *Riverside County Multi-Species Habitat Conservation Plan*, June 17, 2003. (Available at the Riverside County Planning Department and at www.rcip.org)
NRCS	U.S. Department of Agriculture, Soil Conservation Service, *Soil Survey, Western Riverside Area, California,* November 1971. (Available at USDA.)
Project Proposal	Albert A. Webb Associates, *Edgemont Water Master Plan Update, Proposal for Water Supply Assessment,* May 2008. (Available at the City of Moreno Valley Planning Department)
RCIP EIR	County of Riverside, *Riverside County Integrated Project, General Plan Draft Program Environmental Impact Report*, March 2003. (Available at the Riverside County Planning Department and at www.rcip.org)
RCBLAP	County of Riverside, *Reche Canyon/Badlands Area Plan*, October 2003. (Available at the Riverside County Planning Department and at rcip.org/documents/general_plan_toc1.htm)
RCGP	County of Riverside, *Riverside County General Plan*, October 2003. (Available at the Riverside County Planning Department and at www.rctlma.org/generalplan/gp.html)
SCAQMD	South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993, with November 1993 Update. (Available at SCAQMD.)
USGS	United States Department of the Interior Geological Survey, Riverside East Quadrangle, California-Riverside Co. 7.5 Minute Series (Topographic) NE/4 Riverside 15' Quadrangle. (Available at http://store.usgs.gov/b2c_usgs/b2c/start.do)

WEBB Albert A. Webb Associates, *Air Quality Analysis Supporting Information, Edgemont Water Master Plan,* February 16, 2009. (Appendix A)

WMWD Western Municipal Water District, *Urban Water Management Plan–2005*, December 2005. (Available at http://www.wmwd.com/pdfs/UrbanWaterMgtPlan.pdf)

LOCATION OF REFERENCE MATERIAL

Location:	Address:
City of Moreno Valley	14177 Frederick Street P.O. Box 88005 Moreno Valley, CA 92552
Riverside County – Planning	Riverside County Planning Department 4080 Lemon Street 9th Floor Riverside, CA 92502
SCAQMD	South Coast Air Quality Management District 21865 East Copley Drive Diamond Bar, CA 91765-4182
USDA	U.S. Department of Agriculture Natural Resource Conservation Service (formerly Soil Conservation Service) 1299 Columbia Avenue, Suite E-5 Riverside, CA 92507

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National Environmental Policy Act (NEPA)

Supplement

City of Moreno Valley
Edgemont Water Master Plan Update

1. PURPOSE AND NEED FOR PROJECT

Currently, BSMWC water system facilities are hydraulically incapable of supplying the necessary fire flow demand to support existing property development conditions. Additionally, the water system is aging and deteriorated and in need of replacement and rehabilitation. The City of Moreno Valley has also recently adopted a General Plan Update which updated land use and zoning in the BSMWC service area. In order to meet the water and fire flow demand conditions for the ultimate development, additional water supply must be acquired, and existing BSMWC water infrastructure, including storage, pipeline and pumping facilities require improvements.

2. ALTERNATIVES:

Alternative No. 1 consists of maintaining the current system operational scheme, with additional water supply from additional groundwater extraction, and upgrading all existing BSMWC facilities (pipelines, reservoir, and hydropneumatic booster station). (See the Project Description on page 2 for details.) This alternative would require the construction of a new reservoir/tank to store groundwater. Thus, in addition to basic construction-related impacts associated with both alternatives, Alternative 1 results in potential impacts associated with Aesthetics and Geology, which can be mitigated to less than significant with the implementation of mitigation measures MM Aes 1, page 15 and MM Geo 1, page 28. Potential construction-related impacts to migratory birds (if construction occurs during the nesting season) and potential impacts related to inadvertent finds of archaeological or paleontological resources can be avoided or mitigated to less than significant through the implementation of MM Bio 1, page 24 and MM Cultural 1 and 2, page 27. Water supply can be provided through supplies available within the local groundwater basin. Thus, Alternative 1 would have no significant adverse affect on the environment which cannot be reduced to less than significant through regulation, best construction practices, and/or mitigation.

Alternative No. 2 consists of connecting to the WMWD water system for both water supply and fire suppression needs, therefore, no water storage facilities are needed for this alternative. (See the Project Description on page 3 for details.) Potential construction-related impacts to migratory birds (if construction occurs during the nesting season) and potential impacts related to inadvertent finds of archaeological or paleontological resources can be avoided or mitigated to less than significant through the implementation of MM Bio 1, page 24 and MM Cultural 1 and 2, page 27. Water supply can be provided by WMWD. Thus, Alternative 2 would have no significant adverse affect on the environment which cannot be reduced to less than significant through regulation, best construction practices, and/or mitigation.

Under a No Project Alternative, the EWMPU would not be adopted or implemented. All construction-related potential adverse environmental impacts would not occur. Thus, potential impacts to water quality, air quality, noise, traffic, safety and all other construction impacts, which, due to implementation of mitigation measures, adherence to regulations, and/or best management construction practices are less than significant, would be eliminated. However, under this alternative, the Water Infrastructure Analysis Study would not be utilized to address the inadequacy of the existing system to bring it up to current City of Moreno Valley minimum fire flow requirements and therefore adequate fire protection would not be provided for the approximately 600 existing residential customers and businesses in the area. Further, the water system is aging and deteriorated and in need of replacement and rehabilitation which might be rectified over time, but not to standards that would support the City of Moreno Valley General Plan land uses for the area.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES:

3.1 Archeological and Historical Preservation Act

The project area is not considered to be sensitive to possible historic and cultural resources. Mitigation measures MM Cultural 1 and 2 address potential impacts to inadvertently discovered resources.

An *Historical/Archaeological Resources Survey Report for Edgemont Water Master Plan Update*, dated December 18, 2008 and found in Appendix D, herein, was prepared by CRM TECH. The study found no archeological resources within the project area. CRM TECH indicated five historic-period buildings, designated as Sites 33-6915 through 33-6919 and built between 1920 and 1947, were previously recorded along the project route. It was ascertained that since they are located outside the project boundaries, the proposed project has no potential to affect these buildings, either directly or indirectly. No other potential "historical resources," as defined by Section 15064.5 of the CEQA Guidelines, were encountered during the course of this study.

EPA received concurrence from the State Historic Preservation Office that no historic properties will be affected.

3.2 Clean Air Act

Minor amounts of dust could be created during excavation and construction however, the project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. The project incorporates accepted best management practices which meets these air quality requirements and conforms with the Clean Air Act. Therefore negative impacts related to the Clean Air Act are less than significant.

3.3 Coastal Barrier Resources Act

The project is not within a Coastal Zone and therefore the Coastal Barrier Resources Act is not applicable.

3.4 Coastal Zone Management Act

The project is not within a Coastal Zone Management Area and therefore the Coastal Zone Management Act is not applicable.

3.5 Endangered Species Act

A field review of the project area has determined that there are no endangered species within the project area. Therefore negative impacts related to the Endangered Species Act.

EPA received concurrence from the U.S. Fish and Wildlife Service that threatened or endangered species will be affected.

3.6 Environmental Justice

No adverse impacts to minority and low-income populations will result from the proposed project. No potential adverse effects to human health have been identified. Therefore negative impacts related to the Environmental Justice are less than significant.

3.7 Floodplain Management

There are portions of the replacement pipeline portion of the project area that are located within the 100-year flood plain. However, the proposed pipeline replacement project does not involve any above ground

structures that could affect the floodplain; therefore, there is no impact. The water facilities proposed located at the BSMWC site (Alternative 1, only) are not located within a 100-year flood hazard zone; therefore, there is no impact.

The project is located in the City of Moreno Valley, California on existing paved city streets in a primarily residential area with some commercial and light industrial areas around the outside border of the project area. Construction for Alternative 1 and 2 will include underground water pipe work within existing paved streets with no above ground structures. Alternative 1 will also include above-ground water storage reservoir and pumping facilities. The project will have a short term affect on the site drainage in that the contractor will use water quality and erosion and siltation control measures during construction that may temporarily divert, impede, or retain street runoff water. The contractor will use best management practices required in the project SWPPP; and such water quality and erosion and siltation control measures will provide for normal rainfall runoff without impeding the flow substantially and without causing an increase in rainfall runoff depth or damage and without degrading water quality.

The project does not increase the existing stormwater runoff flow depth since no additional drainage area is being added to the existing drainage area.

The project does not construct any structures that would substantially impede rainfall runoff.

The project does not construct structures that will redirect flow to any existing storm water channel that is not designed to accept the flow.

Therefore project impacts are less than significant related to floodplain management and effects on the 100-year floodplain protection program.

3.8 Protection of Wetlands,

There are no federally or state protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) within the project area.

Therefore there are no project impacts related to substantial adverse effects on federally or state protected wetlands.

3.9 Farmland Protection Policy Act

There are no farmlands including prime farmland, unique farmland, or farmland of statewide or federal importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency within the project area.

Therefore there are no project impacts related to farmland, prime farmland, unique farmland, or farmland of statewide or federal importance.

3.10 Fish and Wildlife Coordination Act

No special-status plant species were detected on site during the reconnaissance survey and none are expected due to lack of suitable habitat located within the proposed Edgemont Water Master Plan alignments. The site is not located within the Western Riverside County Multi-species Habitat Conservation Plan (MSHCP) narrow Endemic Plant Species Survey Area.

No special-status wildlife species were observed and none are expected directly within the alignment due to lack of suitable habitat along the paved and road shoulder, and on the tank site.

No special-status habitats were recorded on the proposed alignments or within the tank site boundary.

Therefore there are no project impacts related to substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

3.11 National Historic Preservation Act

The project is located in the City of Moreno Valley, California on existing paved city streets in a primarily residential area with some commercial and light industrial areas around the outside border of the project area. The land is relatively flat with no hills or rock outcroppings. Construction for Alternative 1 and 2 will include underground water pipe work within existing paved streets with no above ground structures. Alternative 1 will also include above-ground water storage reservoir and pumping facilities. The streets will be repaired back to their original condition, or better. There are no rock outcroppings within the project area. There are no State Scenic Highways within the project area

An *Historical/Archaeological Resources Survey Report for Edgemont Water Master Plan Update*, dated December 18, 2008 and found in Appendix D, herein, was prepared by CRM TECH, The study found no archeological resources within the project area. CRM TECH indicated five historic-period buildings, designated as Sites 33-6915 through 33-6919 and built between 1920 and 1947, were previously recorded along the project route. It was ascertained that since they are located outside the project boundaries, the proposed project has no potential to affect these buildings, either directly or indirectly. No other potential "historical resources," as defined by Section 15064.5 of the CEQA Guidelines, were encountered during the course of this study. No scenic resources (including trees and rock outcroppings), no unique paleontological resources or site or unique geologic features, no formal cemeteries, and no known human remains interred within the project area.

Therefore there are no project impacts related to historical resource, historic buildings, scenic resources (including trees and rock outcroppings), unique paleontological resources or site or unique geologic features, formal cemeteries, and known human remains interred within the project area.

3.12 Safe Drinking Water Act Publication

The project site is not located in a USEPA "sole source" aquifer.

The project is located in the City of Moreno Valley, California on existing paved city streets in a primarily residential area with some commercial and light industrial areas around the outside border of the project area. All construction will be underground storm drain and catch basin work within existing paved streets with no above ground structures. The depth to ground water is approximately 50 feet below ground surface, therefore trenching for pipes which will range between 5 and 20 feet in depth will not affect the ground water supply or interfere with groundwater recharge.

The project will be obtaining water from the BSMWC and will use only the normal amount of water for this type of construction which will primarily be used for compaction of trench fill.

Construction of the proposed water facilities does not require a water supply. However, the purpose of the proposed water facilities is to lay out a plan for the type and location of water facilities needed to serve the properties within BSMWC's boundaries based upon the City of Moreno Valley General Plan land use designations within the BSMWC's service area. Therefore, the availability of water is critical to the need for and viability of the project.

Alternative 1 - For this reason and in support of Alternative 1, GEOSCIENCE Support Services, Inc. prepared a *Ground Water Basin Assessment for the Box Springs Mutual Water Company Service Area Rezoing.* Ground water has been rising in the BSMWC service area since 1975 and within the study area as a whole since the early 1990's. In large part due to increased irrigation with respect to development which has occurred elsewhere within the study area. Based on the investigation and analysis performed by Geoscience, additional ground water can be extracted by constructing an additional well within the boundaries of the BSMWC service area. (The location of such a well is unknown and potential impacts of well construction are not analyzed in this IS/EA.) Extraction of an additional 404 acre-ft/year from the ground water basin would not negatively affect safe yield. Additional development within the project area will result in additional landscaped areas which will be irrigated and will contribute to recharge of the basin.

Alternative 2 - Alternative 2 would require an additional 88 acre-feet/year to be imported from WMWD which represents a miniscule amount of the overall water demand and poses less than significant negative environmental impacts associated with water supply.

Therefore project impacts are less than significant related to substantially depleting groundwater supplies or interfering substantially with groundwater quality or recharge or a lowering of the local groundwater table level.

3.13 Wild and Scenic Rivers Act

The project is not within a Wild or Scenic River (or watershed) area and therefore the Wild and Scenic Rivers Act is not applicable.

3.14 Migratory Birds

A field review of the project area did not detect migratory birds within the project area. However, several species have potential to occur within the larger vacant parcels located throughout the project area adjacent to project locations/alignments. Construction adjacent to these vacant parcels/habitats could result in indirect impacts. The Western Burrowing Owl (WBO) and many other native bird species are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and California Department of Fish and Game (CDFG) Code section 3503, 3503.5, and 3800 which prohibit take, possession, or destruction of birds, their nests or eggs. If active nests of any special-status or native species would be lost or indirectly impacted as a result of grading and/or construction activities, adverse impacts could result and the project would be in conflict with these regulations. In order to avoid violation of the MBTA or CDFG Code sections, guidelines suggest that project-related disturbances at active nesting territories be reduced or eliminated during the nesting cycle (February 1 to August 31). Mitigation measure MM Bio 1, will avoid violation of these regulations and any potential impacts to WBO and other migratory native bird species protected by the MBTA.

Therefore the impacts related to migratory birds is less than significant.

3.15 Essential Fish Habitat

Essential Fish Habitat (EFH) is defined as "...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish. "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities. The project is not within aquatic areas and therefore will not affect EFH.

Appendix A

Air Quality Analysis Supporting Information

EDGEMONT COMMUNITY SERVICES DISTRICT
WATER MASTER PLAN

Air Quality Analysis Supporting Information

February 16, 2009

Regional Significance Threshold Analysis

The thresholds contained in the SCAQMD CEQA Air Quality Handbook are considered regional thresholds and are shown in the table below. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

SCAQMD CEQA Daily Regional Significance Thresholds

Emission Threshold	Units	ROG	NO_X	CO	SO_X	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operations	lbs/day	55	55	550	150	150	55

Air quality impacts can be described in a short-term and long-term perspective. Short-term impacts will occur during site grading and project construction. Long-term air quality impacts will occur once the project is in operation. There are no long-term impacts related to reservoir tank and pipeline operation, therefore, only short-term impacts were evaluated.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the total size project area (4.32 acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD Rule 1113 governs the sale of architectural coatings and limits the volatile organic content (VOC) in paints and paint solvents. Although this rule does not directly apply to the project, it does dictate the VOC content of paints available for use during building construction.

Short-term emissions were evaluated using the URBEMIS 2007 for Windows version 9.2.4 computer program. Short-term emissions consist of fugitive dust and other

particulate matter, as well as exhaust emissions generated by construction-related vehicles. Short-term impacts will also include emissions generated during construction as a result of operation of personal vehicles by construction workers and asphalt degassing operations during construction.

Source Receptor Area (SRA) 24, Air Quality Monitoring Summary – 1998–2007

	Pollutant/Standard Source: SCAQMD	Monitoring Year									
		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
No. Days Exceeded	**Ozone :**										
	Health Advisory - 0.15 ppm	--	--	--	5	1	1	0	0	3	0
	California Standard:										
	1-Hour - 0.09 ppm	30	10	65	73	59	67	37	11	76	
	8-Hour - 0.07 ppm [a]	--	--	--	--	--	--	47	18	84	
	Federal Primary Standards:										
	8-Hour - 0.08 ppm (0.075 ppm)[a]	28	7	41	58	41	47	19	3	53	37(73)
	Max 1-Hour Conc. (ppm)	0.15	0.11	0.16	0.152	0.147	0.155	0.128	0.126	0.17	0.139
	Max 8-Hour Conc. (ppm)	0.13	0.10	0.126	0.136	0.117	0.121	0.103	0.103	0.122	0.116
No. Days Exceeded	**Carbon Monoxide [b]:**										
	California Standard:										
	1-Hour - 20 ppm	0	0	0	0	0	0	0	0	0	0
	8-Hour - 9.0 ppm	0	0	0	0	0	0	0	0	0	0
	Federal Primary Standards:										
	1-Hour - 35 ppm	0	0	0	0	0	0	0	0	0	0
	8-Hour - 9.0 ppm	0	0	0	0	0	0	0	0	0	0
	Max 1-Hour Conc. (ppm)	6.0	7.0	5.0	5.0	8.0	5	4	3	3	4
	Max 8-Hour Conc. (ppm)	4.6	4.4	4.3	3.4	3.0	3.7	3.0	2.5	2.1	2.9
No. Days Exceeded	**Nitrogen Dioxide [b]:**										
	California Standard:										
	1-Hour - 0.18 ppm,	0	0	0	0	0	0	0	0	0	0
	Federal Standard:										
	Annual Arithmetic Mean (AAM) (ppm)	0.023	0.025	0.024	0.025	0.024	0.022	0.017	0.022	0.020	0.021
	Max. 1-Hour Conc. (ppm)	0.10	0.13	0.10	0.15	0.10	0.09	0.09	0.08	0.08	0.07
No. Days Exceeded	**Sulfur Dioxide [b]:**										
	California Standards:										
	1-Hour – 0.25 ppm	0	0	0	0	0	0	0	0	0	0
	24-Hour – 0.04 ppm	0	0	0	0	0	0	0	0	0	0
	Federal Primary Standards:										
	24-Hour – 0.14 ppm	0	0	0	0	0	0	0	0	0	0
	Annual Standard – 0.03 ppm [d]	No	No	No	No	No	No	No	No	No	No
	Max. 1-Hour Conc. (ppm)	0.03	0.03	0.11	0.02	0.02	0.02	0.02	0.02	0.01	0.02
	Max. 24-Hour Conc. (ppm)	0.010	0.011	0.041	0.011	0.002	0.012	0.015	0.011	0.004	0.002
No. Days Exceeded	**Suspended Particulates (PM10):**										
	California Standards:										
	24-Hour - 50 $\mu g/m^3$	14	30	13	16	24	19	15	19	19	32
	Federal Primary Standards:										
	24-Hour – 150 $\mu g/m^3$	0	0	0	0	0	0	0	0	0	0
	Annual Arithmetic Mean ($\mu g/m^3$) [e]	36.1	50.0	41.1	40.8	45.2	43.9	41.4	39.2	45.0	54.8
	Max. 24-Hour Conc. ($\mu g/m^3$)	98	112	87	86	100	142	83	80	125	120
No. Days Exceeded	**Suspended Particulates (PM2.5) [b]:**										
	California and Federal Primary Standards:										
	24-Hour – 65 $\mu g/m^3$ (35$\mu g/m^3$) [f]	--	9	11	19	8	8	5	4	1(32)	3(33)
	Annual Arithmetic Mean ($\mu g/m^3$) [g]	--	30.9	28.2	31.3	27.5	24.9	22.1	21.0	19.0	19.1
	Max. 24-Hour Conc. ($\mu g/m^3$)	--	111.2	119.6	98.0	77.6	104.3	91.7	98.7	68.5	75.7

Note -- No data available.

a. 2004 is first year of SCAQMD records for State 8-hour Ozone standard. Federal 8-hour ozone standard 0.075 ppm effective May 27, 2008.

b. Metro Riverside County 1 air monitoring station (SRA 23) data summaries used.

c. Federal NO_2 standard is AAM > 0.053; State NO_2 standard of AAM > 0.030 effective March 20, 2008.

d. Yes or No indicating whether or not the standard has been exceeded for that year.

e. Federal PM-10 standard is AAM> 50$\mu g/m^3$ was revoked December 17, 2006. State standard is AAM> 20$\mu g/m^3$, effective July 5, 2003.

f. 1999 is first year of SCAQMD records for Federal 24-hour PM-2.5 standard and data summary . Threshold changed to 35$\mu g/m^3$ in 2006.

g. Federal PM-2.5 standard is annual average (AAM) > 15$\mu g/m^3$. State standard is annual average (AAM) > 12$\mu g/m$.

The objective of this Water Infrastructure Analysis is to analyze the existing Box Springs Municipal Water Company (BSMWC) water system and determine the adequacy of the existing system, determine any necessary system improvements and the associated costs of the improvements to comply with the current City of Moreno Valley General Plan and Land Use designations. Presently, the BSMWC facilities cannot meet the City of Moreno Valley minimum fire flow requirements and therefore does not provide adequate fire protection for the approximately 600 existing residential customers and businesses. Further, the water system is aging and deteriorated and in need of replacement and rehabilitation. Two alternatives for improvement were analyzed to meet the water supply and fire suppression needs of the ultimate development based on water storage facilities, pipeline facilities, pumping facilities and water supply. Alternative No. 1 consists of maintaining the current system operational scheme, with additional water supply from Western Municipal Water District (WMWD) and upgrade all existing BSMWC facilities (pipelines, reservoir, and hydropneumatic booster station). Alternative No. 2 consists of connecting to the WMWD water system for both water supply and fire suppression needs

For the purposes of this air quality analysis, and as a worst-case scenario, the reservoir proposed in Alternative 1 together with, the longest section of water pipeline that may be built at one time was modeled to determine its construction impact.

Alternative 1 proposes the construction of a 2.3 MG storage tank (reservoir) to meet ultimate water demand conditions. The proposed 2.3 MG tank will be located within the BSMWC service area, on the western most end of the City of Moreno Valley, adjacent to the two existing storage tanks.

The worst-case scenario consists of installing 4,936 linear feet of 12-inch diameter along Cottonwood Avenue (between Old 215 Frontage Road and Elsworth Street) and 410 linear-feet of 16-inch diameter water pipelines connected to the 12-inch pipeline within the road right-of-way of Cottonwood Avenue and also connecting the proposed 2.3 MG reservoir to Dracaea Avenue. The disturbance area for the reservoir would be approximately 1 acre. The results for both the reservoir and the pipelines are displayed in the table on the next page.

Short-term emissions were evaluated using the URBEMIS 2007 version 9.2.4 for Windows computer program. The model evaluated emissions resulting from fugitive dust as well as exhaust emissions generated by earthmoving activities, construction, trenching, pipeline installation, painting of the reservoir tank, and subsequent paving.

The construction of the pipelines is assumed to start May 2010 and last for approximately 2.5 months, with re-paving within road rights-of-way (ROW) occurring last. Construction of the reservoir will not occur at the same time as pipeline construction. The construction of the reservoir is expected to begin in mid July 2010 and take approximately 4 months to complete, painting and asphalt will occur during the last 2 weeks of construction. Construction equipment modeled for the reservoir includes 1 grader, 1 rubber-tired dozer, 3 tractor/loader/backhoes, 1 water-truck, 1 cement and mortar mixer, 1 paver, 1 roller, 1

crane and 2 forklifts. Construction equipment modeled for the water pipelines includes 1 crane, 1 rubber-tired dozer, 2 tractor/loader/backhoes, 1 trencher, 2 welders, 1 water truck, 2 cement and mortar mixers, 1 concrete/industrial saw, 1 paver, 1 paving equipment, and 1 roller. The "Paving Phase" is assumed to occur after the pipelines are in place and have been tested.

Estimated Daily Construction Emissions

Activity/Year	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Construction Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Grading/Excavation/ Construction for Pipeline	4.81	33.95	18.86	0.00	10.45	3.50
Paving[1]	2.98	17.01	11.25	0.00	1.44	1.32
Maximum[2]	**4.81**	**33.95**	**18.86**	**0.00**	**10.45**	**3.50**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Grading/Excavation for Reservoir	3.04	25.05	13.50	0.00	3.85	1.70
Construction of Reservoir[3]	50.09	23.09	16.45	0.01	1.72	1.55
Maximum[2]	**50.09**	**25.05**	**16.45**	**0.01**	**3.85**	**1.70**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: See Appendix A for model output report.
[1] Paving occurs after grading/excavation/construction of pipelines.
[2] Maximum corresponds to the highest emissions for each construction phase.
[3] Includes paving and painting.

Evaluation of the above table indicates that all criteria pollutant emissions from the construction of this project are below the SCAQMD daily regional thresholds.

Localized Significance Threshold Analysis

Background

Recently, as part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality. Staff at SCAQMD has developed localized significance threshold (LST) methodology that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short-term and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient

concentrations of that pollutant for each source receptor area (SRA). This project is located within SRA 24.

Short-Term Analysis

For short-term construction emissions, it is estimated that the maximum area to be disturbed for the previously analyzed pipeline alignment and reservoir construction would be 0.83 acres a day. Under the LST analysis methodology, only the on-site emissions need to be considered. SCAQMD has developed a series of worksheets for use by projects in order to determine the on-site emissions for LST analysis purposes. SCAQMD has provided LST lookup tables to allow users to readily determine if the daily emissions for proposed construction activities could result in significant localized air quality impacts for projects 5 acres or smaller. It is anticipated that an area no larger than 1 acre would be disturbed at any one time during construction. Therefore, the LST lookup tables (http://www.aqmd.gov/ceqa/handbook/LST/LST.html) and worksheets show in the look-up tables for the 1-acre site were used to estimate construction emissions.

The nearest sensitive receptors to the analyzed pipeline alignment, and the remainder of the pipeline alignments, are existing residences located adjacent to the project roadways. In order to ensure a worst-case analysis, the receptor distance of 25 meters (82 feet) was used. The results are summarized below.

LST Results for Daily Construction Emissions

Pollutant	**CO (lbs/day)**	**NO_X (lbs/day)**	**PM-10 (lbs/day)**	**PM-2.5 (lbs/day)**
LST Threshold (1 acre)	**418**	**144**	**4**	**3**
Grading/Trenching	18.6	35.7	2.3	1.9
Construction	11.4	25.6	1.4	1.3
Architectural Coating and Paving	10.3	18.0	1.3	1.2
Exceeds Threshold?	**No**	**No**	**No**	**No**

Short-term construction emissions of CO, NO_X, PM-10, and PM-2.5 do not exceed the SCAQMD established localized thresholds of significance.

Greenhouse Gas Analysis

The recently updated URBEMIS model calculates carbon dioxide emissions from fuel usage by construction equipment and construction-related activities, like worker trips, for the project in tons per year (one ton equals 2,000 pounds). The URBEMIS estimate does not analyze emissions from construction related electricity or natural gas. Construction related electricity and natural gas emissions vary based on the amount of electric power used during construction and other unknown factors which make them too speculative to quantify. Life-cycle emissions associated with the manufacture of building materials are also not quantified in this analysis although they undoubtedly exist. Quantification was

not attempted because of the large spatio-temporal variation in sources for building products used to construct the project and the consequent large uncertainty associated with the resulting emissions. For this reason, to attempt to quantify life-cycle emissions of materials would be speculative. This conclusion is consistent with recent guidance on quantification of emissions for commercial projects presented by the California Air Pollution Control Officer's Association (CAPCOA) guidance on CEQA and Climate Change.

The following table summarizes the output results and presents the emissions estimates in metric tonnes (Mt) of CO_2 (one metric tonne equals approximately 2,205 pounds) from construction of the reservoir and associated pipelines.

Project Construction Equipment CO_2 Emissions[1]

Year/Description	Total tons CO_2	Maximum Mt CO_2/year
2010/ Water Pipelines	81.36	73.81
2010/ Reservoir	70.68	64.12

[1] calculations based on URBEMIS output.

Evaluation of the table above indicates that an estimated maximum of 73.81 $MtCO_2$ /year will occur from project construction equipment over the course of the estimated construction period of approximately 1 year. The draft GHG threshold from CARB has yet to identify a performance standard for construction-related emissions for industrial or commercial projects. When compared to the draft SCAQMD thresholds, construction is below the recommended threshold of 3,000 $MtCO_2$ /year for residential/commercial projects (SCAQMD 2008).

Long-Term Analysis

According to the SCAQMD's LST methodology, the operational emissions to be analyzed are from on-site stationary sources and on-site mobile source emissions. Off-site mobile source emissions should not be included in the analysis. Long-term air quality impacts occur once the project is in operation. The only source of operational emissions from the water pipeline and/or reservoir would be infrequent vehicle trips by maintenance personnel. Any associated emissions would be negligible; therefore, no long-term impacts were estimated.

REFERENCES

The following documents were referred to as general information sources during preparation of this document. They are available for public review at the locations abbreviated after each listing and spelled out at the end of this section. Some of these documents are also available at public libraries and at other public agency offices.

CAPCOA — California Air Pollution Control Officer's Association, *CEQA and Climate Change*, January 2008. (Available on the internet on June 23, 2008 at http://www.capcoa.org)

SCAQMD 2008 — South Coast Air Quality Management District, *Draft AQMD Staff CEQA Greenhouse Gas Significance Threshold*, October 2008. (Available on the Internet on November 20, 2008 at http://www.aqmd.gov/ceqa/hdbk.html)

SCAQMD 1993 — South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993. (Available at SCAQMD.)

URBEMIS — Rimpo and Associates Inc, *URBEMIS 2007 for Windows Computer Program and User's Guide, Version 9.2.4.*, February 2008. (Available on the internet on June 16, 2008 at http://www.urbemis.com/)

SCAQMD — South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: E:\ECSD tank.urb924

Project Name: ECSD Water tank

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	48.67	25.05	13.50	0.01	5.01	1.25	6.26	1.05	1.15	2.20	2,371.71
2010 TOTALS (lbs/day mitigated)	48.67	25.05	13.50	0.01	2.60	1.25	3.85	0.54	1.15	1.70	2,371.71

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 07/19/2010-08/13/2010 Active Days: 20	3.04	25.05	13.50	0.00	5.01	1.25	6.26	1.05	1.15	2.20	2,371.71
Mass Grading 07/19/2010-08/13/2010	3.04	25.05	13.50	0.00	5.01	1.25	6.26	1.05	1.15	2.20	2,371.71
Mass Grading Dust	0.00	0.00	0.00	0.00	5.00	0.00	5.00	1.04	0.00	1.04	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Time Slice 08/16/2010-10/29/2010 Active Days: 55	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building 08/16/2010-10/29/2010	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building Off Road Diesel	1.21	9.16	4.81	0.00	0.00	0.58	0.58	0.00	0.53	0.53	893.39
Building Vendor Trips	0.17	2.08	1.44	0.00	0.01	0.08	0.10	0.00	0.08	0.08	378.34
Building Worker Trips	0.06	0.11	1.91	0.00	0.01	0.01	0.02	0.00	0.01	0.01	227.58
Time Slice 11/01/2010-11/12/2010 Active Days: 10	48.67	11.74	8.28	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,146.27
Asphalt 11/01/2010-11/12/2010	1.99	11.71	7.71	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,078.54
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.86	11.33	6.55	0.00	0.00	0.99	0.99	0.00	0.91	0.91	908.50
Paving On Road Diesel	0.02	0.33	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	45.64
Paving Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Coating 11/01/2010-11/12/2010	46.67	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73
Architectural Coating	46.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73

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Phase Assumptions

Phase: Mass Grading 07/19/2010 - 08/13/2010 - Mass Site Grading/Excavation

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 0.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 11/01/2010 - 11/12/2010 - Asphalting around tank

Acres to be Paved: 0.3

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 08/16/2010 - 10/29/2010 - Reservoir construction

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 11/01/2010 - 11/12/2010 - Painting tank

Rule: Residential Interior Coatings begins 01/01/2005 ends 06/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 07/01/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 01/01/2005 ends 06/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 07/01/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 01/01/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 01/01/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 07/19/2010-08/13/2010 Active Days: 20	3.04	25.05	13.50	0.00	2.60	1.25	3.85	0.54	1.15	1.70	2,371.71
Mass Grading 07/19/2010-08/13/2010	3.04	25.05	13.50	0.00	2.60	1.25	3.85	0.54	1.15	1.70	2,371.71
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Time Slice 08/16/2010-10/29/2010 Active Days: 55	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building 08/16/2010-10/29/2010	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building Off Road Diesel	1.21	9.16	4.81	0.00	0.00	0.58	0.58	0.00	0.53	0.53	893.39
Building Vendor Trips	0.17	2.08	1.44	0.00	0.01	0.08	0.10	0.00	0.08	0.08	378.34
Building Worker Trips	0.06	0.11	1.91	0.00	0.01	0.01	0.02	0.00	0.01	0.01	227.58
Time Slice 11/01/2010-11/12/2010 Active Days: 10	48.67	11.74	8.28	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,146.27
Asphalt 11/01/2010-11/12/2010	1.99	11.71	7.71	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,078.54
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.86	11.33	6.55	0.00	0.00	0.99	0.99	0.00	0.91	0.91	908.50
Paving On Road Diesel	0.02	0.33	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	45.64
Paving Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Coating 11/01/2010-11/12/2010	46.67	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73
Architectural Coating	46.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 07/19/2010 - 08/13/2010 - Mass Site Grading/Excavation

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: E:\ECSD tank.urb924

Project Name: ECSD Water tank

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	48.67	25.05	13.50	0.01	5.01	1.25	6.26	1.05	1.15	2.20	2,371.71
2010 TOTALS (lbs/day mitigated)	48.67	25.05	13.50	0.01	2.60	1.25	3.85	0.54	1.15	1.70	2,371.71

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 07/19/2010-08/13/2010 Active Days: 20	3.04	25.05	13.50	0.00	5.01	1.25	6.26	1.05	1.15	2.20	2,371.71
Mass Grading 07/19/2010-08/13/2010	3.04	25.05	13.50	0.00	5.01	1.25	6.26	1.05	1.15	2.20	2,371.71
Mass Grading Dust	0.00	0.00	0.00	0.00	5.00	0.00	5.00	1.04	0.00	1.04	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Time Slice 08/16/2010-10/29/2010 Active Days: 55	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building 08/16/2010-10/29/2010	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building Off Road Diesel	1.21	9.16	4.81	0.00	0.00	0.58	0.58	0.00	0.53	0.53	893.39
Building Vendor Trips	0.17	2.08	1.44	0.00	0.01	0.08	0.10	0.00	0.08	0.08	378.34

Building Worker Trips	0.06	0.11	1.91	0.00	0.01	0.01	0.02	0.00	0.01	0.01	227.58
Time Slice 11/01/2010-11/12/2010 Active Days: 10	48.67	11.74	8.28	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,146.27
Asphalt 11/01/2010-11/12/2010	1.99	11.71	7.71	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,078.54
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.86	11.33	6.55	0.00	0.00	0.99	0.99	0.00	0.91	0.91	908.50
Paving On Road Diesel	0.02	0.33	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	45.64
Paving Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Coating 11/01/2010-11/12/2010	46.67	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73
Architectural Coating	46.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73

Phase Assumptions

Phase: Mass Grading 07/19/2010 - 08/13/2010 - Mass Site Grading/Excavation

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 0.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 11/01/2010 - 11/12/2010 - Asphalting around tank

Acres to be Paved: 0.3

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 08/16/2010 - 10/29/2010 - Reservoir construction

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 11/01/2010 - 11/12/2010 - Painting tank

Rule: Residential Interior Coatings begins 01/01/2005 ends 06/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 07/01/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 01/01/2005 ends 06/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 07/01/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 01/01/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 01/01/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 07/19/2010-08/13/2010 Active Days: 20	3.04	25.05	13.50	0.00	2.60	1.25	3.85	0.54	1.15	1.70	2,371.71
Mass Grading 07/19/2010-08/13/2010	3.04	25.05	13.50	0.00	2.60	1.25	3.85	0.54	1.15	1.70	2,371.71
Mass Grading Dust	0.00	0.00	0.00	0.00	2.59	0.00	2.59	0.54	0.00	0.54	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Time Slice 08/16/2010-10/29/2010 Active Days: 55	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building 08/16/2010-10/29/2010	1.43	11.35	8.17	0.01	0.02	0.66	0.69	0.01	0.61	0.62	1,499.30
Building Off Road Diesel	1.21	9.16	4.81	0.00	0.00	0.58	0.58	0.00	0.53	0.53	893.39

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Building Vendor Trips	0.17	2.08	1.44	0.00	0.01	0.08	0.10	0.00	0.08	0.08	378.34
Building Worker Trips	0.06	0.11	1.91	0.00	0.01	0.01	0.02	0.00	0.01	0.01	227.58
Time Slice 11/01/2010-11/12/2010 Active Days: 10	48.67	11.74	8.28	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,146.27
Asphalt 11/01/2010-11/12/2010	1.99	11.71	7.71	0.00	0.01	1.01	1.02	0.00	0.93	0.93	1,078.54
Paving Off-Gas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.86	11.33	6.55	0.00	0.00	0.99	0.99	0.00	0.91	0.91	908.50
Paving On Road Diesel	0.02	0.33	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	45.64
Paving Worker Trips	0.03	0.06	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.39
Coating 11/01/2010-11/12/2010	46.67	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73
Architectural Coating	46.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	67.73

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 07/19/2010 - 08/13/2010 - Mass Site Grading/Excavation

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: E:\water project.urb924

Project Name: Edgemont Water District Water Analysis 08-278

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	4.81	33.95	18.86	0.00	16.61	1.84	18.45	3.47	1.70	5.17	3,255.62
2010 TOTALS (lbs/day mitigated)	4.81	33.95	18.86	0.00	8.61	1.84	10.45	1.80	1.70	3.50	3,255.62

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 05/03/2010-07/02/2010 Active Days: 45	**4.81**	**33.95**	**18.86**	0.00	**16.61**	**1.84**	**18.45**	**3.47**	**1.70**	**5.17**	**3,255.62**
Fine Grading 05/03/2010-07/02/2010	4.81	33.95	18.86	0.00	16.61	1.84	18.45	3.47	1.70	5.17	3,255.62
Fine Grading Dust	0.00	0.00	0.00	0.00	16.60	0.00	16.60	3.47	0.00	3.47	0.00
Fine Grading Off Road Diesel	4.75	33.84	17.04	0.00	0.00	1.84	1.84	0.00	1.69	1.69	3,037.93
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69
Time Slice 07/05/2010-07/16/2010 Active Days: 10	2.98	17.01	11.25	**0.00**	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Asphalt 07/05/2010-07/16/2010	2.98	17.01	11.25	0.00	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Paving Off-Gas	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	16.01	9.11	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,278.30
Paving On Road Diesel	0.06	0.90	0.32	0.00	0.00	0.03	0.04	0.00	0.03	0.03	126.28
Paving Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69

2/15/2009 08:37:33 PM

Phase Assumptions

Phase: Fine Grading 05/03/2010 - 07/02/2010 - Construction, trenching, grading for water pipe

Total Acres Disturbed: 3.32

Maximum Daily Acreage Disturbed: 0.83

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 07/05/2010 - 07/16/2010 - Re-pave within ROW

Acres to be Paved: 0.83

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 05/03/2010-07/02/2010 Active Days: 45	**4.81**	**33.95**	**18.86**	0.00	8.61	**1.84**	10.45	1.80	**1.70**	3.50	**3,255.62**
Fine Grading 05/03/2010-07/02/2010	4.81	33.95	18.86	0.00	8.61	1.84	10.45	1.80	1.70	3.50	3,255.62
Fine Grading Dust	0.00	0.00	0.00	0.00	8.60	0.00	8.60	1.80	0.00	1.80	0.00
Fine Grading Off Road Diesel	4.75	33.84	17.04	0.00	0.00	1.84	1.84	0.00	1.69	1.69	3,037.93
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69
Time Slice 07/05/2010-07/16/2010 Active Days: 10	2.98	17.01	11.25	**0.00**	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Asphalt 07/05/2010-07/16/2010	2.98	17.01	11.25	0.00	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Paving Off-Gas	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	16.01	9.11	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,278.30
Paving On Road Diesel	0.06	0.90	0.32	0.00	0.00	0.03	0.04	0.00	0.03	0.03	126.28
Paving Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 05/03/2010 - 07/02/2010 - Construction, trenching, grading for water pipe

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: E:\water project.urb924

Project Name: Edgemont Water District Water Analysis 08-278

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	4.81	33.95	18.86	0.00	16.61	1.84	18.45	3.47	1.70	5.17	3,255.62
2010 TOTALS (lbs/day mitigated)	4.81	33.95	18.86	0.00	8.61	1.84	10.45	1.80	1.70	3.50	3,255.62

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 05/03/2010-07/02/2010 Active Days: 45	**4.81**	**33.95**	**18.86**	0.00	**16.61**	**1.84**	**18.45**	**3.47**	**1.70**	**5.17**	**3,255.62**
Fine Grading 05/03/2010-07/02/2010	4.81	33.95	18.86	0.00	16.61	1.84	18.45	3.47	1.70	5.17	3,255.62
Fine Grading Dust	0.00	0.00	0.00	0.00	16.60	0.00	16.60	3.47	0.00	3.47	0.00
Fine Grading Off Road Diesel	4.75	33.84	17.04	0.00	0.00	1.84	1.84	0.00	1.69	1.69	3,037.93
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69
Time Slice 07/05/2010-07/16/2010 Active Days: 10	2.98	17.01	11.25	**0.00**	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Asphalt 07/05/2010-07/16/2010	2.98	17.01	11.25	0.00	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Paving Off-Gas	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	16.01	9.11	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,278.30
Paving On Road Diesel	0.06	0.90	0.32	0.00	0.00	0.03	0.04	0.00	0.03	0.03	126.28
Paving Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69

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Phase Assumptions

Phase: Fine Grading 05/03/2010 - 07/02/2010 - Construction, trenching, grading for water pipe

Total Acres Disturbed: 3.32

Maximum Daily Acreage Disturbed: 0.83

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 07/05/2010 - 07/16/2010 - Re-pave within ROW

Acres to be Paved: 0.83

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 05/03/2010-07/02/2010 Active Days: 45	**4.81**	**33.95**	**18.86**	0.00	8.61	**1.84**	10.45	1.80	**1.70**	3.50	**3,255.62**
Fine Grading 05/03/2010-07/02/2010	4.81	33.95	18.86	0.00	8.61	1.84	10.45	1.80	1.70	3.50	3,255.62
Fine Grading Dust	0.00	0.00	0.00	0.00	8.60	0.00	8.60	1.80	0.00	1.80	0.00
Fine Grading Off Road Diesel	4.75	33.84	17.04	0.00	0.00	1.84	1.84	0.00	1.69	1.69	3,037.93
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69
Time Slice 07/05/2010-07/16/2010 Active Days: 10	2.98	17.01	11.25	**0.00**	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Asphalt 07/05/2010-07/16/2010	2.98	17.01	11.25	0.00	0.01	1.43	1.44	0.01	1.31	1.32	1,622.27
Paving Off-Gas	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	16.01	9.11	0.00	0.00	1.38	1.38	0.00	1.27	1.27	1,278.30
Paving On Road Diesel	0.06	0.90	0.32	0.00	0.00	0.03	0.04	0.00	0.03	0.03	126.28
Paving Worker Trips	0.06	0.11	1.83	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.69

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 05/03/2010 - 07/02/2010 - Construction, trenching, grading for water pipe

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Construction Emissions

Pipelines

Year	Annual Tons	Annual MT CO2
2010	81.36	73.81
	Total	73.81

Reservoir

Year	Annual Tons	Annual MT CO2
2010	70.68	64.12
	Total	64.12

Project	Total Tons CO2	Total MT CO2
pipelines	81.36	73.81
resevoir	70.68	64.12
Total	152.04	137.93

* Annual tons obtained from URBEMIS output.

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: E:\ECSD tank.urb924

Project Name: ECSD Water tank

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2010 TOTALS (tons/year unmitigated)	70.68
2010 TOTALS (tons/year mitigated)	70.68
Percent Reduction	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2010	70.68
Mass Grading 07/19/2010-08/13/2010	23.72
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	22.47
Mass Grading On Road Diesel	0.00
Mass Grading Worker Trips	1.24
Building 08/16/2010-10/29/2010	41.23
Building Off Road Diesel	24.57
Building Vendor Trips	10.40
Building Worker Trips	6.26
Asphalt 11/01/2010-11/12/2010	5.39
Paving Off-Gas	0.00
Paving Off Road Diesel	4.54
Paving On Road Diesel	0.23
Paving Worker Trips	0.62
Coating 11/01/2010-11/12/2010	0.34
Architectural Coating	0.00
Coating Worker Trips	0.34

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Phase Assumptions

Phase: Mass Grading 07/19/2010 - 08/13/2010 - Mass Site Grading/Excavation

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 0.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 11/01/2010 - 11/12/2010 - Asphalting around tank

Acres to be Paved: 0.3

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 08/16/2010 - 10/29/2010 - Reservoir construction

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 11/01/2010 - 11/12/2010 - Painting tank

Rule: Residential Interior Coatings begins 01/01/2005 ends 06/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 07/01/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 01/01/2005 ends 06/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 07/01/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 01/01/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 01/01/2005 ends 12/31/2040 specifies a VOC of 250

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: E:\water project.urb924

Project Name: Edgemont Water District Water Analysis 08-278

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	CO2
2010 TOTALS (tons/year unmitigated)	81.36
2010 TOTALS (tons/year mitigated)	81.36
Percent Reduction	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2010	81.36
Fine Grading 05/03/2010-07/02/2010	73.25
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	68.35
Fine Grading On Road Diesel	0.00
Fine Grading Worker Trips	4.90
Asphalt 07/05/2010-07/16/2010	8.11
Paving Off-Gas	0.00
Paving Off Road Diesel	6.39
Paving On Road Diesel	0.63
Paving Worker Trips	1.09

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Phase Assumptions

Phase: Fine Grading 05/03/2010 - 07/02/2010 - Construction, trenching, grading for water pipe

Total Acres Disturbed: 3.32

Maximum Daily Acreage Disturbed: 0.83

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

2 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 07/05/2010 - 07/16/2010 - Re-pave within ROW

Acres to be Paved: 0.83

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	CO2
2010	81.36
Fine Grading 05/03/2010-07/02/2010	73.25
Fine Grading Dust	0.00
Fine Grading Off Road Diesel	68.35
Fine Grading On Road Diesel	0.00
Fine Grading Worker Trips	4.90
Asphalt 07/05/2010-07/16/2010	8.11
Paving Off-Gas	0.00
Paving Off Road Diesel	6.39
Paving On Road Diesel	0.63
Paving Worker Trips	1.09

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 05/03/2010 - 07/02/2010 - Construction, trenching, grading for water pipe

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	CO2
2010	70.68
Mass Grading 07/19/2010-08/13/2010	23.72
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	22.47
Mass Grading On Road Diesel	0.00
Mass Grading Worker Trips	1.24
Building 08/16/2010-10/29/2010	41.23
Building Off Road Diesel	24.57
Building Vendor Trips	10.40
Building Worker Trips	6.26
Asphalt 11/01/2010-11/12/2010	5.39
Paving Off-Gas	0.00
Paving Off Road Diesel	4.54
Paving On Road Diesel	0.23
Paving Worker Trips	0.62
Coating 11/01/2010-11/12/2010	0.34
Architectural Coating	0.00
Coating Worker Trips	0.34

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 07/19/2010 - 08/13/2010 - Mass Site Grading/Excavation

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Summary of One Acre Site Example Results By Phase

Total On-Site

	CO	NOx	PM10	PM2.5
Demolition	11.2	19.1	1.7	1.4
Site Preparation	7.7	17.3	1.3	0.9
Grading	18.6	35.7	2.3	1.9
Building	11.4	25.6	1.4	1.3
Arch Coating and Paving	10.3	18.0	1.3	1.2
Localized Significance Threshold*	151.0	103.0	4.0	3
Exceed Significance?	NO	NO	NO	NO

* For illustration purposes only, this analysis is based on the most stringent LSTs. Please consult App. C of the Methodology Paper for applicable LSTs.

Appendix B

General Biological Resources Evaluation

ECOLOGICAL SCIENCES, inc.

General Biological Resource Evaluation

City of Moreno Valley
Edgemont Water Master Plan

Site Location:
±430-acre Master Plan Area
Riverside East USGS Quadrangle
Township 3 South, Range 4 West, Sections 10/11
Riverside County, California

Prepared for:
Cathy Perring
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506
951.686.1070

Prepared by:
Scott Cameron
Ecological Sciences, Inc.
601 Glade Drive
Santa Paula, CA 93060
805.921.0583
scameron@ecosciencesinc.com

Surveys Conducted by:
Scott Cameron

Surveys Conducted On:
November 18, 2008
December 17, 2008
December 22, 2008

Report Date:
January 2, 2009

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Appendices

Executive Summary

Ecological Sciences, Inc. conducted a general biological resource evaluation within the subject ±430-acre Edgemont Water Master Plan area (site) in November and December 2008. The project generally consists of installation of water infrastructure such as 8-16-inch pipelines, tank, booster, and a well site.

Particular emphasis of the biological analysis was placed on the sites' potential to support sensitive (or special-status) biological resources (i.e., those resources that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized conservation organizations). This report generally discusses biological resources either known or expected to occur based on results of reconnaissance-level field surveys, habitats present, and review of pertinent literature.

The proposed project traverses both undeveloped and developed areas, of which the major land use is developed roadways. Results of the survey effort indicate that habitats present within the site are generally considered of a low biological constraint and value. This designation is due to the high level of disturbance due to long-standing urban-related activities resulting in low biological diversity, absence of native plant communities, and the overall low potential for special-status species to utilize or reside within areas proposed for development. No threatened or endangered species are likely to occur in areas proposed for construction activities due to the highly disturbed site conditions. As such, construction activities would not likely jeopardize the continued existence of listed species, nor would construction adversely impact any designated critical habitat.

While no native habitat communities are present on the site, and no federal- or state-listed species are expected to occur on the site due to absence of suitable habitat, several special-status species (i.e. nesting native bird species) known from the vicinity could potentially occur adjacent to the site despite highly disturbed site conditions. Depending upon the species and seasonal timing of construction activities, a pre-activity survey, and potentially other measures, may be necessary prior to or during construction activities in order to avoid or further reduce impacts to potentially occurring sensitive biological resources.

Introduction

This report presents findings of a reconnaissance-level biological survey completed by Ecological Sciences, Inc. within the ±430-acre Edgemont Water Master Plan area. Results of this biological resource evaluation are intended to provide the applicant and reviewing regulatory agencies with preliminary biological information required for planning and permitting decisions concerning the proposed project.

As part of the environmental review process, projects proposed in the area that contain potentially suitable habitat to support sensitive biological resources must demonstrate to reviewing agencies that potential project-related impacts to sensitive biological resources are adequately addressed and mitigated pursuant to the California Environmental Quality Act (CEQA) and the federal Endangered Species Act (Act) of 1973, as amended. The survey area is also located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) area. Specifically, the site is located within the boundaries of the Reche Canyon / Badlands Area of the Western Riverside County Multiple Species Habitat Conservation Plan. However, the subject site is not located within a proposed criteria area, cell, subunit, and is considered an independent cell group per general parcel summary review. No potential conservation areas are mapped for the site as well. Nonetheless, some selected parcels are located within areas that require habitat assessments for the western burrowing owl (*Athene cunicularia hypugea*-WBO) per online parcel summary review (online custom reporting, RCIP website 2003).

This report describes the general biological resources present on site, provides a general assessment of sensitive biological resources either actually or potentially present based on existing site conditions, and generally analyzes constraints to development posed by the potential presence of sensitive biological resources. The potential occurrence of sensitive biological resources is solely based on results of a reconnaissance-level field survey, habitats present, and pertinent literature/database review. No focused surveys for potentially occurring sensitive biological resources were conducted as a part of this specific biological evaluation. Therefore, conclusions relative to potential presence or absence of certain sensitive biological resources are based solely on the nature of habitat present. For the purposes of this report, study area, project area, and/or site are used interchangeable.

Project Location

The site (master plan area) is located in Riverside County, California (***Plate 1***). Specifically, the site is located south of Eucalyptus Avenue, north of Alessandro Boulevard, east of Interstate 215, and west of Elsworth Street in the City of Moreno Valley. The site occurs on the “Riverside East” USGS 7.5-minute quadrangle map, Township 3 South, Range 4 West, comprising a portion of Sections 10 and 11 (***Plate 2***). ***Plate 3*** provides an aerial overview of the proposed project alignment.

General Regulatory Overview

Biological resources within the project site fall under the jurisdiction of multiple federal and state agencies, including, but not necessarily limited to, California Department of Fish and Game (CDFG), Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers (USACE), Natural Resources Conservation Service (NRCS), U.S. Fish and Wildlife Service (USFWS or Service), City of Moreno Valley (City), and/or the County of Riverside (County).

Constraints posed by biological resources upon development of the proposed project were generally evaluated by ranking the following sensitive biological issues, listed in descending order of significance: (1) a federally or state-listed endangered or threatened species of plant or animal; (2) streambeds, wetlands, and their associated vegetation; (3) habitats suitable to support a federally or state-listed endangered or threatened species of plant or wildlife; (4) species designated as candidates for federal listing; (5) habitat, other than wetlands, considered sensitive by regulatory agencies or resource conservation organizations; (6) and other species or issues of special concern to agencies, resource conservation organizations, or other interest groups.

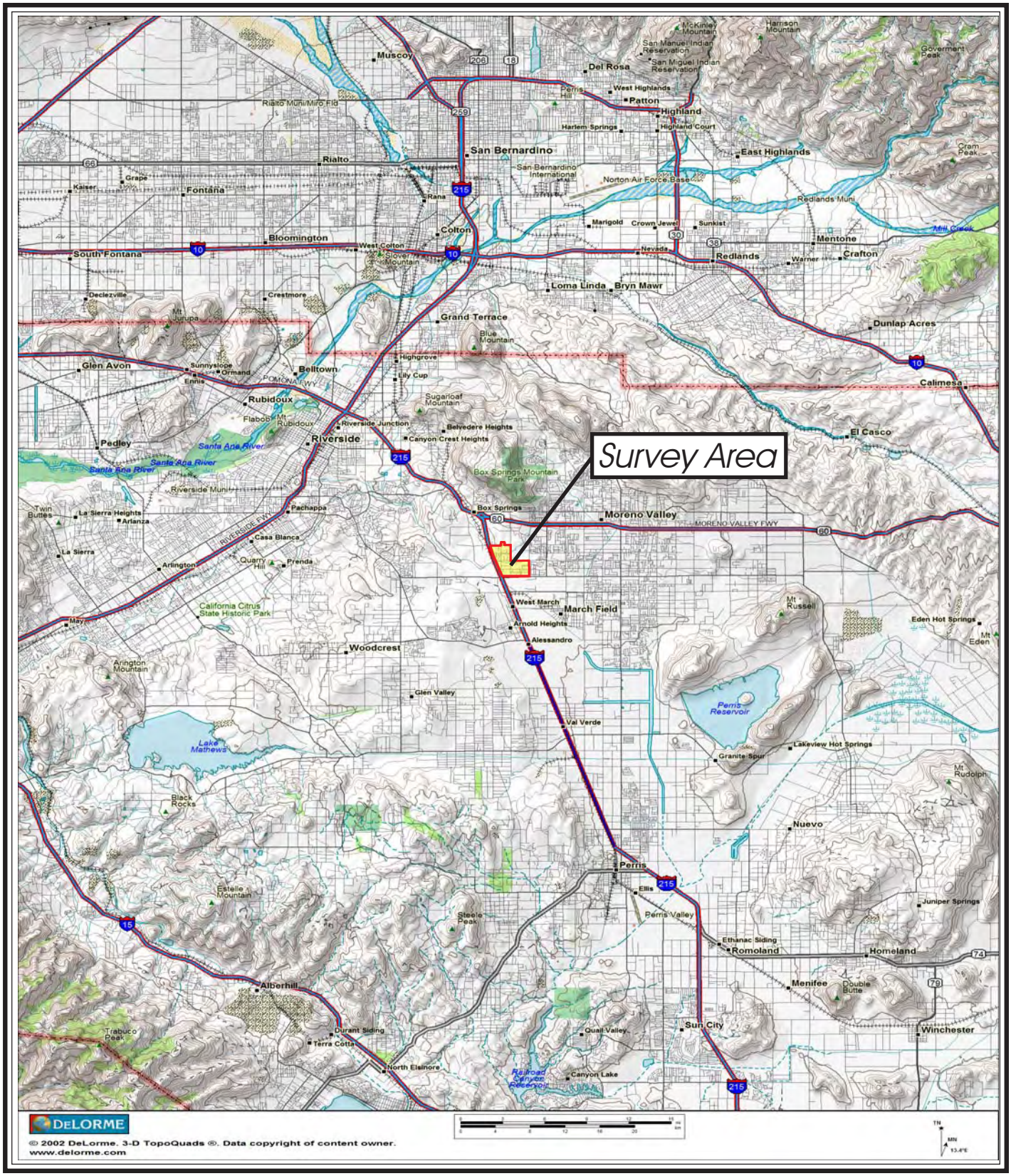

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plate 1

Regional Site Location

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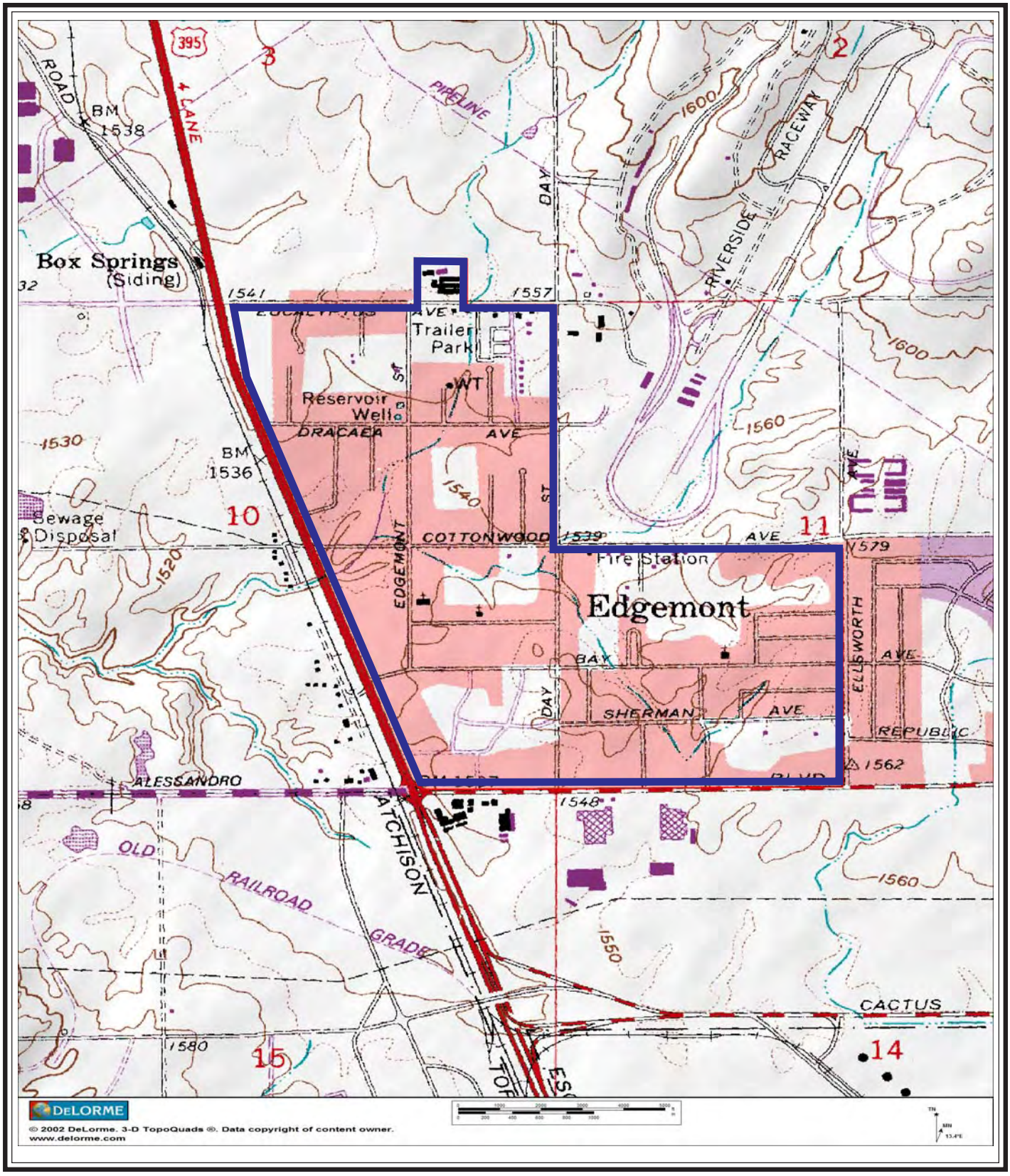

BSMWC Boundary

plate 2

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USGS Topographic Vicinity Map

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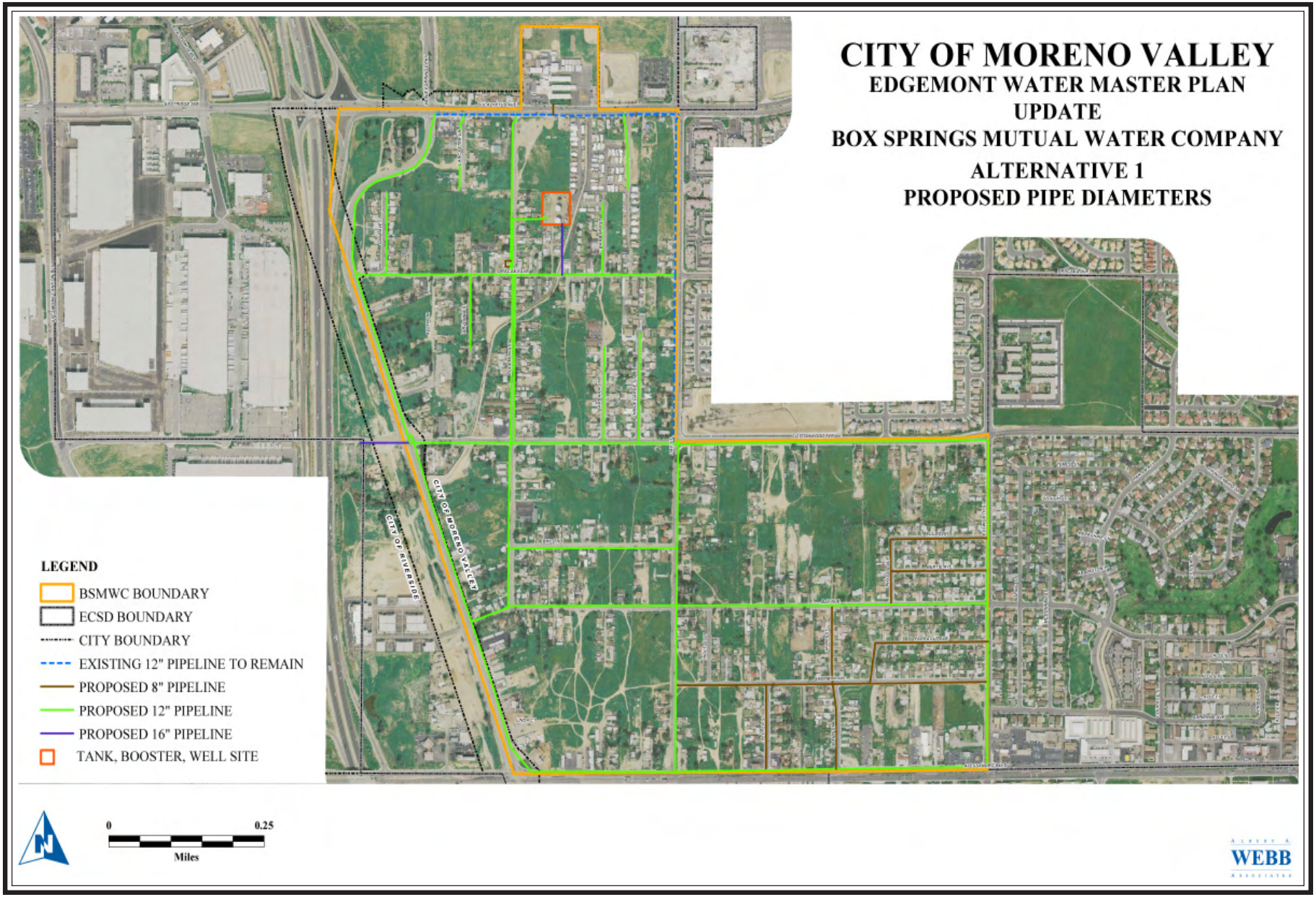

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Aerial Vicinity Map

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General WBO Regulatory Overview

The WBO is also considered a MSHCP Group 3 species, California Species of Special Concern, Federal Species of Concern, Partners in Flight Priority Bird Species, and Fish and Wildlife Service Species of Management Concern. Although this special-status species is not protected by state or federal endangered species acts, the WBO is protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and California Department of Fish and Game (CDFG) Code sections 3503, 3503.5, and 3800. These sections prohibit take, possession, or destruction of birds, their nests or eggs. If it were later determined that active nests would be lost as a result of site-preparation, it would be in conflict with these regulations, as well as MSHCP species-specific objectives, and could also be considered a significant impact under CEQA.

The general process for those projects subject to CEQA or occurring within an MSHCP WBO surevy area begins with the performance of ***focused surveys*** to determine if the WBO is foraging or nesting on or adjacent to the site prior to development. Current MSCHP WBO survey protocol includes four separate breeding season surveys conducted between March 1 and August 31. Per MSHCP Burrowing Owl Survey Instructions (3-31-06), surveys should be conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys will not be accepted if they are conducted within 5 days following rain, during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Focused surveys should be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset. A systematic ***survey for burrows, burrowing owls, and owl sign*** should be conducted by walking through suitable habitat over the entire survey area (i.e. the project site and within 150 meters). Pedestrian survey transects need to be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (±100 feet) and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. Upon arrival at the survey area and prior to initiating the walking surveys, surveyors using binoculars and/or spotting scopes should scan all suitable habitat, location of mapped burrows, owl sign, and owls, including perch locations to ascertain owl presence.

All project sites containing burrows or suitable habitat (based on Step I/Habitat Assessment) whether owls were found or not, require ***pre-construction surveys*** that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls (MSHCP Species-Specific Objective 6). If ground-disturbing activities are delayed or suspended for more than 30 days after the survey, the site should be resurveyed for owls if suitable habitat is present.

Additional MSCHP Conservation Objectives

Although the site is located outside a MSCHP criteria area, it must also be reviewed for constency with additional MSHCP Objectives such as ***Section 6.1.2-Riparian/Riverine Areas and Vernal Pools***. The MSHCP defines ***(1) Riparian/Riverine Areas*** as lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year; ***(2) Vernal pools*** are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather

and hydrologic records; and ***(3) Fairy Shrimp-***for Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.

Protected MSHCP species associated with 6.1.2 habitats include special-status plants, invertebrates, amphibians, birds, and fish (some of which are addressed in this report as appropriate). Plant species include Brand's Phacelia (*Phacelia stellaris*), California Orcutt grass (*Orcuttia californica*), California black walnut (*Juglans californica*), Coulter's matilija poppy (*Romneya coulteri*), Engelman oak (*Quercus engelmannii*), Fish's milkwort (*Polygala cornuta* spp. *fishiae*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*), lemon lily (*Lilium parryi*), Mojave tarplant (*Hemizonia mohavensis*), mud nama (*Nama stenocarpum*), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), Orcutt's brodiaea (*Brodiaea orcuttii*), Parish's meadowfoam (*Limnanthes gracilis* ssp. *parishii*), prostrate navarretia (*Navarretia prostrata*), San Diego button celery (*Eryngium aristulatum* var. *parishii*), San Jacinto Valley crownscale (*Atriplex coronata* var*. notatior*), San Miguel savory (*Satureja chandleri*), Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*), slender-horned spineflower (*Dodecahema leptoceras*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), spreading navarretia (*Navarretia fossalis*), thread-leaved brodiaea (*Brodiaea filifolia*), and vernal barley (*Hordeum intercedans*). Invertebrate species include Riverside fairy shrimp (*Streptocephalus wootoni*) and vernal pool fairy shrimp (*Branchinecta lynchi*). Fish species include Santa Ana sucker (*Catostomus santaanae*). Amphibian species include arroyo toad (*Bufo californicus*), mountain yellow-legged frog (*Rana muscosa*), and California red-legged frog (*Rana aurora draytonii*). Bird species include bald eagle (*Haliaeetus leucocephalus*), least Bell's vireo (*Vireo bellii pusillus*), peregrine falcon (*Falco peregrinus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and yellow-billed cuckoo (*Coccyzus americanus*). All of these species are not necessarily specific to the subject study area.

In addition to Section 6.1.2, ***riparian/wetland habitats*** are also considered sensitive by resource conservation agencies. Drainages, streambed, and creeks are potentially considered "waters of the United States" subject to jurisdiction by the U.S. Army Corps of Engineers (USACOE). In addition, a 1601 agreement with the Department of Fish and Game (CDFG) would be required prior to any disturbances upon stream-associated habitats. Under Section 404 of the Federal Clean Water Act, the USAOCE regulates fill material discharged into "waters of the U.S.," including wetlands. Waters of the U.S. include streams, rivers, lakes, and tributaries thereof. Wetlands are defined through a "three-parameter test" involving wetland hydrology, wetland vegetation, and hydric soils. USACOE jurisdiction extends to the ordinary high water mark (Q2.5 event) or to the edge of the wetland. If a project is determined to need a permit from the USACOE, then the Regional Water Quality Control Board (RWQCB), which regulates discharges to Waters of the State under authority of the Porter-Cologne Water Quality Act, reviews the action and may issue a Section 401 certification. Section 1600 of the CDFG Code authorizes the CDFG to regulate impacts to streambeds. CDFG considers most drainages to be "streambeds" unless they are demonstrated to be otherwise. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life.

Investigative Methods

This biological analysis is based on information compiled through field reconnaissance, extensive literature review and applicable reference materials. Methods used in this study are outlined below.

Literature Review

Various data sources were reviewed to evaluate the occurrence potential of special-status species at the project site. Special-status or sensitive species are those that have been afforded special protection or recognition by federal, state, or recognized resource conservation agencies due principally to declining or limited populations, mainly as a result of habitat reduction. Historical occurrence records of special-status plant and wildlife species were obtained from the California Natural Diversity Data Base (CNDDB 2007) and California Native Plant Society (CNPS) online inventory for the Riverside East and surrounding

USGS 7.5-minute quadrangle maps. The most recent sensitive species lists maintained by the Service and CDFG were also reviewed. Other data sources reviewed where necessary include: (1) literature pertaining to habitat requirements of special-status species potentially occurring in the project site, (2) distributional data contained in Hall (1981), Garrett and Dunn (1981), Grinnell and Miller (1944), and CNPS (2001); and (3) Western Riverside County Multiple Species Habitat Conservation Plan MSHCP (2003).

Sources used to determine the sensitivity status of biological resources included: ***Plants***- U.S. Fish and Wildlife Service (USFWS 1996, 1999), California Department of Fish and Game (CDFG 2003), California Natural Diversity Data Base (CNDDB 2007), and CNPS (2001); ***Wildlife***-USFWS (1996, 1999), CDFG (2003), CNDDB (2007); ***Habitats***- CNDDB (2007).

Field Survey

Ecological Sciences, Inc. conducted a reconnaissance-level survey on November 18, December 17 (partial survey due to rain), and December 21, 2008 to identify existing biological resources present on the subject site. During the survey effort, Ecological Sciences biologists characterized on-site habitats and evaluated their potential to support sensitive biological resources. On-site resources were identified by walking or driving meandering transects throughout the site. An aerial photograph and topographic map was used to aid the survey effort. Weather conditions varied from warm and clear, to cool and overcast with air temperatures of approximately 55-90 ºF.

Floral and Faunal Inventory

Plants encountered during the survey were recorded in terms of their relative abundance and host habitat (plant community) type. Any species not readily identifiable in the field were later identified using plant taxonomy keys. Plant taxonomy and common plant names follow Hickman (1993). Common plant names, where not available from Hickman (1993) are taken from Munz (1974). Names used to describe plant communities are based on the nomenclature of Holland (1986) where applicable, with modifications to accommodate non-described communities.

Wildlife was detected during the course of the field survey by sight, calls, tracks, scat, or other diagnostic sign. In addition to species actually detected, expected use of the site by other wildlife was determined from habitat analysis of the site, combined with known habitat preferences of locally occurring wildlife species. Analysis of potential wildlife movement corridors associated with the property was based on information compiled from a cursory review of topographic and aerial maps of the area. Vertebrate taxonomy used in this report follows Collins (1990) for amphibians and reptiles, the American Ornithologists' Union (1989, 1993) for birds, and Jones et al. (1982) for mammals.

Preliminary Jurisdictional Evaluation

Potential jurisdictional wetlands features subject to regulation under the federal Clean Water Act and CDFG Code were generally evaluated during the reconnaissance site survey. USACE jurisdiction is generally evaluated based on the definition of waters of the United States, as defined at 33 CFR Part 328, including adjacent or isolated wetlands as defined by the Corps of Engineers Wetland Delineation Manual (1987). CDFG jurisdiction was evaluated based on Fish and Game Code Section 1600. No formal wetland delineation was conducted as part of this general biological resource evaluation.

Existing Biological Environment

The subject master plan area is characterized by rural residential development. The alignments traverse existing developed areas, of which the major land use is roadways (paved) and road shoulders (compacted soils). The proposed alignments occur along residential streets adjacent to existing houses and undeveloped ruderal areas such as relatively large vacant fields routinely exposed to discing activities. A concrete-lined channel with some water flow to the southwest bisects the northwestern portion of the study area (unnamed blue line drainage on USGS topography maps). ***Appendix A***

photographically illustrates existing site conditions from various and representative locations along the proposed alignment.

Vegetation

Ruderal plants recorded on road shoulders and peripheral areas (outside the paved roadways) included various non-native grasses and weedy species such as foxtail chess (*Bromus madritensis spp. rubens*), ripgut grass (*Bromus diandrus*), Russian thistle (*Salsola tragus*), mustard (*Brassica/Hirschfeldia* spp.), tree tobacco (*Nicotiana glauca*), cheeseweed (*Malva parviflora*), filaree (*Erodium sp.*), common sow thistle (*Sonchus oleraceus*), spurge (*Euphorbia* sp.), pigweed (*Amaranthus albus*), jimsonweed (*Datura wrightii*), castor bean (*Ricinus communis*), prickly lettuce (*Lactuca serriola*), fleabane (*Conyza bonariensis),* and oleander (*Nerium oleander*). Native species such as telegraph weed (*Heterotheca grandiflora*), ragweed (*Ambrosia psilostachya*), horseweed (*Conyza canadensis*), and common sunflower (*Helianthus annuus*) were also recorded.

Exotic or planted trees located along most streets included gum trees (*Eucalyptus* spp.), pepper trees (*Schinus molle*), olive (*Olea* sp.), palms (*Washingtonia* sp. and *Phoenix* sp.), pines (*Pinus* spp.), juniper (*Juniperus* spp.), salt cedar (*Tamarix* sp.), cottonwood (*Populus fremonti),* sweet gum (*Liquidambar styraciflua*), tree-of-heaven (*Ailanthus glandulosa*), and many other ornamental species such as Spanish broom (*Spartium junceum*).

Wildlife

Bird species recorded during the survey effort included mostly those that are accustomed to nearby residential development such as American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), rock dove (*Columba livia*), black phoebe (*Sayornis nigricans*), northern mockingbird (Mimus polyglottos), western meadowlark (*Sturnella neglecta),* European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), and house sparrow (*Passer domesticus*).

Soils

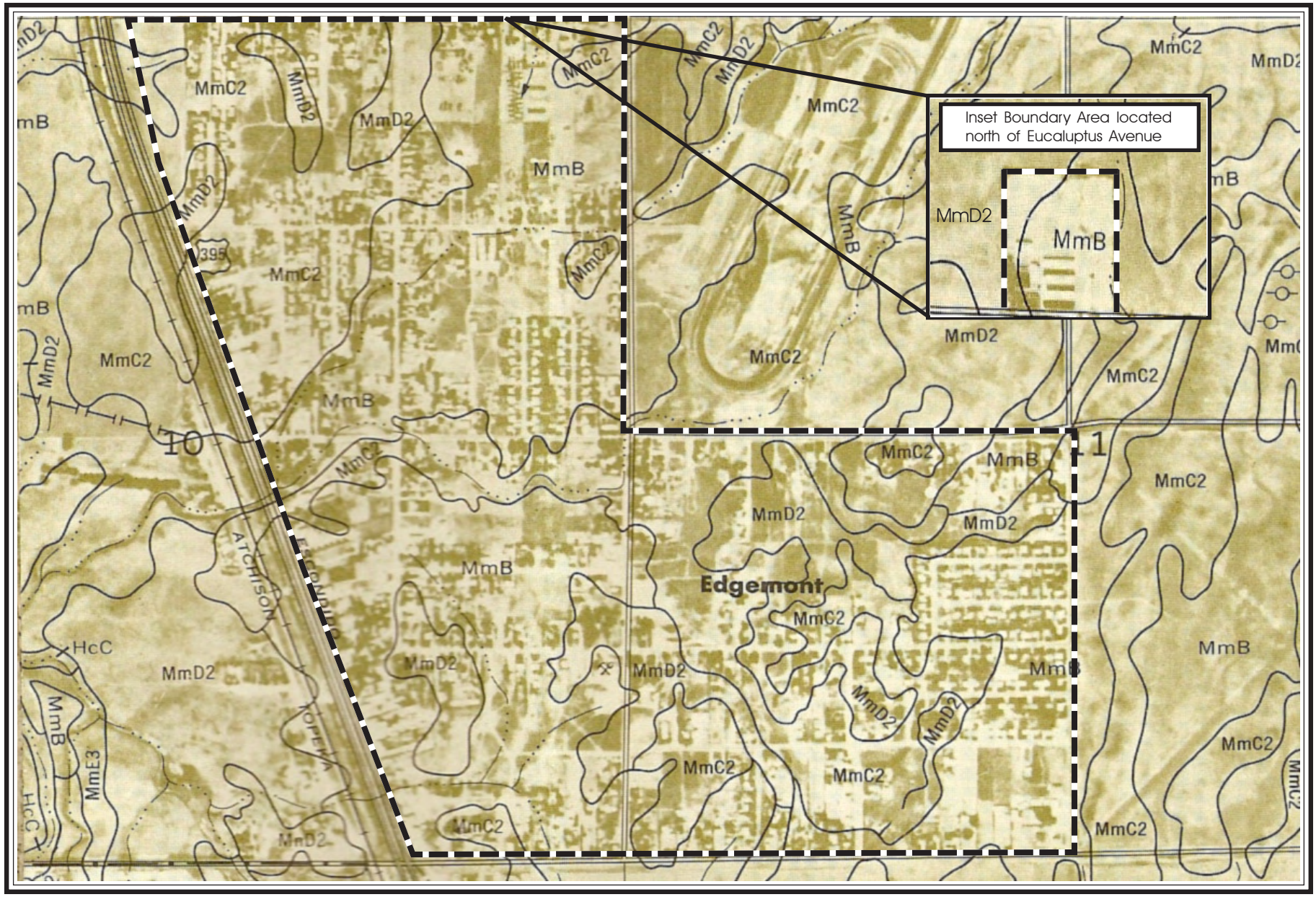
A general surface soils analysis was also conducted along the alignments due to the close association of certain special-status plant species to particular soil types (e.g., clay or alkaline). Shoulder soils were generally highly compacted throughout the site from long-standing vehicle parking.

Soil Conservation Map Review

Based on a review of the Soil Survey, Western Riverside Area, California (USDA, Soil Conservation Service 1971), the subject site is mapped as containing Monserate sandy loam (0-5% slopes), Monserate sandy loam (5-8% slopes), and Monserate sandy loam (8-15% slopes). Due to long-standing urban uses that have included asphalt and/or fill material placement, these soils types may no longer be present. Moreover, extensive exposure to disturbances over many years have likely altered soil characteristics/microhabitat conditions within non-paved surfaces in ways currently unsuitable to support sensitive plant species. ***Plate 4*** illustrates mapped area soils.

Special-Status Biological Resource Evaluation

Discussed in this section are plant and wildlife species potentially present in the study area that have been afforded special recognition by federal or state agencies. The focus of this discussion is on those species that would potentially pose considerable constraints on the proposed project because of their high sensitivity status (listed or proposed for listing as rare, threatened, or endangered) with state and/or federal resource agencies. In addition, plants included on Lists 1, 2, 3, or 4 of the CNPS inventory are also considered of special-status. Vegetation communities that are unique, of relatively limited distribution, or of particular value to wildlife and considered sensitive by state and/or federal resource



Map Key

MmB=Monserate sandy loam (0-5% slopes)
MmC2=Monserate sandy loam (5-8% slopes)
MmD2=Monserate sandy loam (8-15% slopes)

= = = =Study Area Boundary

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plate **4**

Project Area Soils

Edgemont Water Master Plan

agencies are also discussed.

In general, those species presented in ***Tables 1 and 2*** that are "not expected" or that have a "low occurrence potential" correspond to "less than significant" under CEQA. The occurrence potential of special-status plant and wildlife species is primarily based on habitat types present, occurrence records of sensitive species from the site vicinity, and results of the on-site reconnaissance survey. No focused botanical or zoological surveys were conducted.

Special-Status Plant Species

No special-status plant species were detected on site during the reconnaissance survey and none are expected due to lack of suitable habitat. The site is not located within a MSHCP Narrow Endemic Plant Species Survey Area. Special-status plant species known from the region that potentially occur within the project site are summarized below in ***Table 1***.

Special-Status Wildlife Species

No special-status wildlife species were observed and none are expected directly within the alignment due to lack of suitable habitat along the paved and road shoulder alignments. However, several species have potential to occur within the larger vacant parcels located adjacent to the alignment. Accordingly, sensitive wildlife species potentially occurring on the project site summarized below in ***Table 2*** are associated with adjacent habitats (i.e., potential indirect impacts).

Special-Status Habitats

Special-status habitat types are vegetation communities that support concentrations of sensitive plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife (CNDDB). Although sensitive habitats are not necessarily afforded legal protection unless they support protected species, potential impacts to them may increase concerns and mitigation suggestions by resources agencies. Special-status habitats known from the site vicinity include Riversidean Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub. No special-status habitats were recorded on the proposed alignments or within the BSMWC boundary.

Table 1

Special-Status Plant Species Known from the Site Vicinity[1]

Scientific and Common Name	Status			Habitat Requirements	Flowering Period	Occurrence Potential
	Federal	State	CNPS			
Riverside County Narrow Endemics						
Munz's Onion *Allium munzii*	FE	CT	1B	Chaparral, sage scrub, grassland, woodlands with clay soils	March-May	**Not Expected:** suitable habitat not present
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	FE	--	1B	Alkali flats, playas	April-August	**Not Expected:** suitable habitat not present
California Orcutt grass *Orcuttia californica*	FE	CE	1B	Meadows, vernal pools	April-June	**Not Expected:** suitable habitat not present
Parish's brittlescale *Atriplex parishii*	FSC	--	1B	Alkali meadows, chenopod scrub, playas	June-October	**Not Expected:** suitable habitat not present
Thread-leaved brodiaea *Brodiaea filifolia*	FE	CE	1B	Vernal pools, scrub, woodland, grasslands with clay soils	March-June	**Not Expected:** suitable habitat not present
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	FSC	--	1B	Playas, vernal pools	February-June	**Not Expected:** suitable habitat not present
Little mouestail *Myosurus minimus* var. *apus*	FSC	--	1B	Vernal pools	March-June	**Not Expected:** suitable habitat not present
Spreading navarretia *Navarretia fossalis*	FT	--	1B	Meadows, vernal pools	April-June	**Not Expected:** suitable habitat not present
Smooth tarplant *Centromadia pungens* ssp. *laevis*	FSC	--	1B	Alkaline grasslands, meadows, playas, scrub habitats	April-September	**Not Expected:** suitable habitat not present
Paniculate tarplant *Deinandra paniculata*	--	--	4	Coastal scrub, valley and foothill grassland; usually vernally mesic	April-November	**Not Expected:** suitable habitat not present
Slender-horned spineflower *Dodecahema leptoceras*	FE	CE	1B	Chaparral, alluvial fan sage scrub; terraces and washes	April-June	**Not Expected:** suitable habitat not present
Graceful tarplant *Holocarpha virgata ssp. elongata*	FSC	--	4	Woodlands, grasslands, scrub habitats	August-November	**Not Expected:** suitable habitat not present
Southern tarplant *Centromadia parryi* ssp. *australis*	--	--	1B	Marshes and swamp margins; valley and foothill grasslands; vernal pools	May-November	**Not Expected:** suitable habitat not present
San Diego ambrosia *Ambrosia pumila*	FPE	--	1B	Chaparral, coastal scrub, grasslands, vernal pools with sandy loam or clay soils (20-415M)	May-September	**Not Expected:** suitable habitat not present
Johnston's rock cress *Arabis johnstoni*	--	--	1B	Chaparral, lower montane coniferous forest; often on eroded clay	February-June	**Not Expected:** suitable habitat not present on site; known from fewer than 10 occurrences in the southern San Jacinto Mountains
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	--	--	1B	Coastal bluff scrub, coastal scrub/ alkaline; 10-200 meters in elevation	April-October	**Not Expected:** suitable habitat not present
Nevin's barberry *Berberis nevinii*	FE	SE	1B	Chaparral, cismontane woodland, coastal scrub, riparian scrub/ sandy or gravelly soils	March-April	**Not Expected:** suitable habitat not present on site; fewer than 1,000 plants likely remain

Table 1-continued

Special-Status Plant Species Known from the Site Vicinity[1]

Scientific and Common Name	Status			Habitat Requirements	Flowering Period	Occurrence Potential
	Federal	State	CNPS			
Munz's mariposa lily *Calochortus palmeri* var. *munzii*	--	--	1B	Chaparral, lower montane coniferous forest	June-July	**Not Expected:** suitable habitat not present on site; known from only a few locations in the San Jacinto Mountains
Vail Lake ceanothus *Ceanothus ophiochilus*	FE	SE	1B	Chaparral (gabbroic or pyroxenite-rich outcrops)	February-March	**Not Expected:** suitable habitat not present on site; known from only three occurrences near Vail Lake
Many-stemmed dudleya *Dudleya multicaulis*	--	--	1B	Chaparral, coastal scrub, valley and foothill grassland/ often clay soils	April-July	**Not Expected:** suitable habitat not present
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	FE	SE	1B	Coastal scrub (alluvial fan)	June-September	**Not Expected:** suitable habitat not present on site; outside species known range; known only from Santa Ana River
San Jacinto Mountains bedstraw *Galium angustifolium* ssp. *jacinticum*	--	--	1B	Lower montane coniferous forest	June-August	**Not Expected:** suitable habitat not present
Heart-leaved pitcher sage *Lepechinia cardiophylla*	--	--	1B	Closed cone coniferous forest, chaparral, cismontane woodland	April-July	**Not Expected:** suitable habitat not present
San Miguel savory *Satureja chandleri*	--	--	1B	Chaparral, cismontane woodland, coastal scrub, riparian woodland, grasslands/ rocky, gabbroic or metavolcanic soils	March-July	**Not Expected:** suitable habitat not present
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	--	--	2	Meadows and seeps, marshes and swamps, riparian scrub, vernal pools/ alkaline soils	May-September	**Not Expected:** suitable habitat not present
Brand's phacelia *Phacelia stellaris*	--	--	1B	Coastal dunes, coastal scrub	March-June	**Not Expected:** suitable habitat not present; known from fewer than five occurrences
Additional Potentially Occurring Species						
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	FSC	--	1B	Chaparral, coastal scrub, grasslands; often associated with dry, rocky, open slopes	May-July	**Not Expected:** suitable habitat not present
Plummer's mariposa lily *Calochortus plummerae*	FSC	--	1B	Chaparral, coastal scrub, grasslands; often associated with granitic soils	May-July	**Not Expected:** suitable habitat not present
South Coast saltscale *Atriplex pacifica*	FSC	--	1B	Coastal bluff scrub, playas, chenopod scrub	March-October	**Not Expected:** suitable habitat not present
Coulter's saltbush *Atriplex coulteri*	--	--	1B	Coastal bluff scrub, coastal scrub, valley/foothill grasslands; alkaline and clay soils	March-October	**Not Expected:** suitable habitat not present

Table 1-continued

Special-Status Plant Species Known from the Site Vicinity[1]

Scientific and Common Name	Status			Habitat Requirements	Flowering Period	Occurrence Potential
	Federal	State	CNPS			
Parry's spineflower *Chorizanthe parryi* ssp. *parryi*	FSC	--	3	Chaparral and coastal scrub; associated with sandy or rocky openings.	April-June	**Not Expected:** suitable habitat not present
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	FSC	--	1B	Chaparral, sage scrub, grasslands, often with clay soils	April-July	**Not Expected:** suitable habitat not present
California spineflower *Mucronea californica*	--	--	4	Chaparral, cismontane woodland, coastal dunes, coastal scrub, grasslands with sandy soils	March-August	**Not Expected:** suitable habitat not present
Palmer's grapplinghook *Harpagonella palmeri*	FSC	--	2	Chaparral, grasslands, sage scrub with clay soils	March-April	**Not Expected:** suitable habitat not present
Round-leaved filaree *Erodium macrophyllum*	--	--	2	Cismontane woodland, valley and foothill grassland with clay soils	March-May	**Not Expected:** suitable habitat not present
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	--	--	1B	Chaparral and coastal scrub; dry soils	January-July	**Not Expected:** suitable habitat not present
California muhly *Muhlenbergia californica*	--	--	4	Chaparral, coastal scrub, lower montane coniferous forest; moist conditions	July-September	**Not Expected:** suitable habitat not present
Chaparral sand verbena *Abronia villosa* var. aurita	--	--	1B	Chaparral, coastal scrub with sandy soils	January-August	**Not Expected:** suitable habitat not present
Salt spring checkerbloom *Sidalcea neomexicana*	--	--	2	Chaparral, coastal scrub, lower montane coniferous forest; moist conditions	March-June	**Not Expected:** suitable habitat not present
Vernal barley *Hordeum intercedans*	--	--	3	Coastal dunes, coastal scrub, grasslands (saline flats and depressions)	March-June	**Not Expected:** suitable habitat not present
Southern California black walnut *Juglans californica* var. *californica*	--	--	4	Chaparral, cismontane woodland, coastal sage scrub	March-May	**Not Expected:** would likely have been detected if present
Tecate cypress *Cupressus forbesii*	--	--	1B	Closed-cone coniferous forest; chaparral	Evergreen	**Not Expected:** suitable habitat not present

TABLE 1 KEY:

[1] Based on review of CNDDB (2007), CNPS online databases, and other pertinent literature sources.

Status:

Federal
- FE: Federally Endangered
- FT: Federally Threatened Species
- FPE: Federally Proposed Endangered
- FPT: Federally Proposed Threatened
- FC: Federal Candidate Species
- FSC: Federal Species of Concern

State
- CE: State Endangered
- CT: State Threatened
- CR: State Rare

CNPS
- List 1A: Plants presumed extinct in California.
- List 1B: Plants rare and endangered in California and elsewhere
- List 2: Plants rare and endangered in California, but more common elsewhere
- List 3: Taxa about which more information is needed
- List 4: Plants of limited distribution

Table 2

Special-Status Wildlife Species Known from the Site Vicinity[1]

Common Name *Scientific Name*	Status Federal	 State	Habitat Requirements	Occurrence Potential
INVERTEBRATES				
Delhi sands flower-loving fly *Rhaphiomidas terminatus abdominalis*	FE	--	Delhi soils with sparse vegetation	**Not Expected:** suitable habitat not present
FISH				
Arroyo chub *Gila orcutti*	FSC	CSC	Slow moving or backwater sections of streams with sandy or mud substrates	**Not Expected:** suitable habitat not present
Santa Ana sucker *Catostomus santaanae*	FSC	CSC	Small to medium sized perennial streams	**Not Expected:** suitable habitat not present
AMPHIBIANS AND REPTILES				
Arroyo toad *Bufo californicus*	FE	CSC	Rivers with sandy banks and loose gravelly areas, open canopy	**Not Expected:** suitable habitat not present
Western spadefoot toad *Scaphiopus hammondii*	--	CSC	Relatively open grasslands, scrublands, and woodlands with fine, loose soil	**Not Expected:** suitable habitat not present
San Diego horned lizard *Phrynosoma coronatum blainvillii*	FSC	CSC	Relatively open grasslands, scrublands, and woodlands with fine, loose soil	**Not Expected:** suitable habitat not present
Orange-throated whiptail *Cnemidophorus hyperythrus beldingi*	FSC	CSC	Relatively open grasslands, scrublands, and woodlands with fine, loose soil	**Not Expected:** suitable habitat not present
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	--	♦	Sage scrub, chaparral, grassland	**Not Expected:** suitable habitat not present
Northern red diamond rattlesnake *Crotalus ruber ruber*	--	CSC	Sage scrub, chaparral, grasslands	**Not Expected:** suitable habitat not present
Southwestern pond turtle *Clemmys marmorata pallida*	--	CSC	Permanent or nearly permanent bodies of water with basking sites	**Not Expected:** suitable habitat not present
San Bernardino ringneck snake *Diadophis punctatus modestus*	FSC	--	Woodlands, shrublands, mesic areas with wood/rock debris	**Not Expected:** suitable habitat not present
San Diego mountain kingsnake *Lampropeltis zonata pulchra*	FSC	CSC	Forests and shrublands	**Not Expected:** suitable habitat not present
Coast patch-nosed snake *Salvadora hexalepis virgultea*	FSC	CSC	Shrublands with low structure and minimum density; friable soils	**Not Expected:** suitable habitat not present
Rosy boa *Lichanura trivirgata*	FSC	--	Desert and chaparral with moderate to dense vegetation and rocky cover	**Not Expected:** suitable habitat not present
BIRDS				
White-tailed kite (nesting) *Elanus leucurus*	MNBMC	CFP	Open vegetation and uses dense woodlands for cover	**Moderate Potential:** may forage over vacant lands adjacent to alignments; no suitable nesting habitat present
Northern harrier (nesting) *Circus cyaneus*	--	CSC	Coastal salt marsh, freshwater marsh, grasslands, and agricultural fields	**Moderate Potential:** may forage over vacant lands adjacent to alignments; no suitable nesting habitat present

Table 2-continued

Special-Status Wildlife Species Known from the Site Vicinity[1]

Common Name *Scientific Name*	Status Federal	Status State	Habitat Requirements	Occurrence Potential
Swainson's hawk *Buteo swainsoni*	--	CT	Breeds in stands with few trees such as juniper, riparian areas. Forages over grasslands, agricultural fields supporting rodent populations.	**Low Potential:** may occasionally forage over the adjacent vacant areas during migration; no suitable nesting habitat present
Ferruginous hawk (wintering) *Buteo regalis*	FSC, MNBMC	CSC	Grasslands, agricultural fields, and open scrublands	**Moderate Potential:** possibly forages over adjacent vacant areas as seasonal migrant; does not breed in area
Bald eagle *Haliaeetus leucocephalus*	FT	CE	Ocean shore, lake margins & rivers for both nesting and wintering	**Not Expected:** suitable habitat not present
Golden eagle (nesting & wintering) *Aquila chrysaetos*	--	CSC, CFP	Mountains, deserts, and open country	**Low Potential:** may occasionally forage over adjacent vacant areas; no suitable nesting habitat present
Sharp-shinned hawk (nesting) *Accipiter striatus*	--	CSC	Woodlands; forages over chaparral and scrublands	**Low Potential:** marginally suitable foraging habitat present in adjacent vacant areas
Cooper's hawk *Accipiter cooperii*	--	CSC	Dense stands of live oaks and riparian woodlands	**Moderate Potential:** potentially suitable foraging habitat present in adjacent vacant areas
Prairie falcon (nesting) *Falco mexicanus*	--	CSC	Grasslands, savannas, rangeland, agricultural fields, and desert scrub; requires sheltered cliff faces for shelter	**Low Potential:** may forage over adjacent vacant areas in winter; no suitable nesting habitat present
Merlin (wintering) *Falco columbarius*	--	CSC	Open habitats	**Not Expected:** suitable habitat not present
Burrowing owl (burrow sites) *Athene cunicularia*	FSC, MNBMC	CSC	Grasslands and open scrub	**Moderate Potential:** some potential habitat present in adjacent vacant areas; known to occur in certain disturbed situations
Long-eared owl *Asio otus*	--	CSC	Riparian bottomlands to tall willows and cottonwoods; oaks along stream courses	**Not Expected:** suitable habitat not present
Western snowy plover *Charadrius alexandrinus nivosus*	FT (pacific coastal population)	CSC	Sandy beaches, salt pond levees and shores, gravelly or friable soils for nesting	**Not Expected:** suitable habitat not present
Mountain plover (wintering) *Charadrius montanus*	PT	CSC	Agricultural areas, fallow fields, grasslands, prairies	**Not Expected:** suitable habitat not present
Least Bell's vireo *Vireo bellii pusillus*	FE	CE	Willow dominated riparian habitat with dense understory	**Not Expected:** suitable habitat not present
Southwestern willow flycatcher *Empidonax traillii extimus*	FE	--	Riparian habitats along rivers, streams, or other wetlands usually with standing water	**Not Expected:** suitable habitat not present
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	--	CE	Riparian forest nester, lower flood-bottoms of larger river systems	**Not Expected:** suitable habitat not present

Table 2-continued

Special-Status Wildlife Species Known from the Site Vicinity[1]

Common Name *Scientific Name*	Status Federal	Status State	Habitat Requirements	Occurrence Potential
Yellow warbler *Dendroica petechia*	--	CSC	Riparian thickets and woodlands	**Not Expected:** suitable habitat not present
Yellow-breasted chat *Icteria virens*	--	CSC	Riparian thickets and riparian woodlands with dense understory	**Not Expected:** suitable habitat not present
California horned lark *Eremophila alpestris actia*	--	CSC	Grasslands, disturbed areas, agriculture fields, and beach areas	**Moderate Potential:** potentially suitable habitat present in vacant areas adjacent to the alignment
California coastal gnatcatcher *Polioptila californica californica*	FT	CSC	Coastal sage scrub in areas of flat or gently sloping terrain	**Not Expected:** suitable habitat not present
Loggerhead shrike *Lanius ludovicianus*	--	CSC	Grasslands with scattered shrubs, trees, fences or other perches	**Moderate Potential:** potentially suitable foraging habitat present in adjacent vacant areas
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	--	CSC	Desert succulent scrub, desert wash, scrub and chaparral habitats with cactus	**Not Expected:** suitable habitat not present
S. California rufous-crowned sparrow *Aimophila ruficeps canescens*	--	CSC	Coastal sage scrub, grasslands	**Not Expected:** suitable habitat not present
Grasshopper sparrow *Ammodramus savannarum*	MNBMC	--	Coastal sage scrub, grassland	**Not Expected:** suitable habitat not present
Bell's sage sparrow *Amphispiza belli belli*	MNBMC	CSC	Coastal sage scrub, chaparral	**Not Expected:** suitable habitat not present
Tricolored blackbird (wintering) *Agelaius tricolor*	--	CSC	Marshes for nesting; forages in fields and scrub habitats	**Not Expected:** suitable habitat not present
MAMMALS				
Long-eared myotis *Myotis evotis*	FSC	--	Found in nearly all brush, woodland, and forest habitats from sea level to at least 9,000 ft.	**Low Potential:** limited foraging and no roosting habitat present
Small-footed myotis *Myotis ciliolabrum*	FSC	--	Arid wooded and brushy uplands near water from sea level to at least 9,000 ft.	**Low Potential:** limited foraging and no roosting habitat present
Fringed myotis *Myotis thysanodes*	FSC	--	Utilizes open habitats and early successional stages, streams, lakes, and ponds from sea level to at least 9,350 ft.	**Low Potential:** limited foraging and no roosting habitat present
Long-legged myotis *Myotis volans*	FSC	--	Found in nearly all brush, woodland, and forested habitats from sea level to around 9,000 ft.; a bat primarily of coniferous forests	**Low Potential:** limited foraging and no roosting habitat present
Yuma myotis *Myotis yumanensis*	FSC	CSC	Found in a variety of habitats; optimal habitats are open forests and woodlands with sources of water over within to feed	**Low Potential:** limited foraging and no roosting habitat present

Table 2-continued

Special-Status Wildlife Species Known from the Site Vicinity[1]

Common Name *Scientific Name*	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
Spotted bat *Euderma maculata*	FSC	CSC	Deserts, scrublands, chaparral, and coniferous woodlands; highly associated with prominent rock features	**Low Potential:** limited foraging and no roosting habitat present
Pale big-eared bat *Corynorhinus townsendii pallescens*	FSC (Full Species)	CSC (Full Species)	Utilizes a variety of communities, including conifer and oak woodlands and forests, arid grasslands and deserts, and high-elevation forests and meadows	**Low Potential:** limited foraging and no roosting habitat present
Pallid bat *Antrozous pallidus*	--	CSC	Arid habitats, including grasslands, shrublands, woodlands, and forests; prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging	**Low Potential:** limited foraging and no roosting habitat present
Western mastiff bat *Eumops perotis*	FSC (ssp. *californicus*)	CSC	Primarily arid lowlands and coastal basins with rugged, rocky terrain, along with suitable crevices for day-roosts; primarily a cliff-dweller	**Low Potential:** limited foraging habitat present; known to occasionally occur in buildings under certain circumstances
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	--	CSC	Grasslands, shrublands	**Moderate Potential:** potentially suitable habitat present in adjacent vacant areas
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	--	CSC	Open shrublands, sandy areas	**Not Expected:** suitable habitat not present
Dulzura pocket mouse *Chaetodipus californicus frmoralis*	--	CSC	Coastal scrub, chaparral, grassland	**Not Expected:** suitable habitat not present
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	FSC	CSC	Grasslands, open sage scrub	**Not Expected:** suitable habitat not present
San Bernardino kangaroo rat *Dipodomys merriami parvus*	FE	CSC	Coastal scrub, chaparral, grassland	**Not Expected:** suitable habitat not present
Stephens' kangaroo rat *Dipodomys stephensi*	FE	CE	Grasslands, open sage scrub	**Not Expected:** suitable habitat not present
San Diego desert woodrat *Neotoma lepida intermedia*	--	CSC	Moderate to dense sage scrub; rocky outcrops	**Not Expected:** suitable habitat not present
Southern grasshopper mouse *Onychomys torridus ramona*	FSC	CSC	Alkali desert scrub, desert riparian areas and a variety of other desert habitats; succulent scrub, wash, riparian, mixed chaparral	**Not Expected:** suitable habitat not present
American badger *Taxidea taxus*	--	♦	Drier open stages of shrub, forest, and herbaceous habitats with friable soils	**Not Expected:** suitable habitat not present

Table 2-continued

Special-Status Wildlife Species Known from the Site Vicinity[1]

TABLE 2 KEY:

[1] Based on review of CNDDB (2007) and other pertinent literature sources.
(nesting) =For most taxa the CNDDB is interested in sightings for the presence of resident populations. For some species (primarily birds), the CNDDB only tracks certain parts of the species range or life history (e.g., nesting locations). The area or life stage is indicated in parenthesis after the common name.

Status:

Federal

FE:	Federally Endangered
FT:	Federally Threatened
FPE:	Federally Proposed Endangered
FPT:	Federally Proposed Threatened
FC:	Federal Candidate for listing as threatened or endangered
FSC:	Federal Species of Concern-*not formally protected under law*
MNBMC:	Migratory Nongame Birds of Management Concern (not shown for federally listed or proposed threatened or endangered species)

State

CE:	California Endangered
CT:	California Threatened
CCE:	California Candidate (Endangered)
CCT:	California Candidate (Threatened)
CFP:	California Fully Protected
CP:	California Protected
CSC:	California Special Concern
♦ :	California Special Animal (species with no official federal or state status, but are included on CDFG's Special Animals list)

Jurisdictional Overview

The USACOE, RWQCB, and CDFG potentially consider drainages, streambed, and creeks jurisdictional. A formal delineation for either state or federal wetland jurisdiction was not conducted for this analysis. However, on-site resources were generally evaluated for their potential to be considered jurisdictional during the field survey effort. Several unnamed blue-line drainages bisect the site per review of the Riverside East USGS 7.5-minute quadrangle map. However, all but one concrete-lined channel no longer appear to be present. A large detention basin located off-site (intersection of Cottonwood Avenue and Day Street) appears to have long-since terminated flows in the southern portion of the study area. Another basin is located north of Eucalyptus Avenue. The Eucalyptus basin occurs near the mapped blue-line at the northern part of the concrete-lined box channel. The concrete drainage eventually flows into Sycamore Canyon Creek as it conveys flows toward a concrete culvert beneath the Old 215 Frontage and Interstate 215. Riparian vegetation (off site) is present on the west side of the Old 215 Frontage Road and Interstate 215. Sycamore Canyon Creek ultimately flows northwestward to the Canyon Crest Golf Course and flood control basin. From this point, water flows through the City of Riverside to the Santa Ana River via Tequesquite Arroyo.

The concrete channel may qualify as ***waters of the U.S. and streambeds*** because of its downstream connection. Urban development in the vicinity has resulted in conveyance of storm runoff from paved surfaces with underground pipes and open channels to convey flow. Nuisance flows from the urbanized watershed provide a perennial source for the drainage. Water likely trickles through the channel in low-flow periods and experiences some flushing during and shortly after storm events. Routine maintenance to remove vegetation and sediment buildup may be periodically conducted to ensure proper function. Because this feature is an artificial channel created from upland areas to convey urban runoff, the USACE and RWQCB may or may not choose to regulate impacts to the channel (if any). CDFG may regulate concrete-lined channels and storm drain features if they support habitat for wildlife and/or discharge into natural waterbodies, such as streams or lakes. Currently no riparian habitat is present within the drainage. Permitting from regulatory agencies (e.g., CDFG, USACE, RWQCB) may be required if impacts to the drainage were proposed.

MSHCP objectives reviewed for consistency during the survey effort included ***Riparian/Riverine Areas and Vernal Pools*** (Section 6.1.2). No evidence of any natural stream courses, riparian areas, or vernal pools was recorded on site. The concrete box channel located in the northwesterm portion of the site was wet at the time of the survey but does not support emergent vegetation (no trees or shrubs). Section 6.1.2 of the MSHCP (Survey, Mapping, and Documentation Requirements) define Riparian/Riverine Areas, Vernal Pools, and Fairy Shrimp habitat. The MSHCP states "With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics which are artificially created are not included in these definitions". The site does not support habitat suitable for species associated with 6.1.2 habitat types.

Wildlife Movement Corridors

The proposed project site is surrounded by existing development, and therefore, it is highly unlikely that the subject site occupies an important location relative to regional wildlife corridors. As such, project implementation would not be expected to have any substantial effect on local or regional wildlife movement.

Discussion

The level of constraint that a sensitive biological resource would pose to potential development typically depends on the following criteria: (1) the relative value of that resource; (2) the amount or degree of impact to the resource; (3) whether or not impacts to the resource would be in violation of state and/or federal regulations or laws; (4) whether or not impacts to the resource would require permitting by

resource agencies; and (5) the degree to which impacts on the resource would otherwise be considered "significant" under CEQA.

Areas of the site proposed for direct impacts (i.e., paved roads and dirt road shoulders) have a low biological constraint rating based on the degree in which expected impacts to on-site resources would meet the criteria discussed above. This designation is due to the high level of site disturbances associated with roadways, resulting in low biological diversity (i.e., replacement and exclusion of most native species with just a few non-native species) and an overall low potential for special-status species to utilize or reside within areas proposed for development due to absence of suitable habitat. Although no native habitat types are present, and no federal- or state-listed species are expected to occur due to absence of suitable habitat within the alignment, the potential presence of several special-status species (e.g., those with a moderate occurrence potential adjacent to the site) may impose some degree of constraint to development depending upon the nature of impacts on these resources, as well as on the particular species and seasonal timing of construction activities. During permitting procedures, measures to avoid or further reduce potential project-related impacts to sensitive biological resources may be necessary as part of project approval.

No ***special-status plant species*** are expected within the alignments due to lack of suitable habitat. Long-standing anthropogenic disturbances have likely altered soil chemistry and other substrate characteristics along road shoulders such that on-site soils are not capable of supporting sensitive plant species known from the site vicinity. Site development would not eliminate significant amounts of habitat for potentially occurring special-status plant species, reduce population size of sensitive plant species below self-sustaining levels on a local or regional basis, nor constitute a CEQA-significant impact to any special-status plant species.

No ***special-status wildlife species*** are expected within the alignments due to lack of suitable habitat. Those species that have at least a moderate occurrence potential to occur adjacent to the site were all deemed by the Service to be too widespread and common to warrant listing as threatened or endangered, and as such, were removed from formal sensitive species status. At present, they have no state or federal listing status. They are included herein for discussion since they were formerly considered for listing, and because they are relatively common throughout the region. The loss of highly disturbed roadway habitat would not constitute a CEQA-significant impact to any of these species, nor amount to a measurable impact within southern California or their overall range.

Development of the proposed project would not remove habitat potentially suitable for foraging by ***sensitive raptors*** during winter or migration periods. Removal of disturbed roadway areas would not constitute CEQA-significant adverse impacts to any of the affected species locally or regionally.

No direct ***burrowing owl*** observations or sign (pellets, fecal material, or prey remains) were recorded during the November/December 2008 MSHCP WBO habitat assessment. Birds observed generally included those species that are accustomed to nearby human presence. No nesting refugia (e.g., ground squirrel burrows) for WBO was recorded directly along the alignment due to substrate disturbances from recurring anthropogenic activities. In addition, no ground squirrels (an important indicator species) were observed directly along the alignment during the survey effort. No suitable WBO nesting or foraging habitat is currently present within the roadway and shoulder areas. However, suitable habitat is present in some vacant areas adjacent to the alignment.

Although the WBO and many other ***native bird species*** are not protected by state or federal/state endangered species acts, most are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and California Department of Fish and Game (CDFG) Code sections 3503, 3503.5, and 3800 which prohibits take, possession, or destruction of birds, their nests or eggs. If it were later determined that active nests of any of special-status or native species would be lost or indirectly impacted as a result of site-preparation, it could result in adverse impacts and would be in conflict with these regulations. Owl survival can be adversely affected by disturbance (e.g., foraging habitat loss) even when

impacts to individual birds and nest/burrows are avoided (CDFG 1995). Per CDFG guidelines, impacts to WBO should be considered to occur if there is (1) disturbance within 50 meters (±160 feet) of a burrow, destruction of natural or artificial burrows, or destruction and/or degradation of foraging habitat within 100 meters (±320 feet) of a burrow. It is important to minimize disturbance near occupied burrows during all seasons.

In order to avoid violation of the MBTA or CDFG Code sections, guidelines suggest that project-related disturbances at active nesting territories be reduced or eliminated during the nesting cycle (February 1 to August 31). If construction-related activities involving heavy equipment are proposed during the avian breeding season, a pre-activity survey conducted in areas potentially affected (directly or indirectly) by project implementation is recommended prior to development to determine if active nests of protected species are present in the construction zone or within an appropriate buffer area as part of project approval. Preconstruction surveys within suitable habitat should be conducted within 30 days of construction activities to determine if active nests protected by the MBTA and CDFG are present in the construction zone for CEQA compliance. If ground-disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site should be resurveyed if suitable habitat is present. Results of a pre-activity nesting survey would determine the appropriate measures (if necessary) to reduce potentially adverse impacts to those species that potentially breed in the area.

If active nests are located, no grading or heavy equipment activity should take place within at least 300 feet of an active raptor nest and 100 feet of most common songbird nests (per the 1995 CDFG staff report regarding the WBO, if active nests are located, no grading or heavy equipment activity should take place within at least 250 feet of an active nest during the breeding season, and 160 feet during the non-breeding season). When active nests are no longer present during subsequent site surveys, construction activities would not impact native species protected under the MBTA and CDFG code during the nesting cycle. Development activities performed well outside of the avian breeding season (September 1 to January 31) would generally eliminate the need to conduct pre-activity nesting surveys for most native species known from the site vicinity, and likely ensure that there were no constraints to construction relative to the MBTA/CDFG code. Compliance with the MBTA/CDFG codes would be necessary prior to development, however no special permit or approval is typically required in most instances.

Conclusion

Results of the 2008 general biological resource evaluation indicate that habitats located within the proposed Edgemont Water Master Plan alignments represent low biological resource values/constraints based on the degree in which expected impacts to on-site resources would meet the criteria discussed above and the context in which they occur (e.g., highly disturbed site conditions present in a predominantly degraded environment). This designation is primarily due to the high level of site disturbances associated with long-standing urban and associated infrastructure development (roads) resulting in low biological diversity (i.e., replacement and exclusion of most native species with just a few non-native species), absence of special-status plant communities, and low potential for special-status species to utilize or reside within areas proposed for direct impacts.

Construction activities would not be expected to directly impact federal- or state-listed threatened or endangered species, jeopardize the continued existence of listed species (or special-status species), nor directly impact designated critical habitat. Site development would also not be expected to substantially alter the diversity of plants or wildlife in the area because of current degraded site conditions. The mostly temporary loss of degraded habitats would not be expected to substantially affect special-status resources or cause a population of plant or wildlife species to drop below self-sustaining levels. The project would also be considered consistent with MSHCP conservation objectives for the survey area. Accordingly, preliminary survey results suggest that no significant impacts to special-status biological resources are expected as a result of project-related activities.

During permitting procedures, certain measures (i.e., nesting avian surveys) to avoid or further reduce potential project-related impacts to sensitive biological resources may be required by reviewing agencies as part of project approval.

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I hereby certify that the statements and exhibits furnished herein present the data and information required for this biological survey, and that the facts, statements, and information presented herein are true and correct to the best of my knowledge and belief. If you have any questions regarding the results presented in this report, please don't hesitate to call.

Sincerely,

Ecological Sciences, Inc.

Scott D. Cameron
Principal Biologist

References

American Ornithologists' Union. 1989, 1993. *Thirty-seventh Supplement to the American Ornithologist's Union Checklist of North American Birds, plus supplements.* The Auk, 106: 532-538.

California Burrowing Owl Consortium and The Santa Cruz Predatory Bird Research Group. [online]. Burrowing Owl Consortium Survey Protocol. Available: www2.ucsc.edu/~scpbrg. (2000) May.

California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April 1993. 12 pp.

California Department of Fish and Game. 1995. Staff Report on Burrowing Owl Mitigation. C. F. Raysbrook Interim Director. October 17, 1995. 7 pp.

California Department of Fish and Game. 2003. State and Federally Listed Endangered and Threatened Animals of California. Wildlife and Habitat Data Analysis Branch, California Natural Diversity Data Base. April.

California Department of Fish and Game. 2003. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Wildlife and Habitat Data Analysis Branch, California Natural Diversity Data Base. April.

California Natural Diversity Data Base (CNDDB). 2007. Computer Reports for the Riverside East and surrounding USGS 7.5-minute quadrangle maps.

California Native Plant Society, 2001. *Inventory of Rare and Endangered Plants of California* (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA. x + 388pp.

California Native Plant Society. 2008. CNPS Website Inventory of Rare and Endangered Vascular Plants of California for the Riverside East U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map.

California, State of. 1989. *Fish and Game Code*.

Collins, J.T. 1990. *Standard Common and Scientific Names for North American Amphibians and Reptiles*. Herpetological Circular No. 19. Third Edition. Society for the Study of Amphibians and Reptiles. Lawrence, Kansas.

County of Riverside. 2003. Final Western Riverside County Multiple Species Habitat Conservation Plan. June. Review of information from RCIP website.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Federal Register. 1980. Guidelines for Specification of Disposal Sites for Dredged or Fill Material. 40 CFR Par 230, Volume 45, No. 249. December 24, 1980.

Garrett, K. and J. Dunn. 1981. *Birds of Southern California*, *Status and Distribution*. The Artisan Press, Los Angeles, California. 408 pp.

Grinnell, J., and A. H. Miller. 1944. The Distribution of the Birds of California. In *Pacific Coast Avifauna*. No. 27. Cooper Ornithological Club. Berkeley, California.

References-continued

Hall, E.R. 1981. *The Mammals of North America.* John Wiley and Sons, New York (2 vol.).

Hickman, James C., ed. 1993. *The Jepson Manual.* University of California Press, Berkeley and Los Angeles, California. 1400 pp.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* California Department of Fish and Game Report. 156 pp.

Kleinfelder. 2003. Phase I Environmental Site Assessment for 40-acre Site. April 2.

Munz, Philip A. 1974. *A Flora of Southern California.* University of California Press, Berkeley, California. 1086 pp.

Riverside County MSHCP. 2003. Volume II-B, Species Accounts, Plants. Riverside County Integrated Project. June.

Riverside County RCIP. 2003. Final Western Riverside County Multiple Species Habitat Conservation Plan. June. Review of information from RCIP website.

Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians, Second Edition.* Peterson field guide series, Houghton Mifflin Co. 336 pp.

U.S. Department of Agriculture, Soil Conservation Service. 1971. *Soil Survey for Western Riverside Area, California*. U.S. Government Printing Office, Washington, D.C.

U.S. Fish and Wildlife Service. 1996 (Feb. 28). *Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species*. Volume 61, Number 40. Federal Register 50 CFR Part 17. U.S. Department of the Interior. Washington, D.C.

U.S. Department of the Interior. 1999. *Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates or Proposed for Listing as Endangered or Threatened; Annual Notice of Findings on Recycled Petitions; Annual Description of Progress and Listing Actions; Proposed Rule*, Federal Register, Volume 64, Number 205. 50 CFR Part 17, October 25.

Zarn, M. 1974. Burrowing owl. U.S. Department of Interior, Bureau of Land Management. Technical Note T-N 250. Denver, Colorado. 25 pp. in California Department of Fish and Game (1995), Staff Report on Burrowing Owl Mitigation. C. F. Raysbrook Interim Director. October 17, 1995. 7 pp.

Zeiner, D. C., W. F. Laudenslayer, Jr., and K. E. Mayer. 1988. *California's Wildlife. Vol. I. Amphibians and Reptiles.* California Department of Fish and Game, Sacramento.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1990. *California's Wildlife. Vol. II. Birds.* California Department of Fish and Game, Sacramento.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1990. *California's Wildlife. Vol. III. Mammals.* California Department of Fish and Game, Sacramento.

Appendix A
Site Photographs

View to north from tank, booster, well site

View to south along access road to tank, booster, well site

View to south along Day Street

View to west along Day Street

View to south along Sherman Avenue

View to west along Bay Avenue

View to south along Edgemont Street

View to northeast along northern Edgemont Street

View to northeast of concrete drainage channel along Edgemont Street

View to east on Ella Avenue

View to south along Arvonna Street

View to northeast from Old 215 Frontage Road

Appendix B
Riverside County Biological Reporting Forms

BIOLOGICAL REPORT SUMMARY SHEET

(Submit two copies to the County)

Applicant Name: Albert A. Webb Associates for the City of Moreno Valley
Assessor's Parcel Number (APN): 430-acre Moreno Valley Edgemont Water Master Plan
APN cont. :
Site Location: Section: 10/11 **Township:** 3 South **Range:** 4 West
Site Address:
Related Case Number(s): **PDB Number:**

CHECK SPECIES SURVEYED FOR	SPECIES or ENVIRONMENTAL ISSUE OF CONCERN	(Circle Yes, No or N/A regarding species findings on the referenced site)		
	Arroyo Southwestern Toad	Yes	No	(N/A)
X	Blueline Stream(s) (concrete lined channel)	(Yes)	No	N/A
	Coachella Valley Fringed-Toed Lizard	Yes	No	(N/A)
	Coastal California Gnatcatcher	Yes	No	(N/A)
X	Coastal Safe Scrub	Yes	(No)	N/A
	Delhi Sands Flower-Loving Fly	Yes	No	(N/A)
	Desert Pupfish	Yes	No	(N/A)
	Desert Slender Salamander	Yes	No	(N/A)
	Desert Tortoise	Yes	No	(N/A)
	Flat-Tailed Horned Lizard	Yes	No	(N/A)
	Least Bell's Vireo	Yes	No	(N/A)
X	Oak Woodlands	Yes	(No)	N/A
	Quino Checkerspot Butterfly	Yes	No	(N/A)
	Riverside Fairy Shrimp	Yes	No	(N/A)
	Santa Ana River Woolystar	Yes	No	(N/A)
	San Bernardino Kangaroo Rat	Yes	No	(N/A)
	Slender Horned Spineflower	Yes	No	(N/A)
	Stephen's Kangaroo Rat	Yes	No	(N/A)
X	Vernal Pools	Yes	(No)	N/A
X	Wetlands (concrete lined channel)	Yes	(No)	N/A

CHECK SPECIES SURVEYED FOR	SPECIES or ENVIRONMENTAL ISSUE OF CONCERN	(Circle Yes, No or N/A regarding species findings on the referenced site)		
X	Other Burrowing Owl Habitat	Yes	(No)	N/A
X	Other 6.1.2 Habitat	Yes	(No)	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A
	Other	Yes	No	N/A

Species of concern shall be any unique, rare, endangered, or threatened species. It shall include species used to delineate wetlands and riparian corridors. It shall also include any hosts, perching, or food plants used by any animals listed as rare, endangered, threatened or candidate species by either State, or Federal regulations, or for Riverside County as listed by the California Department of Fish and Game Natural Diversity Data Base (NDDB).

I declare under penalty of perjury that the information provided on this summary sheet is in accordance with the information provided in the biological report.

Ecological Sciences, Inc. January 2, 2009

Signature and Company Name — Report Date

10(a) Permit Number (if applicable) — Permit Expiration Date

County Use Only

Received by: _____ **Date:** _____

PD-B# _____

LEVEL OF SIGNIFICANCE CHECKLIST
For Biological Resources
(Submit Two Copies)

Case Number: _____ **Lot/Parcel No.** _____ **EA Number**_____

Wildlife & Vegetation

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

(Check the level of impact the applies to the following questions)

a) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan?
Participation in MSHCP required

b) Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12)?

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

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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

f) 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?

g) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Source: CGP Fig. VI.36-VI.40

Findings of Fact: No direct observations of sensitive biological resources observed along the proposed alignments in November/December 2008. Site highly degraded at the time of the survey due to long-standing urban uses.

Proposed Mitigation: Conduct pre-activity nesting bird surveys if construction proposed during the nesting cycle

Monitoring Recommended: None unless nesting birds present during construction

Appendix C

Fish and Wildlife Concurrance

Memo to File.

US FWS concurrence

6/29/09 4:00 pm
Received a phone call from Kathleen Pollett of the US FWS regarding the EPA project to the City of Moreno Valley (XP-96972201-3). The US FWS agreed with the determination that the project will have no effect on endangered species. Please note that this is different from EPA's determination in the letter of "not likely to adversely effect threatened or endangered species or their habitat" sent May 29,2009. EPA agrees with US FWS determination. This memo is used as concurrence with Section 7 of the Endangered Species Act.

From Howard Kahan

Appendix D

Historical/Archaeological Resources Survey Report

MANAGEMENT SUMMARY

In November and December 2008, at the request of Albert A. Webb Associates, CRM TECH performed a cultural resources study for an update to the Edgemont Water Master Plan in the City of Moreno Valley, Riverside County, California. The subject of the study includes approximately seven linear miles of pipeline routes lying within the existing rights-of-way of various public roadways in the Edgemont area of the city and a tank, booster, and well site that measures approximately 250x250 feet in size. The entire project area is located generally south of Eucalyptus Avenue, east of the Old 215 Frontage Road, north of Alessandro Boulevard, and west of Elsworth Street, within Sections 3, 10, and 11, T3S R4W, San Bernardino Base Meridian.

The study is part of the environmental review process for the proposed update to the Edgemont Water Master Plan, which calls for the installation of water pipelines ranging in diameter from 8 to 16 inches and the construction of a new water tank, booster, and well. The City of Moreno Valley, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). Since State Revolving Fund will be used for the project, the study is carried out in compliance with the CEQA-Plus procedures, as established by the U.S. Environmental Protection Agency and the State Water Resources Control Board, and in consistency with the requirements of Section 106 of the National Historic Preservation Act.

The purpose of the study is to provide the City of Moreno Valley and any other responsible public agency or agencies with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any historical/archaeological resources that may exist in or around the project area, as mandated by CEQA. In order to identify and evaluate such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical and geomorphologic research, contacted Native American representatives, and carried out a systematic field survey.

The results of the records search indicate that five historic-period buildings, designated as Sites 33-6915 through 33-6919 and built between 1920 and 1947, were previously recorded along the project route. Through further research, including the field survey, it was ascertained that since they are located outside the project boundaries, the proposed project has no potential to affect these buildings, either directly or indirectly. No other potential "historical resources," as defined by CEQA, were encountered during the course of the study. In addition, the subsurface sediments within the project area appear to be relatively low in sensitivity for potentially significant archaeological deposits.

Based on these findings, and pursuant to Calif. PRC §21084.1, CRM TECH recommends to the City of Moreno Valley and other responsible public agency or agencies a conclusion that *no "historical resources" will be affected by the proposed project*. No further cultural resources investigation is recommended for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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INTRODUCTION

In November and December 2008, at the request of Albert A. Webb Associates, CRM TECH performed a cultural resources study for an update to the Edgemont Water Master Plan in the City of Moreno Valley, Riverside County, California (Fig. 1). The subject of the study includes approximately seven linear miles of pipeline routes lying within the existing rights-of-way of various public roadways in the Edgemont area of the city and a tank, booster, and well site that measures approximately 250x250 feet in size. The entire project area is located generally south of Eucalyptus Avenue, east of the Old 215 Frontage Road, north of Alessandro Boulevard, and west of Elsworth Street, within Sections 3, 10, and 11, T3S R4W, San Bernardino Base Meridian (Fig. 2).

The study is part of the environmental review process for the proposed update to the Edgemont Water Master Plan, which calls for the installation of water pipelines ranging in diameter from 8 to 16 inches and the construction of a new water tank, booster, and well. The City of Moreno Valley, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). Since State Revolving Fund will be used for the project, the study is carried out in compliance with the CEQA-Plus procedures, as established by the U.S. Environmental Protection Agency and the State Water Resources Control Board, and in consistency with the requirements of Section 106 of the National Historic Preservation Act (NHPA; 36 CFR 800).

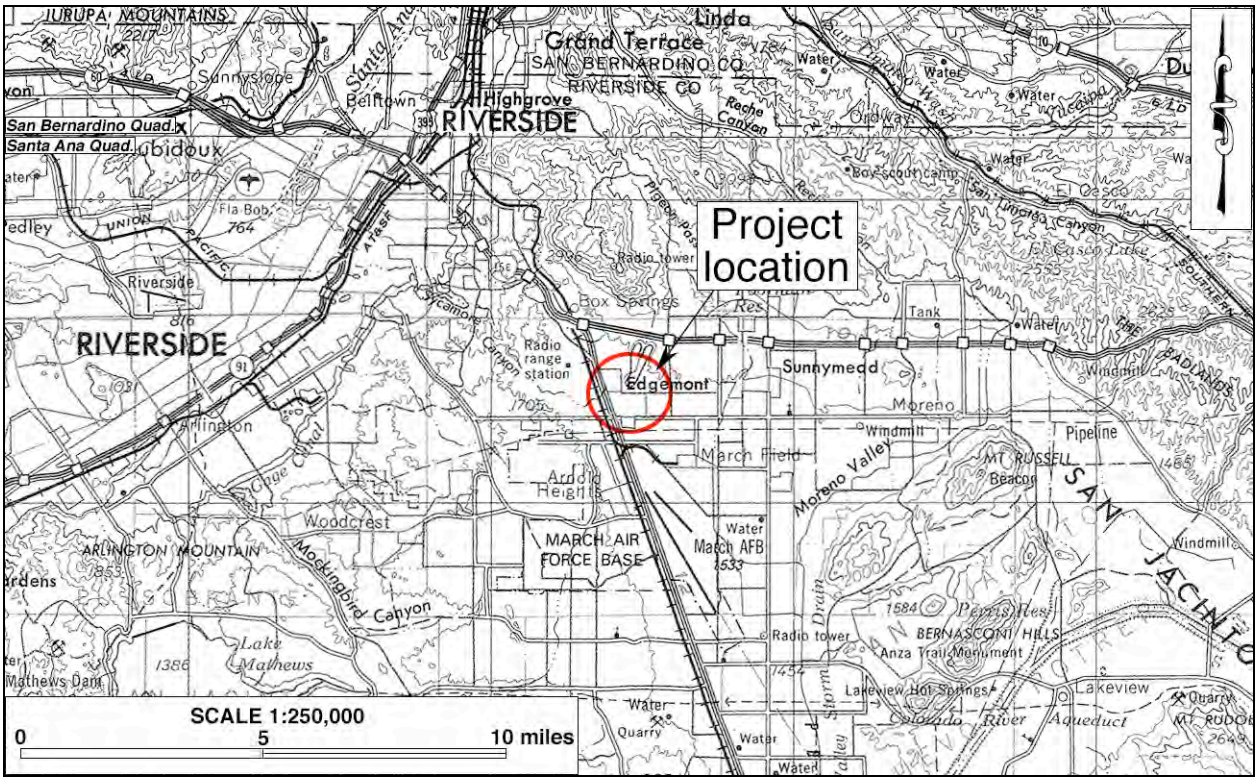

Figure 1. Project vicinity. (Based on USGS San Bernardino and Santa Ana, Calif., 1:250,000 quadrangles [USGS 1969; 1979])

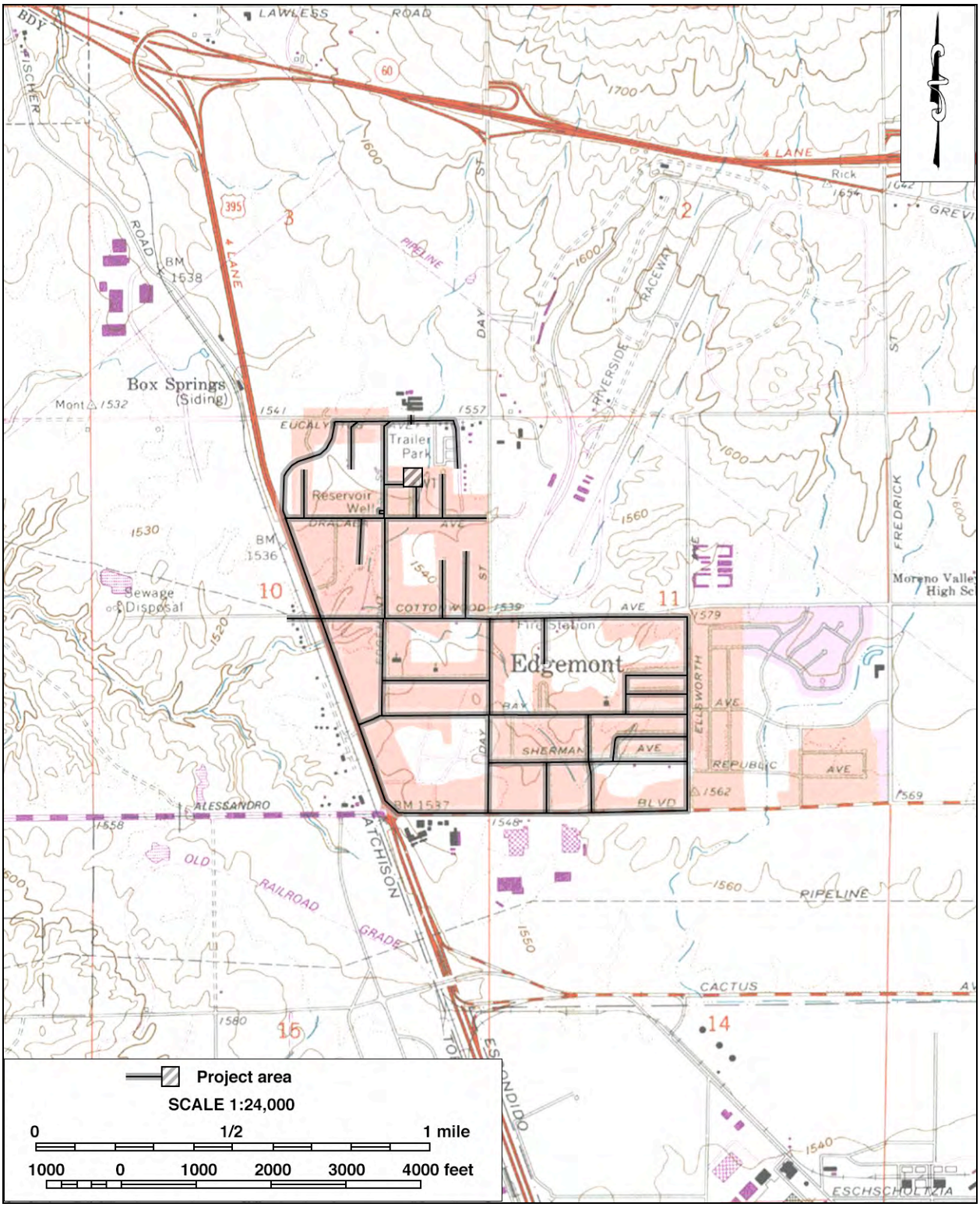

Figure 2. Project area. (Based on USGS Riverside East, Calif., 1:24,000 quadrangle [USGS 1980])

The purpose of the study is to provide the City of Moreno Valley and any other responsible public agency or agencies with the necessary information and analysis to determine whether the project would cause substantial adverse changes to any historical/archaeological resources that may exist in or around the project area, as mandated by CEQA. In order to identify and evaluate such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical and geomorphologic research, contacted Native American representatives, and carried out a systematic field survey. The following report is a complete account of the methods, results, and final conclusion of the study.

SETTING

ENVIRONMENTAL SETTING

Current Natural Setting

The project area is located in the Edgemont neighborhood of the City of Morenoa Valley, near the boundary between the Cities of Moreno Valley and Riverside. The climate and environment of the surrounding area are typical of the southern California inland valleys, featuring an average annual rainfall of less than 12 inches and temperatures that reach over 100 degrees Fahrenheit in summer and near freezing in winter.

The project area lies across the relatively level valley floor, with elevations ranging between 1,540 and 1,580 feet above mean sea level. The pipelines routes are situated within the paved rights-of-way of roadways in a fully developed urban/suburban settings (Fig. 3). Past developments have removed almost all traces of the native landscape along these

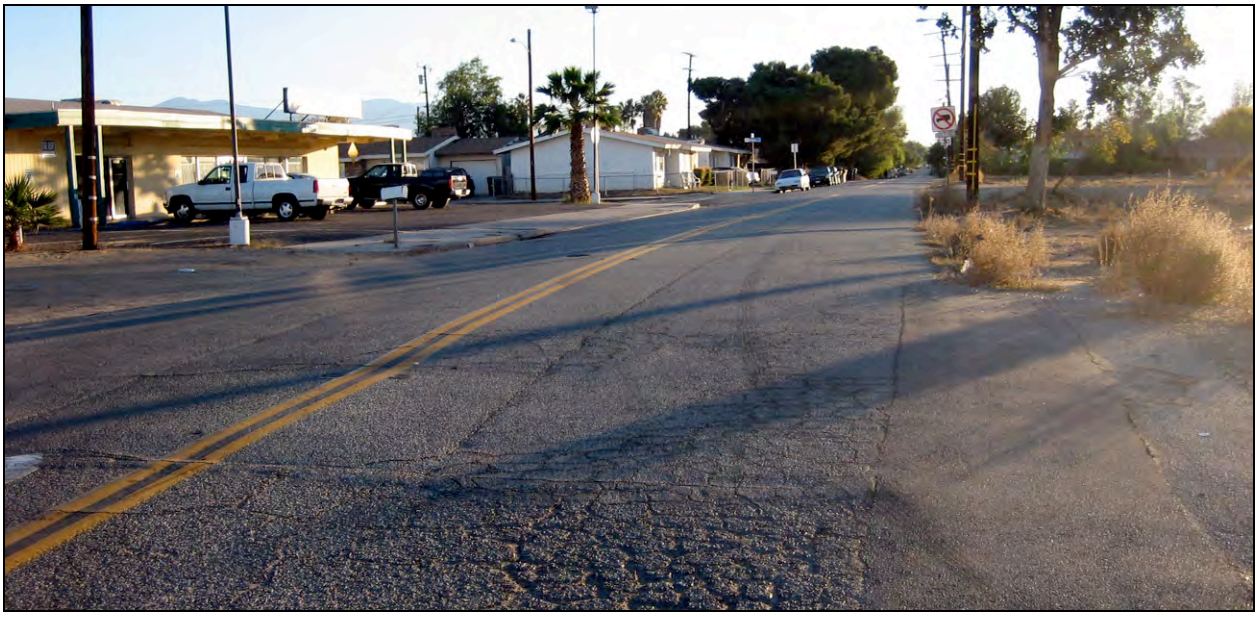

Figure 3. Overview of the current natural setting along the project route. (Photo taken on November 18, 2008; view of the east)

roadways. As a result, vegetation noted near the pipeline routes consists mostly of introduced landscaping plants. The proposed tank, booster, and well site lies to the north of Dracaea Avenue and the east of Edgemont Street, where two large water tanks and a well are currently located. The area has evidently been leveled in the past, and has been cleared of vegetation repeatedly. The remaining vegetation in and near the project area includes tumbleweeds, wild mustards, various landscaping trees and bushes, and the typical small grasses and shrubs.

Geological Setting

The project area is located in the northern portion of the Peninsular Ranges Province, which is bounded on the north by the Transverse Ranges Province, on the northeast by the Colorado Desert Province, and on the west by the Pacific Ocean (Jenkins 1980:40-41; Harms 1996:150). This province consists of a well-defined geologic and physiographic unit occupying the southwest portion of the State of California and extending to the tip of Baja California (Jahns 1954:29; Harms 1996:130).

The surface geology in the project vicinity was mapped by Rogers (1965) as **Qal**, or alluvium of Holocene age. Dibblee (2003) mapped the project area mainly as **Qa**, also defined as alluvium of Holocene age, and a small amount of **Qoa**, or older alluvium of Pleistocene age, which is present only in the northeast quarter of the southwest quarter of Section 11. Knecht (1971:46-47; Map Sheets 27, 43) mapped the surface soils in the area as **MmB**, **MmC2**, and **MmD2**, all of which belong to the Monserate Series and develop in alluvium derived predominantly from granitic rocks.

CULTURAL SETTING

Prehistoric Context

It is widely acknowledged that human occupation in what is now the State of California began 8,000-12,000 years ago. In attempting to describe and understand the cultural processes that occurred in the ensuing years, archaeologists have developed a number of chronological frameworks that endeavor to correlate the technological and cultural changes that are observable in archaeological records to distinct time periods. Unfortunately, none of these chronological frameworks has been widely accepted, and none has been developed specifically for the so-called Inland Empire, the nearest ones being for the Colorado Desert and Peninsular Ranges area (Warren 1984) and for the Mojave Desert (Warren and Crabtree 1986).

The development of an overall chronological framework for the region is hindered by the lack of distinct stratigraphic layers of cultural sequences that could be dated by absolute dating methods to provide concrete dates. Since results from archaeological investigations in this region have yet to be synthesized into an overall chronological framework, most archaeologists tend to follow a chronology adapted from a scheme developed by William J. Wallace in 1955 and modified by others (Wallace 1955; 1978; Warren 1968; Chartkoff and Chartkoff 1984; Moratto 1984). Although the beginning and ending dates of the different horizons or periods may vary, the general framework of prehistory in this region under this chronology consists of the following four periods:

- Early Hunting Stage (ca. 10000 BC-6000 BC), which was characterized by human reliance on big game animals, as evidenced by large, archaic-style projectile points and the relative lack of plant-processing artifacts;
- Millingstone Horizon (ca. 6000 BC-AD 1000), when plant foods and small game animals came to the forefront of subsistence strategy, and from which a large number of millingstones, especially well-made, deep-basin metates, were left;
- Late Prehistoric Period (ca. AD 1000-1500), during which a more complex social organization, a more diversified subsistence base—as evidenced by smaller projectile points, expedient millingstones and, later, pottery—and regional cultures and tribal territories began to develop;
- Protohistoric Period (ca. AD 1500-1700s), which ushered in long-distance contact with Europeans, and thereby led to the Historic Period.

Ethnohistoric Context

According to current ethnohistorical scholarship, what is now the City of Moreno Valley lies on the border between the traditional territories of three Native American groups: the Serrano of the San Bernardino Mountains, the Luiseño of the Perris-Elsinore region, and the Gabrielino of the San Gabriel Valley. Kroeber (1925:Plate 57) suggests that the Native Americans of the Moreno Valley area were probably Luiseño, Reid (1968:8-9) states that they were Serrano, and Strong (1929:7-9, 275) claims that they were Gabrielino. In any case, there also occurred a late influx of Cahuilla during the 19th century (Bean 1978).

Whatever the linguistic affiliation, Native Americans along the Santa Ana River exhibited similar social organization and resource procurement strategies. Villages were based on clan or lineage groups. Their home/base sites are marked by midden deposits, often with bedrock mortar features. During their seasonal rounds to exploit plant resources, small groups often ranged some distances in search of specific plants and animals. Their gathering strategies often left behind signs of special use sites, usually grinding slicks on bedrock boulders, at the locations of the resources.

Historic Context

In comparison to other nearby communities such as Riverside and San Jacinto, the City of Moreno Valley is a "late-boomer" both in early development in the 19th century and in urban growth in the 20th. By the mid-19th century, the area that constitutes present-day Moreno Valley remained essentially uninhabited, despite its location on a plain surrounded by several large Mexican land grants. In 1853-1855, when the U.S. government initiated the first official land survey in southern California, the only man-made features observed in the area were a few roads crisscrossing the desert floor, including a wagon road from San Bernardino to Temecula, a second one leading to San Jacinto, and several unidentified roads or trails.

The Moreno Valley area remained unclaimed public land until 1870, when a large tract of 13,471 acres was purchased from the U.S. government in one single transaction. It was on this vast acquisition that the 11,560-acre Alessandro Tract and the town of Alessandro, where the March Air Reserve Base lies today, were laid out and offered to settlers in 1887 (Gunther 1984:11), during a land boom that swept through southern California in the 1880s. After this initial development scheme failed, the developers of Redlands in San Bernardino

County, fresh from their acclaimed success in creating the Bear Valley reservoir and the thriving Redlands colony, took over the Alessandro Tract with the intention of irrigating the land with an elaborate water system (*ibid.*).

Water from the Bear Valley reservoir reached the Moreno Valley area in 1891, ushering in a few years of prosperity in the early 1890s. Two more communities came into being in the vicinity during this brief boom: New Haven, soon to be renamed Moreno, and Midland, also known as Armada (Gunther 1984:323, 333). However, the boom soon turned to bust during the drought of the late 1890s, when Bear Valley water was no longer delivered to the Moreno Valley area. As a result, the budding towns in the area became largely abandoned, and many of the buildings were taken up and moved to Riverside (*ibid.*:13, 334).

During the early 20th century, the Moreno Valley area began to recover slowly. In 1912, a 1,100-acre portion of the original Alessandro Tract was re-subdivided as the Sunnymead Orchard Tract (County Surveyor 1912), thus bestowing on the community formerly known as Midland or Armada the new name of Sunnymead. Eleven years later, a series of land development projects began just to the west of Sunnymead, which ultimately resulted in the establishment of the community of Edgemont (Gunther 1984:171-172).

Despite these development efforts, Moreno Valley's economic prospect was severely hampered by the lack of reliable water supply until 1973, after the completion of the California Aqueduct and its southern terminus, Lake Perris (Gunther 1984:334). Since then, the promise of affordable housing brought an influx of commuters to the Moreno Valley area, setting off a period of rapid growth and urbanization. By 1984, when residents in the communities of Moreno, Sunnymead, and Edgemont voted to incorporate as the City of Moreno Valley, the new city had already become the second most populous in Riverside County (*ibid.*), thanks mainly to its attraction as a "bedroom community."

RESEARCH METHODS

RECORDS SEARCH

On November 5, 2008, CRM TECH archaeologist Nina Gallardo (see App. 1 for qualifications) conducted the historical/archaeological resources records search at the Eastern Information Center (EIC), University of California, Riverside. During the records search, Gallardo examined maps and records on file at the EIC for previously identified cultural resources in or near the project area, and existing cultural resources reports pertaining to the vicinity. Previously identified cultural resources include properties designated as California Historical Landmarks, Points of Historical Interest, or Riverside County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

For the current study, the scope of the records search included the standard one-mile radius from the project location and an expanded five-mile radius to identify, in particular, prehistoric—i.e., Native American—archaeological resources in similar geomorphologic contexts. The purpose of the expanded records search is to assess the sensitivity of the

project route for prehistoric archaeological resources and help determine the potential of encountering significant subsurface cultural deposits during earth-moving activities associated with the project.

GEOMORPHOLOGIC ANALYSIS

As part of the research procedures, CRM TECH geologist Harry M. Quinn (see App. 1 for qualifications) pursued geomorphologic analysis to assess the project area's potential for the deposition and preservation of subsurface cultural deposits from the prehistoric period, which cannot be detected through a standard surface archaeological survey. Sources consulted for this purpose included topographic and geologic maps published by the U.S. Geological Survey (USGS) and soils reports in the vicinity of the project. Findings from these sources were used to develop a geomorphologic history of the project vicinity and address geoarchaeological sensitivity of the vertical project area.

HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH historian Bai "Tom" Tang (see App. 1 for qualifications) on the basis of published literature in local and regional history and historic maps of the Moreno Valley area. Among maps consulted for this study were the U.S. General Land Office's (GLO) land survey plat map dated 1855 and the USGS' topographic maps dated 1901, 1942, and 1953. These maps are collected at the Science Library of the University of California, Riverside, and the California Desert District of the U.S. Bureau of Land Management, located in Moreno Valley.

NATIVE AMERICAN PARTICIPATION

On November 3, 2008, CRM TECH submitted a written request to the State of California's Native American Heritage Commission for a records search in the commission's sacred lands file. Following the commission's recommendations, CRM TECH further contacted a total of 13 Native American representatives in the region in writing on November 11 to solicit local Native American input regarding any possible cultural resource concerns over the proposed project. Telephone consultations were subsequently carried out between November 25 and December 3, when one more tribal representative was added to the contact list. The correspondences between CRM TECH and the Native American representatives are attached to this report in Appendix 2.

FIELD SURVEY

On November 18, 2008, CRM TECH archaeologist Daniel Ballester (see App. 1 for qualifications) carried out the field survey of the project area. Since the proposed pipeline alignments are almost entirely confined within the heavily disturbed rights-of-way of existing roads, most of the survey was conducted at a reconnaissance level by driving along the project route and visually inspecting the surrounding ground surface for any indications of potential cultural resources.

A more intensive survey was conducted on foot at the proposed tank, booster, and well site by walking parallel north-south transects spaced 15 meters (approx. 50 feet) apart. In this way, the entire project area was systematically and carefully examined for any evidence of

human activities dating to the prehistoric or historic periods (i.e., 50 years or older). Since the pipeline routes are the under road pavement, visibility of native ground surface at those locations was poor, while ground visibility within the tank, booster, and well site was good (85%).

RESULTS AND FINDINGS

RECORDS SEARCH

According to EIC records, the westernmost portion of the project area may have been covered by a previous cultural resources survey along the Interstate 215 right-of-way (Fig. 4), and five historic-period buildings were previously recorded along portions of the proposed pipeline route. Designated Sites 33-6915 to 33-6919, these buildings were constructed between 1920 and 1947, and were located at 21730 and 21874 Bay Avenue, 21613 and 21768 Cottonwood Avenue, and 13694 Edgemont Street. One of them, 33-6915, was described as a bungalow, while the other four were vernacular houses of wood-frame and stone-masonry construction. All five of the buildings were recorded in the 1980s during a countywide historic building reconnaissance as relatively good examples of early residences in the Edgemont area.

Outside the project boundaries but within a one-mile radius, EIC records show more than 30 other studies covering various tracts of land and linear features (Fig. 4). As a result of these and other similar studies in the vicinity, 44 additional historical/archaeological sites and 2 isolates—i.e., localities with fewer than three artifacts—were previously recorded within the one-mile radius, as listed in Table 1 (see App. 3 for locations of prehistoric sites). None of these sites or isolates was found in the immediate vicinity of the project area, and thus none of them requires further consideration during this study.

As discussed above, the expanded records search covered the Box Springs, Riverside, and Moreno Valley areas within a five-mile radius of the project location for the purpose of identifying any prehistoric archaeological sites situated in the same or a similar geomorphologic context as the project area. The results indicate that no prehistoric sites or isolates were previously recorded on the valley floor around the project location, and only a few sites were found on the rugged terrain of the Box Springs Mountains to the north. In contrast, a large number of prehistoric milling sites have been recorded in clusters in the foothills and on elevated terraces to the west, east, and southeast.

Overall, the locations and types of prehistoric sites identified through the expanded records search appear to support existing prehistoric hunter-gatherer settlement-subsistence models for Inland California, which suggest longer-term residential settlement was more likely to occur on elevated terraces, hills, and finger ridges near permanent or reliable sources of water, while the valley floor was more often utilized in resource procurement efforts, travel, and opportunistic camping.

GEOMORPHOLOGIC ANALYSIS

The results of the geomorphologic research reveal that the alluvial sediments present in and near the project area are primarily of Holocene age or older (Rogers 1965; Diblee 2003).

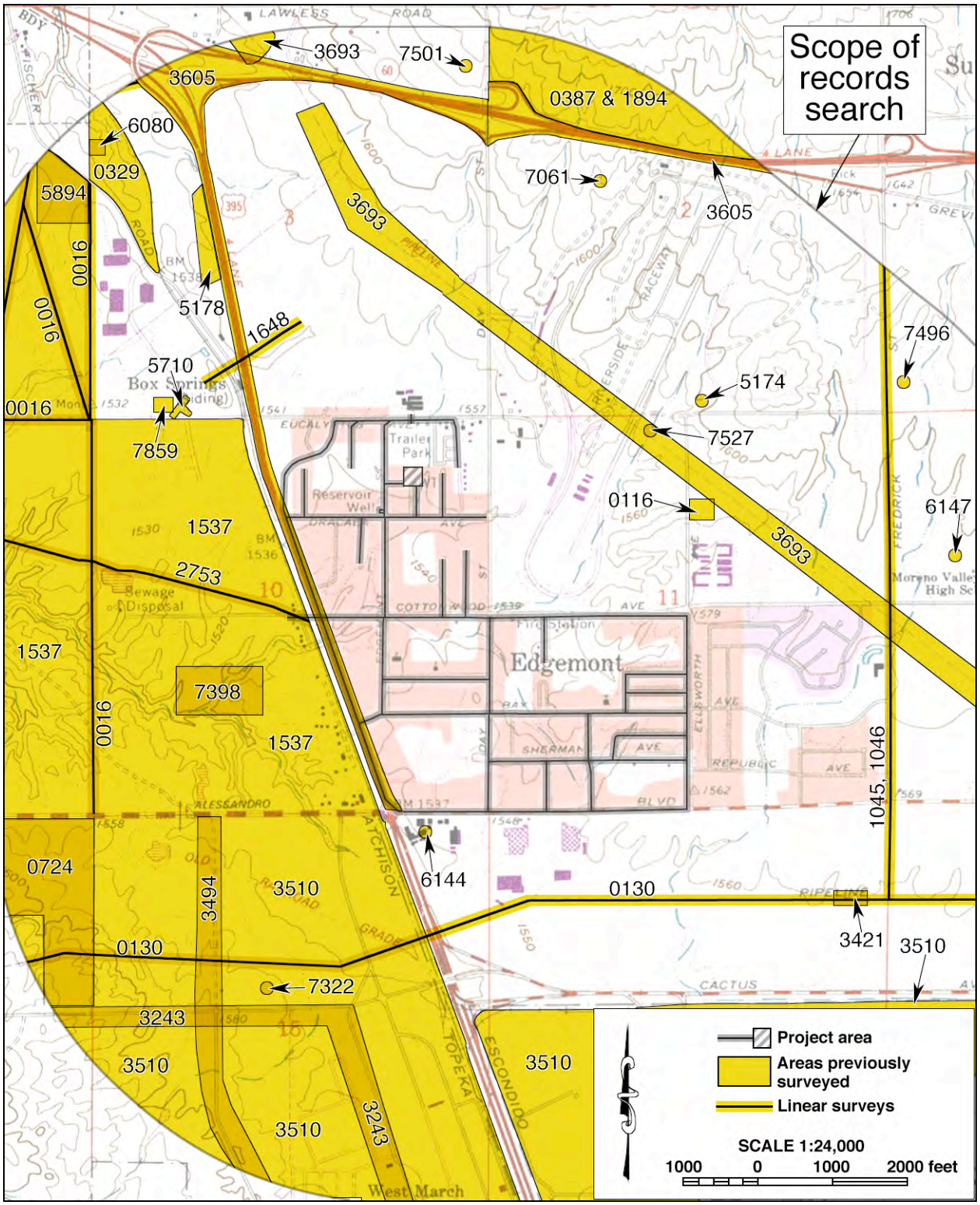

Figure 4. Previous cultural resources studies in the vicinity of the project area, listed by EIC file number.

Table 1. Previously Recorded Cultural Resources within a One-Mile Radius		
Site No.	**Recorded by/Date**	**Description**
33-2436	McCarthy 1982	Eight scattered boulders with 16 milling slicks
33-2502	McCarthy 1982	Six boulders with 13 slicks
33-2503	McCarthy 1982	Three boulders with 12 slicks
33-2504	McCarthy 1982	A single boulder with two slicks
33-2505	McCarthy 1982	Eight boulders with 10 slicks
33-2506	McCarthy 1982	A single boulder with one slick
33-2507	McCarthy 1982; Drover 1991	Three boulders with 10 slicks
33-2508	McCarthy 1982	Two boulders with six slicks
33-2509	McCarthy 1982	Thirteen boulders with 23 slicks
33-2510	McCarthy 1982; Drover and Smith 1991	Three boulders with nine slicks
33-2511	McCarthy 1982; Drover and Smith 1991	A single boulder with three slicks
33-2512	McCarthy 1982; Drover and Smith 1991	Seven boulders with 14 slicks
33-2513	McCarthy 1982	Seven boulders with 14 slicks
33-2514	McCarthy 1982	A single boulder with one slick
33-2515	McCarthy 1982	A single boulder with one slick
33-2516	McCarthy 1982	A single boulder with one slick
33-2517	McCarthy 1982	Four boulders with five slicks
33-2518	McCarthy 1982; Drover and Smith 1991	A single boulder with one slick
33-2519	McCarthy 1982; Drover and Smith 1991	Three boulders with three slicks and one mortar
33-2520	McCarthy 1982	Four boulders with eight slicks
33-2521	McCarthy 1982; Drover and Smith 1991	A single boulder with one slick
33-2522	McCarthy 1982	Two boulders with four slicks
33-2523	McCarthy 1982	A single boulder with three slicks
33-2524	McCarthy 1982	A single boulder with three slicks
33-3078	Drover 1985	A single milling slick
33-5423	Giacomini 1994	A single boulder with three milling slicks
33-5424	Giacomini 1994	A single boulder with one milling slick
33-5425	Giacomini 1994	Numerous bedrock milling features
33-5426	Giacomini 1994	Four milling slicks and a basin
33-5427	Giacomini 1994	Two boulders with two slicks
33-5433	Giacomini 1994	Eight bedrock milling features
33-5451	Giacomini 1994	A single boulder with one slick
33-5452	Giacomini 1994	Ten boulders with 16 slicks
33-5454	Giacomini 1994	Concrete slab foundations
33-5456	Giacomini 1994	Two concrete slab foundations
33-5457	Giacomini 1994	Thirteen boulders with 25 slicks
33-6915*	Warner 1983	Bungalow, 1947
33-6916*	Warner 1983	Vernacular wood-frame house, 1938
33-6917*	Warner 1983	Vernacular wood-frame house, 1930
33-6918*	Warner 1983	Vernacular stone house, 1941
33-6919*	Warner 1983	Vernacular wood-frame house, 1920
33-7721	McDonald 1996	A single boulder with one slick
33-7722	McDonald 1996	Two boulders with milling features
33-7723	McDonald 1996	Five boulders with 18 slicks
33-11502	Dahdul 2002	Two boulders with five slicks
33-15323	Dice and Sanka 2006	Twelve milling surfaces
33-15324	Dice and Porter 2006	Nine milling surfaces
33-15326	Dice 2006	Historic-period refuse deposit
33-15336	Ahmet and Bholat 2006; Ahmet 2007	One grinding slick
33-15656	Aislin-Kay and Sanka 2006	Isolated quartzite flake
33-15657	Aislin-Kay and Sanka 2006	Isolated granitic mano

* Recorded adjacent to the current project boundaries.

According to Knecht (1971), the surface soils along the project route are derived predominantly from granitic rocks. The foothills and terraces in the surrounding area have numerous granitic outcroppings, many of which bear milling slicks created and utilized occasionally by Native Americans for food processing.

The valley floor on which the project area is located does not exhibit the prevalence of granitic outcroppings—and thus milling features—noted to the west, east, and southeast. Furthermore, while seasonal drainages may have traversed the project vicinity in prehistoric times, the area appears to lack permanent water sources. Therefore, it is unlikely for any large habitation sites to be encountered along the project route.

HISTORICAL RESEARCH

Historical sources consulted for this study suggest that while a "Wagon Road to Timicula" was known to cross the project area in a northwest-southeast direction in the 1850s, no other evidence of human activities was found in or near the project area at that time (Fig. 5). In the late 1890s, in contrast, the cultural landscape of the Alessandro-Armada area clearly demonstrated the results of growth during the late 19th century, represented by an extensive network of roads lined with scattered buildings (Fig. 6). The Southern California Railroad, a Santa Fe subsidiary, was located just to the southwest of the project area, but none of the buildings appears to have been within the project boundaries (Fig. 6).

By the 1930s, most of the streets along the project route had come into existence, including Alessandro Boulevard, Eucalyptus Avenue, Edgemont Street, Cottonwood Avenue, and Bay Avenue, with numerous buildings along them (Fig. 7). The surrounding area, now a part of the Edgemont development, experienced further growth in the post-WWII era, as reflected by the increased numbers of streets and buildings, most of them presumably residences (Fig. 8). Based on these historic maps, much of the current landscape of the project vicinity reflects the results of growth dating to the early and mid-20th century.

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the Native American Heritage Commission reports that the sacred lands record search identified no Native American cultural resources in the project area. However, noting that the absence of specific site information in the sacred lands file does not indicate that such resources do not exist, the commission recommends that local Native American groups be contacted for further information, and provided a list of potential contacts in the region (see App. 2).

Upon receiving the commission's reply, CRM TECH initiated correspondence with all nine individuals on the referral list and the organizations they represent. In addition, John Tommy Rosas, Tribal Administrator and Litigator for the Tongva Ancestral Territorial Tribal Nation, John Gomez, Jr., Cultural Resources Coordinator for the Ramona Band of Cahuilla Indians, Joseph Ontiveros, Monitoring Coordinator for the Soboba Band of Luiseno Indians, and Anna Hoover, Cultural Analysis for the Temecula Band of Luiseño Mission Indians, were also contacted in writing. Once telephone consultations began, Marcie Russell, Financial Director for the Santa Rosa Band of Mission Indians, was also added to the contact list. As of this time, four verbal responses and three written replies have been received (see App. 2).

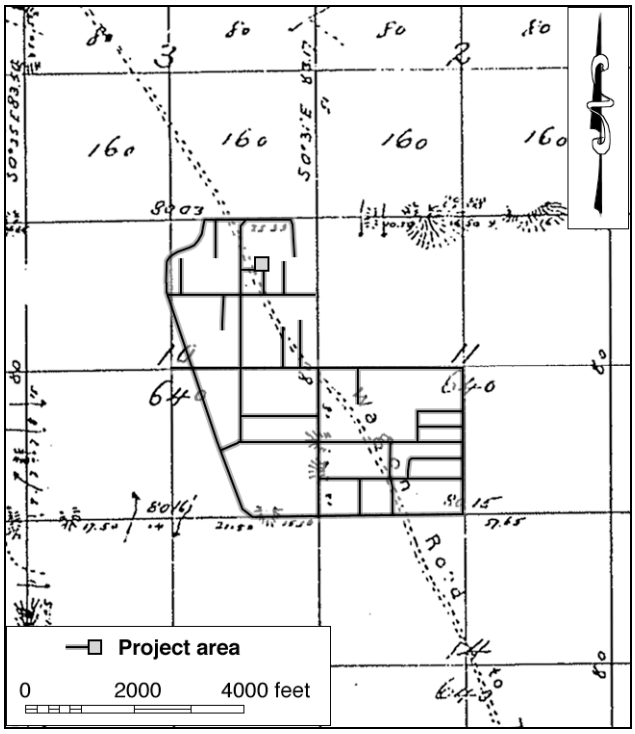

Figure 5. The project area and vicinity in 1853-1855. (Source: GLO 1855)

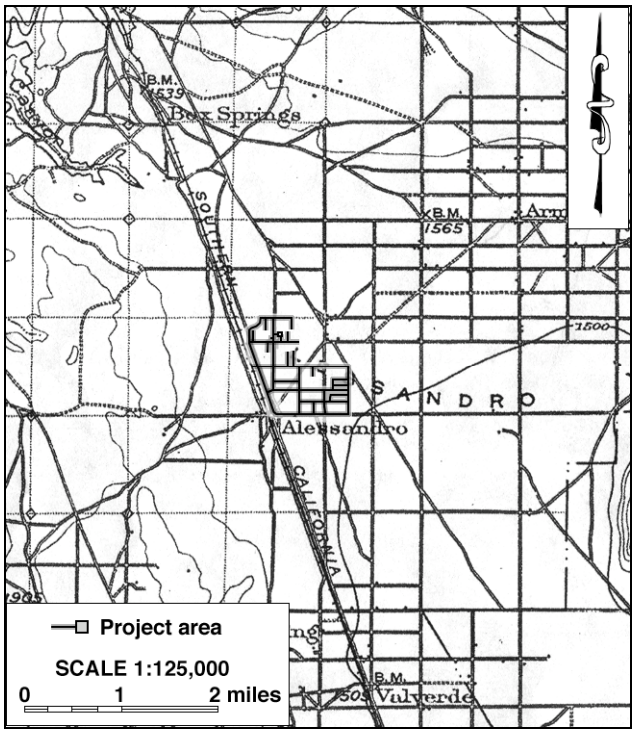

Figure 6. The project area and vicinity in 1897-1898. (Source: USGS 1901)

In a telephone conversation on November 25, Joseph Ontiveros of the Soboba Band expressed his concerns over cultural resources in the project area in light of the presence of traditional Native American trade routes in the region. He requested to be notified by the project proponent prior to any ground-disturbing activities, and recommended Native American monitoring by a member of the Soboba Band during the project. In addition, Mr. Ontiveros requested a copy of the report upon completion. In a letter dated December 1, Mr. Ontiveros restated these requests.

In e-mails dated November 11 and 25, John Tommy Rosas of the Tongva Ancestral Territorial Tribal Nation also expresses concerns over the possibility of encountering Native American sites and requests archaeological monitoring during ground-disturbing activities. If a qualified archaeologist is not on site, he recommends

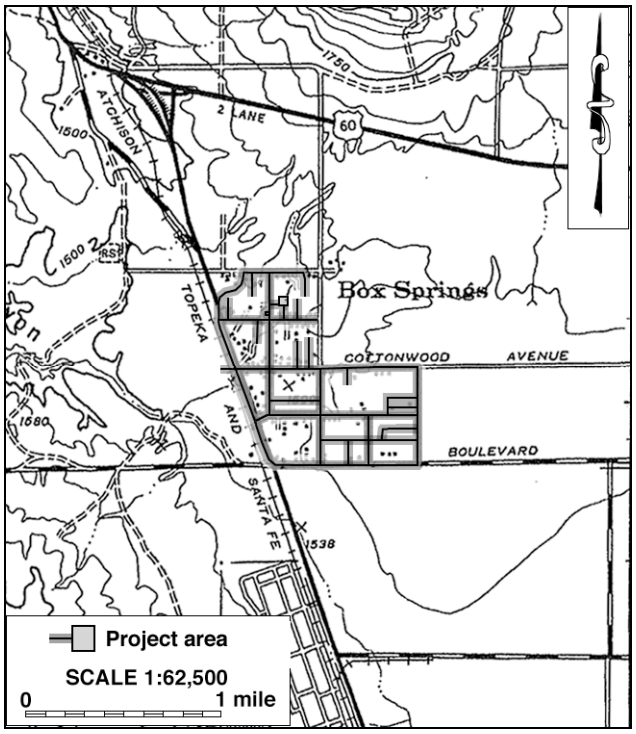

Figure 7. The project area and vicinity in 1939. (Source: USGS 1942)

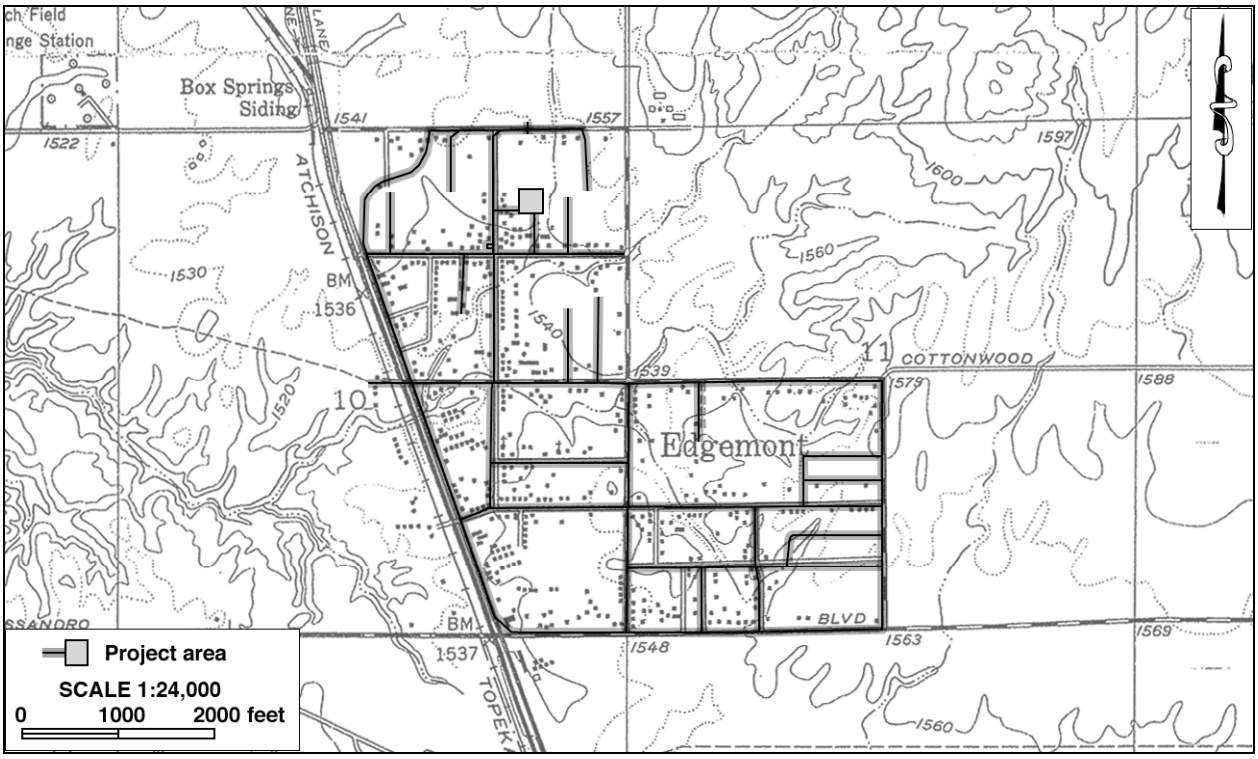

Figure 8. The project area and vicinity in 1951-1953. (Source: USGS 1953)

that all construction personnel be trained to identify Native American cultural resources and burials. Mr. Rosas further requests photographs of various sections of future trenches, that all proper procedures be followed during the project, that CRM TECH continue to be involved throughout the project, and that his group be kept informed about the progress.

In a letter dated November 25, Anna Hoover states that the Temecula Band identifies the project area as a part of its ancestral lands, and requests copies of all archaeological documentations pertaining to the project and further consultation with the City of Moreno Valley. In addition, Ms. Hoover requests to be notified if subsurface Native American cultural resources are encountered during the project, and reserves the right to provide additional comments regarding the treatment and disposition of all artifacts.

When received by telephone, Michael Contreras, Jr., of the Morongo Band of Mission Indians, Marcie Russell of the Santa Rosa Band of Mission Indians, and Goldie Walker of the Serrano Nation of Indians expressed no concerns regarding this project. Ms. Walker and Ms. Russell, however, requested that the project proponent notify their respective tribes if any cultural Native American cultural resources were discovered in the project area.

FIELD SURVEY

The field survey produced completely negative results for potential cultural resources within or immediately adjacent to the project area. The entire project area was closely inspected for any evidence of human activities dating to the prehistoric or historic periods,

but none was found. The five previously recorded historic-period buildings along the project route were found to be well outside of the proposed pipeline right-of-way, and the project has no potential to impact any of them, either directly or indirectly. Therefore, none of these buildings requires further consideration in this study. No buildings, structures, objects, sites, features, or artifacts more than 50 years of age were encountered within or adjacent to the project area during the field survey.

DISCUSSION

The purpose of this study is to identify any cultural resources within or adjacent to the project area, and to assist the City of Moreno Valley in determining whether such resources meet the official definition of "historical resources," as provided in the California Public Resources Code, in particular CEQA.

According to PRC §5020.1(j), "'historical resource' includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the Lead Agency (Title 14 CCR §15064.5(a)(1)-(3)).

Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that "a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

As discussed above, research procedures conducted during this study indicate that no potential "historical resources" are present within or immediately adjacent to the project area. While five historic-period buildings (Sites 33-6915 to 33-6919) were previously recorded along the project route, none of these buildings is situated close enough to the project right-of-way to be affected by the proposed installation of pipelines. Throughout the course of the study, no other potential "historical resources" were identified, and the subsurface sediments within the project area appear to be relatively low in sensitivity for potentially significant archaeological deposits. Based on these findings, and in light of the criteria listed above, the present study concludes that *no historical resources exist within or adjacent to the project area*.

CONCLUSION AND RECOMMENDATIONS

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

Since no "historical resources," as defined by CEQA regulations, have been identified within or adjacent to the project area during this study, and since the subsurface sediments within the project area appear to be relatively low in archaeological sensitivity, CRM TECH presents to the City of Moreno Valley the following recommendations regarding the proposed project:

- No historical resources exist within or adjacent to the project area, and thus the project as currently proposed will not cause a substantial adverse change to any historical resources.
- No further cultural resources investigation is necessary for the proposed project unless construction plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are discovered during any earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

REFERENCES

Bean, Lowell John
1978 Cahuilla. In *Handbook of North American Indians*, Vol. 8: *California*, edited by Robert F. Heizer; pp. 575-587. Smithsonian Institution, Washington, D.C.

Chartkoff, Joseph L., and Kerry Kona Chartkoff
1984 *The Archaeology of California*. Stanford University Press, Stanford, California.

County Surveyor, Riverside
1912 Plat map of the Sunnymead Orchard Tract; Map Book 9, Page 17. Microfiche on file, Riverside County Surveyor's Office, Riverside.
1927 Plat map of Edgemont Gardens; Map Book 15, Page 90. Microfiche on file, Riverside County Surveyor's Office, Riverside.

Dibblee, Thomas W., Jr.
2003 Geologic Map of the Riverside East/South Half of the San Bernardino South Quadrangles, Riverside and San Bernardino Counties, California. Dibblee Geology Center Map #DF-109. Santa Barbara, California.

GLO (General Land Office, U.S. Department of the Interior)
1855 Plat Map: Township No. III South Range No. IV West, San Bernardino Meridian; surveyed in 1853-1855.

Gunther, Jane Davies
1984 *Riverside County, California, Place Names: Their Origins and Their Stories*. J. D. Gunther, Riverside.

Harms, Nancy S.
1996 *A Precollegate Teachers Guide to California Geomorphic/Physiographic Provinces*. Far West Section, National Association of Geoscience Teachers, Concord, California.

Jahns, R. H.
1954 Geology of the Peninsular Range Province, Southern California and Baja California. In R. H. Jahns (ed.): *Geology of Southern California*; Chapter II. California Division of Mines Bulletin 170, Part 3. San Francisco.

Jenkins, Olaf P.
1980 Geomorphic Provinces Map of California. *California Geology* 32(2):40-41. California Division of Mines and Geology Publication. Sacramento.

Knecht, Arnold A.
1971 *Soil Survey of Western Riverside Area, California*. U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.

Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Government Printing Office, Washington, D.C.

Moratto, Michael J. (ed.)
1984 *California Archaeology*. Academic Press, Orlando, Florida.

Reid, Hugo
1968 The Indians of Los Angeles County: Hugo Reid's Letters of 1852; edited by Robert F. Heizer. Southwest Museum Papers 21.

Rogers, Thomas H.
1965 Geological Map of California, Santa Ana Sheet (1:250,000). California Division of Mines and Geology, Sacramento.

Strong, William Duncan
1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology 26. Reprinted by Malki Museum Press, Banning, California, 1972.

USGS (United States Geological Survey, U.S. Department of the Interior)
1901 Map: Elsinore, Calif. (30', 1:125,000); surveyed in 1897-1898.
1942 Map: Riverside, Calif. (15', 1:62,500); aerial photographs taken in 1939.
1953 Map: Riverside East, Calif. (7.5', 1:24,000); aerial photographs taken 1951, field-checked in 1953.
1969 Map: San Bernardino, Calif. (1:250,000); 1958 edition revised.
1979 Map: Santa Ana, Calif. (1:250,000); 1959 edition revised.
1980 Map: Riverside East, Calif. (7.5', 1:24,000); 1967 edition photorevised in 1978.

Wallace, William J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Archaeology* 11(3):214-230.
1978 Post-Pleistocene Archeology, 9,000 to 2,000 BC. In *Handbook of North American Indians*; Vol. 8: *California*, edited by Robert F. Heizer; pp. 25-36. Smithsonian Institution, Washington, D.C.

Warren, Claude N.
1968 Cultural Traditions and Ecological Adaptations on the Southern California Coast. In *Archaic Prehistory in Western United States*, edited by Cynthia Irwin-Williams; pp. 1-14. Eastern New Mexico University Contributions in Anthropology 1(3). Portales, New Mexico.
1984 The Desert Region. In *California Archaeology*, edited by Michael J. Moratto; pp. 339-430. Academic Press, Orlando, Florida.

Warren, Claude N., and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In *Handbook of North American Indians*, Vol. 11: *Great Basin*, edited by Warren L. D'Azevedo; pp. 183-193. Smithsonian Institution, Washington, D.C.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, UC Riverside.
1987	M.A., American History, Yale University, New Haven, Connecticut.
1982	B.A., History, Northwestern University, Xi'an, China.
2000	"Introduction to Section 106 Review," presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
1994	"Assessing the Significance of Historic Archaeological Sites," presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1993-2002	Project Historian/Architectural Historian, CRM TECH, Riverside, California.
1993-1997	Project Historian, Greenwood and Associates, Pacific Palisades, California.
1991-1993	Project Historian, Archaeological Research Unit, UC Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, UC Riverside.
1988-1993	Research Assistant, American Social History, UC Riverside.
1985-1988	Research Assistant, Modern Chinese History, Yale University.
1985-1986	Teaching Assistant, Modern Chinese History, Yale University.
1982-1985	Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China.

Honors and Awards

1988-1990	University of California Graduate Fellowship, UC Riverside.
1985-1987	Yale University Fellowship, Yale University Graduate School.
1980, 1981	President's Honor List, Northwestern University, Xi'an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (With Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

Membership

California Preservation Foundation.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA*

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
1980-1981	Education Abroad Program, Lima, Peru.
2002	Section 106—National Historic Preservation Act: Federal Law at the Local Level. UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist/Field Director, CRM TECH, Riverside.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
1992-1998	Assistant Research Anthropologist, University of California, Riverside
1992-1995	Project Director, Archaeological Research Unit, U. C. Riverside.
1993-1994	Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
1991-1992	Crew Chief, Archaeological Research Unit, U. C. Riverside.
1984-1998	Archaeological Technician, Field Director, and Project Director for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Author and co-author of, contributor to, and principal investigator for numerous cultural resources management study reports since 1986.

Memberships

* Register of Professional Archaeologists.
Society for American Archaeology.
Society for California Archaeology.
Pacific Coast Archaeological Society.
Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

2003	M.A., Anthropology, San Diego State University, California.
2000	B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.
1993	A.A., Communications, Nassau Community College, Garden City, N.Y.
2001	Archaeological Field School, San Diego State University.
2000	Archaeological Field School, San Diego State University.

Professional Experience

2004-	Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003	Part-time Lecturer, San Diego State University, California.
2001	Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001	Archaeological Collection Catalog, SDSU Foundation.

PROJECT ARCHAEOLOGIST
Nina Gallardo, B.A.

Education

2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.
- Surveys, excavations, mapping, and records searches.

Honors and Awards

2000-2002 Dean's Honors List, University of California, Riverside.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, B.A.

Education

1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.
2007	Certificate in Geographic Information Systems (GIS), California State University, San Bernardino.
2002	"Historic Archaeology Workshop," presented by Richard Norwood, Base Archaeologist, Edwards Air Force Base; presented at CRM TECH, Riverside, California.

Professional Experience

2002-	Field Director, CRM TECH, Riverside/Colton, California. • Report writing, site record preparation, and supervisory responsibilities over all aspects of fieldwork and field crew.
1999-2002	Project Archaeologist, CRM TECH, Riverside, California. • Survey, testing, data recovery, monitoring, and mapping.
1998-1999	Field Crew, K.E.A. Environmental, San Diego, California. • Two and a half months of excavations on Topomai village site, Marine Corp Air Station, Camp Pendleton.
1998	Field Crew, A.S.M. Affiliates, Encinitas, California. • Two weeks of excavations on a site on Red Beach, Camp Pendleton, and two weeks of survey in Camp Pendleton, Otay Mesa, and Encinitas.
1998	Field Crew, Archaeological Research Unit, University of California, Riverside. • Two weeks of survey in Anza Borrego Desert State Park and Eureka Valley, Death Valley National Park.

APPENDIX 2

CORRESPONDENCE WITH NATIVE AMERICAN REPRESENTATIVES*

* A total of 13 local Native American representatives were contacted in writing; a sample letter is included in this report.

CRM TECH

FAX COVER SHEET

1016 E. Cooley Drive
Suite B
Colton, CA 92324
909·824·6400·Tel
909·824·6405·Fax

To:
Native American Heritage Commission

Fax:
(916) 657-5390

From:
Nina Gallardo

Date:
November 3, 2008

Number of pages (including this cover sheet):
2

HARDCOPY:

_____ will follow by mail

__√__ will not follow unless requested

RE: Sacred Land records search

This is to request a Sacred Lands records search

Name of project:
Edgemont Water Master Plan
CRM TECH #2291

Project size:
430 acres

Location:
In the City of Moreno Valley
Riverside County

USGS 7.5' quad sheet data:
Riverside East, Calif.
Sections 3, 10 & 11, T3S R4W, SBBM

Please call if you need more information or have any questions.

Results may be faxed to the number above.

I appreciate your assistance in this matter.

Map included

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

November 7, 2008

Ms. Nina Gallardo, RPA
CRM TECH
1016 E. Cooley Drive, Suite B
Colton, CA 92324

Sent by FAX to: 909-824-6405
Number of pages: 3

Re: Request for a Sacred Lands File records search and Native American Contacts list for the proposed **Edgemont Water Master Plan Project**; located in the City of Moreno Valley; Riverside County, California

Dear Ms. Gallardo:

The Native American Heritage Commission (NAHC) was able to perform a record search of its Sacred Lands File (SLF) for the affected project area/area of potential effect (APE). The SLF failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of a Native American cultural resource does not indicate that it does not exist.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the names of culturally affiliated Native American Contacts that may have knowledge of cultural resources in the project area. A list of Native American contacts is attached to assist you. It is advisable to contact the persons listed; if they cannot supply you with specific information about the impact on cultural resources.

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 15064.5(f) and Section 15097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Native American Contacts
Riverside County
November 7, 2008

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resource Center
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 308-9295 Ext 8106
(951) 676-2768
(951) 506-9491 Fax

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

San Manuel Band of Mission Indians
James Ramos, Chairperson
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Soboba Band of Mission Indians
Robert Salgado, Chairperson
P.O. Box 487 Luiseno
San Jacinto , CA 92581
dhill@soboba-nsn.gov
(951) 654-2765
(951) 654-4198 - Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 609 Cahuilla
Hemet , CA 92546
srtribaloffice@aol.com
(951) 658-5311
(951) 658-6733 Fax

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog. Manager
13000 Fields Road Cahuilla
Banning , CA 92220 Serrano
(951) 755-5025
(951)201-1866 - cell
(951) 922-0105 Fax

San Manuel Band of Mission Indians
Ann Brierty, Environmantal Department
101 Pure Water Lane Serrano
Highland , CA 92346
abrierty@sanmanuel-nsn.gov
(909) 863-5899 EXT-4321

(909) 862-5152 Fax

Serrano Nation of Indians
Goldie Walker
6588 Valaria Drive Serrano
Highland , CA 92346
(909) 862-9883

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Edgemont Water Master Plan (CRM TECH #2291), 430-acres located in the City of Moreno Valley; Riverside County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contacts
Riverside County
November 7, 2008

Soboba Band of Luiseno Indians
Erica Helms, Cultural Resources Manager
P.O. Box 487 Luiseno
San Jacinto , CA 92581
dhill@soboba-nsn.gov
(951) 654-2765
FAX: (951) 654-4198

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Edgemont Water Master Plan (CRM TECH #2291), 430-acres located in the City of Moreno Valley; Riverside County, California for which a Sacred Lands File search and Native American Contacts list were requested.

November 11, 2008

Joseph Ontiveros, Monitoring Coordinator
Soboba Band of Luiseño Indians
P. O. Box 487
San Jacinto, CA 92381

RE: Edgemont Water Master Plan
In the City of Moreno Valley, Riverside County
CRM TECH Contract #2291

Dear Mr. Ontiveros:

As part of a cultural resources study for the project referenced above, I am writing to request your input on potential Native American cultural resources in or near the project area. Please respond at your earliest convenience if you have any specific knowledge of sacred/religious sites or other sites of Native American traditional cultural value within or near the project area. The lead agency for this project is the City of Moreno Valley for CEQA-compliance purposes. Federal funds may be involved at a later point.

The proposed 430-acre project involves the replacement of existing water lines as well as the placement of new lines, and possibly the installation of a new well. The project area is located north of Alesandro Boulevard and between the 215 Freeway and Elsworth Street, extending north towards Eucalyptus Avenue, in the City of Moreno Valley, Riverside County. The accompanying map, based on the USGS Riverside East, Calif., 7.5' quadrangle, depicts the location of the project area in Sections 3, 10, and 11, T3S R4W, SBBM.

Any information, concerns or recommendations regarding cultural resources in the vicinity of the project area may be forwarded to CRM TECH by telephone, e-mail, facsimile or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agency. We would also like to clarify that CRM TECH, acting on behalf of Albert Webb and Associates, is not the appropriate entity to initiate government-to-government consultations. Thank you for the time and effort in addressing this important matter.

Respectfully,

Laura Hensley Shaker
CRM TECH

Encl.: Project location map

From: Johntommy Rosas <tattnlaw@gmail.com>
Date: Tue, 11 Nov 2008 12:35:48 -0800
To: Laura Shaker <lshaker@crmtech.us>
Subject: Re: CRM TECH # 2291 letter

HI , LAURA SHAKER, I HOPE YOU AND YOURS ARE WELL;

I CONFIRM RECEIPT OF YOUR DOCUMENTS AND MAPS, JPGS DIDNT OPEN, SO I WILL WORK ON THAT.
MY FIRST COMMENTS FOR NOW ARE;
ALL DIGGING AND TRENCHING SHOULD HAVE ARCHAEOLOGIST MONITOR ALL EXCAVATIONS. ALSO WE ARE REQUESTING PHOTOS OF DIFFERENT SECTIONS, SO WE KNOW WHAT WAS DOWN THERE AND CAN DOCUMENT WHAT WAS ENCOUNTERED.
ALSO ALL EXCAVATORS AND STAFF ON SITE SHOULD BE TRAINED FOR VISUAL ID IF AN ARCH. ISNT ONSITE,
WE NEED ALL LAWS FOLLOWED AND STATED AS SUCH IN THE MITIGATIONS FOR THIS PROJECT.
WE WANT ALL CONTAMINATED SOILS REMOVED.
WE ALSO WANT ALL OLD PIPES AND HARDWARE RECYCLED PROPERLY.
IF THIS A GROWTH INDUCING IMPACT, THEN ALL CEQA REQUIRED REVIEW SHOULD HAPPEN, AND A DETERMINATION TO US EITHER WAY.
WE ALSO WANT THE CRM TECH TO CONTINUE TO INFORM US OR HAVE THE LEAD AGENCY DO SO AND KEEP CRM TECH IN THE INFO LOOP, DURING PROJECT DURATION, SO WE GET ALL CHANGES OR DISCOVERY[S] DATA. IF LEAD AGENCY DIDNT CONTRACT THAT THEN CRM TECH SHOULD RECEIVE ADDITIONAL FUNDS FOR THAT SERVICE.
THATS IT FOR NOW.
/S/ JOHNTOMMY ROSAS

--

JOHN TOMMY ROSAS
TRIBAL ADMINISTRATOR
TRIBAL LITIGATOR
TONGVA ANCESTRAL TERRITORIAL TRIBAL NATION
OFFICIAL TATTN E-MAIL CONFIDENTIAL

==========

From: Johntommy Rosas <tattnlaw@gmail.com>
Date: Tue, 25 Nov 2008 19:49:43 -0800
To: <lshaker@crmtech.us>
Subject: Re: 2291 Edgemont Water Master Plan

THANKS, THEY ARE LOOKING AT A NEW WATER WELL, SO THAT IS GROWTH INDUCING UNDER CEQA, ALSO THE EXCAVATIONS MAY HIT SITES SO SAME MITIGATION NEEDS TO BE IN PLACE, IS IT GOING TO BE MITIGATED NEGATIVE DEC?
THANKS JOHNTOMMY

--

JOHN TOMMY ROSAS
TRIBAL ADMINISTRATOR
TRIBAL LITIGATOR
TONGVA ANCESTRAL TERRITORIAL TRIBAL NATION
OFFICIAL TATTN E-MAIL CONFIDENTIAL

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

November 25, 2008

VIA E-Mail and USPS

RE: Request for Information for the Edgemont Water Master Plan, CRM Tech Project No. 2291 (CRM Tech)

Dear Ms. Shaker;

The Pechanga Band of Luiseño Indians ("the Tribe") appreciates your request for information regarding the above referenced project. After reviewing the provided maps and internal documents, we have determined that the project area is not within reservation lands although it is within our ancestral territory. Based upon the provided maps, it is our understanding that this project will be impacting existing roadways or already disturbed areas for pipeline placement only. If the scope of work should change to include impacting native or previously undisturbed soils, the Tribe requests the opportunity to review the new scope and present comments. At this time, we have no additional information on this Project.

However, the Tribe requests the following:

1) Copies of all applicable archaeological reports and site records; and
2) In the event that subsurface cultural resources are identified, the Tribe requests consultation with the project proponent and Lead Agency regarding the treatment and disposition of all artifacts.

As a sovereign governmental entity, the Tribe is entitled to appropriate and adequate government-to-government consultation regarding the proposed project. We would like you and your client to know that the Tribe does not consider initial inquiry letters from project consultants to constitute appropriate government-to-government consultation, but rather tools to obtain further information about the project area. Therefore, the Tribe reserves its rights to participate in the formal environmental review process, including government-to-government consultation with the Lead Agency, and requests to be included in all correspondence regarding this project.

Please note that we are interested in participating in surveys within Luiseño ancestral territory. Prior to conducting any surveys, please contact the Cultural Department to schedule specifics. If you have any additional questions or comments, please contact me at ahoover@pechanga-nsn.gov or 951-308-9295.

Sincerely,

Anna M. Hoover
Cultural Analyst

RECEIVED NOV 29 2008

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

December 1, 2008

Attn: Laura Shaker
CRM-Tech
1016 E. Cooley Drive, Suites A/B
Colton, Ca 92324

Re: CRM Tech #2292 Edgmont Water Master Plan Project

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project(s) has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does falls within the bounds of our Tribal Traditional Use Areas and is with in close proximity to the reservation.

Therefore the Soboba Band of Luiseño Indians is requesting the following:

1. Further **government to government** consultation with the Soboba Band of Luiseño Indians.

2. Copies of any archeological and/or cultural resource documentation.

3. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests notification of any ground disturbances and/or surveys so that a Native American Monitor from the Soboba Cultural Resource Department can be present during these proceedings.

[SPECIAL NOTE (for projects other than cell towers): *If* this project is associated with a city or county specific plan or general plan action it is subject to the provisions of SB18-Tradtional Tribal Cultural Places (law became effective January 1, 2005) and will require the city or county to participate in **formal, government-to-government** consultation with the Tribe. If the city or county are your client, you may wish to make them aware of this requirement. By law, they are required to contact the Tribe.]

Sincerely,

Joseph Ontiveros
Soboba Cultural Resource Department
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

TELEPHONE LOG

Name	Tribe/Affiliation	Telephone Contacts	Comments
Mike Contreras, Jr., Cultural Historic Program Coordinator	Morongo Band of Mission Indians	12:30 pm, November 25, 2008	Mr. Contreras had no concerns regarding the project, but wished to be notified of any archaeological finding.
Joseph Hamilton, Chairman	Ramona Band of Mission Indians	None	John Gomez, Jr. is the designated spokesperson for the tribe (see below).
John Gomez, Jr., Cultural Resources Coordinator	Ramona Band of Mission Indians	4:43 pm, November 25, 2008 9:36 am, December 3, 2008	Left messages; no response to date.
James Ramos, Chairperson	San Manuel Band of Mission Indians	None	Ann Brierty is the designated spokesperson for the tribe (see below).
Ann Brierty, Cultural Resources Field Manager	San Manuel Band of Mission Indians	12:17 pm, November 25, 2008 2:16 pm, November 26, 2008 9:36 am, December 3, 2008	Left messages; no response to date.
John Marcus, Chairman	Santa Rosa Band of Mission Indians	3:46 pm, November 12, 2008	Marcie Russell responded on behalf of the tribe (see below).
Marcie Russell, Financial Director	Santa Rosa Band of Mission Indians	4:00 pm, November 25, 2008	Ms. Russell stated the tribe had no concerns regarding the project, but wished to be notified of any archaeological finding.
Goldie Walker	Serrano Band of Mission Indians	12:25pm, November 25, 2008	Ms. Walker wished to be notified of any archaeological finding in the project area.
Robert Salgado, Chairperson	Soboba Band of Luiseño Indians	None	Joesph Ontiveros is the designated spokesperson for the tribe (see below).
Erica Helms, Cultural Resources Manager	Soboba Band of Luiseño Indians	None	Joesph Ontiveros is the designated spokesperson for the tribe (see below).
Joesph Ontiveros, Monitoring Coordinator	Soboba Band of Luiseño Indians	2:30pm, November 25, 2008	Mr. Ontiveros requested Native American monitoring by the Soboba Band during ground-disturbing activities, further consultation with the Lead Agency, and copies of all cultural resource documentation. Mr. Ontiveros also replied in a letter dated December 1, 2008 (copy attached).
Paul Macarro, Cultural Resources Center	Temecula (Pechanga) Band of Luiseño Mission Indians	None	Anna Hoover is the designated spokesperson for the tribe (see below).
Anna Hoover, Cultural Analyst	Temecula (Pechanga) Band of Luiseño Mission Indians	None	Ms. Hoover replied in a letter dated November 25, 2008 (copy attached).
John Tommy Rosas, Tribal Administrator	Tongva Ancestral Territorial Tribal Nation	None	Mr. Rosas replied in e-mails dated November 11 and 25, 2008 (copies attached).

APPENDIX 3

LOCATIONS OF KNOWN PREHISTORIC ARCHAEOLOGICAL RESOURCES IN THE VICINITY OF THE PROJECT AREA

(Confidential)

Appendix E

State Office of Historic Preservation Office Consultation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, CA 90017

April 23, 2009

Milford Wayne Donaldson
State Historic Preservation Officer
Office of Historic Preservation
PO Box 942896
Sacramento, CA 94296-0001

Subject: Request for Consultation under Section 106 of the National Historic Preservation Act (NHPA) for the City of Moreno Valley – Edgemont Master Plan

Dear Mr. Donaldson:

I am writing to initiate consultation with the State Historic Preservation Officer (SHPO) under 36 CFR Part 800, for the above referenced project.

Project Description

The City of Moreno Valley received an appropriation from the United States Environmental Protection Agency (EPA) to fund water quality improvements in the Edgemont area. The City is performing a study in preparation to update the master plan for the City of Moreno Valley. The plan will be used by the City in preparation for construction and replacement of water pipelines, water tank, booster, and wells. EPA awarded funding for the project as part of a congressional earmark grant. EPA is only providing funding for the preparation of the master plan. The construction and replacement will be funded by other sources.

Area of Potential Effect

Under Section 800.4 (a)(1), I am making a determination of the Area of Potential Effect (APE). The APE is located in the area known as Edgemont in the City of Moreno Valley. The APE is a primary residential neighborhood. The project is located south of Eucalyptus Avenue, east of the old 215 Frontage Road, North of Alessandro Boulevard, and west of Elsworth Street. The APE is depicted in the attached document that is enclosed with this letter.

Identification of Historic Properties

Under section 800.4 (b), an effort has been made to identify historic properties. The enclosed report summarizes that effort which included a historical background research, field survey, geomorphic analysis, and a consultation with tribal representatives. The identification and evaluation of historic properties was completed on December 18, 2008 by CRM Tech.

- According to records on file at the Eastern Information Center (EIC) located at the University of California, Riverside. Five historic-period buildings were previously

recorded along portions of the proposed pipeline route. These buildings were recorded as being good examples of early residences in the Edgemont area. These building were found to be well outside of the proposed right-of-way of the pipeline route during the field survey.

- A field survey was conducted by CRM Tech. The field survey determined that there are no potential cultural resources within or adjacent to the project area.

- A geomorphic analysis was conducted. The analysis states that the region appears to lack permanent water sources and thus it is unlikely for any large habitation sites to be found along the project route.

- A tribal consultation was conducted by CRM Tech on November 11, 2008 contacting fourteen tribal representatives and received comments from six representatives. The Morongo Band of Mission Indians wished to be notified of any archaeological findings. The Santa Rosa Band of Mission Indians had no concerns but wished to be notified of any archaeological findings. The Serrano Band of Mission Indians wished to be notified of any archaeological findings in the project area. The Soboba Band of Luiseno Indians requested further consultation with the lead agency, copies of all cultural resource documentation, and monitoring during ground disturbing activities. The Pechanga Band of Luiseno Indians requested copies of the archaeological reports and consultation with the Lead Agency if cultural resources are identified. The Tongva Ancestral Territorial Tribal Nation requested an archaeological monitor to be present on site during excavations and to be informed as the project progresses.

The enclosed report recommends a finding that no historic resources will be affected by the proposed undertaking.

Evaluation of Historic Significance
Under section 800.4 (c), I have applied the National Register criteria and, based on my assessment, the proposed project does not qualify.

Assessment of Adverse Effects

Under section 800.5 (a), I have applied the criteria of adverse effect and have made the determination that **no historical properties adversely affected**.

I am requesting your concurrence with the Area of Potential Effect and the determination of no historic properties affected. Please inform EPA within 30 days of the date of this letter regarding your concurrence with our proposed findings. If you do not reply within this 30 day period, EPA will consider the lack of response to indicate SHPO's agreement with these findings. If you require additional information or have questions regarding this request, please call me at (213) 244-1819.

Sincerely,

Howard Kahan
Environmental Scientist

Enclosures: Identification and Evaluation of Historic Properties Report

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

June 22, 2009

In Reply Refer To: EPA090424A

Howard Kahan
Environmental Scientist
U. S. Environmental Protection Agency
Region IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, California 90046

Re: United States Environmental Protection Agency Grant to the City of Moreno Valley for the Edgemont Master Plan. Riverside County, California.

Dear Mr. Kahan:

Thank you for seeking consultation with me, regarding the above noted undertaking, pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA). The United States Environmental Protection Agency (EPA) is providing funds through a congressional earmark grant to the City of Moreno Valley (City) for the Preparation of the Edgemont Master Plan and has identified this action as an undertaking pursuant to review under NHPA Section 106 regulations. The Edgemont Master Plan is being prepared as a planning document for the construction and replacement of water pipelines, water tank, booster, and well site in the City of Moreno Valley. The EPA grant is funding only the preparation of the master plan. Construction will be funded from other sources. The master plan addresses the updating of the drinking water delivery system along approximately seven linear miles of roadways in the Edgemont community in Moreno Valley, California. The Area of Potential Effects (APE) consists of these pipeline corridors, all under existing city streets, and the proposed water tank, booster, and well site, which are in settings more open to surface reconnaissance. In addition to your letter of April 23, 2009, the following report was submitted as evidence of your efforts to identify and evaluate historic buildings in the APE:

- *Historical/Archaeological Resources Survey Report Edgemont Water Master Plan Update: City of Moreno Valley, Riverside County, California* (Bai "Tom" Tang and Michael Hogan, CRM TECH: December 18, 2008).

The historic property identification efforts documented in this report concluded that there are no previously documented historic properties in the APE, although five documented historic buildings were located within the records search radius. Additionally, the

disturbances (installation/replacement of buried water pipelines) will be transitory in nature and will not visually affect buildings or structures outside of the immediate project APE.

After reviewing your letter and supporting documentation, I have no objection to your finding of No Historic Properties Affected. Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the EPA may have additional future responsibilities for this undertaking under 36 CFR Part 800. Thank you for seeking my comments and for considering historic properties in planning your project. If you require further information, please contact William Soule, Associate State Archeologist, at phone 916-654-4614 or email wsoule@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer